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### Interpretation of Inflation Accounting Information

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## **INTERPRETATION OF INFLATION ACCOUNTING INFORMATION** **[note: GAP IN PAGES 48-55.]**

by  
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**Duff and Phelps**  
**December 17, 1981**

[Introductory notes: William C. Norby  
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AICPA Commission on Auditors' Responsibilities  
Comptroller General's Panel on Regulatory Accounting  
Past President, Financial Analysts Federation  
Accounting Editor, *Financial Analysis Journal*]

After a brief review of the objectives, concepts, and preferred method of inflation accounting, the lecture will present and analyze the impact of inflation accounting adjustments on companies and industry groups over the last eight years; consider how the data can be utilized for investment decisions; and demonstrate managerial uses of inflation accounting for internal control and strategic decisions. The analysis will be based primarily on the author's comprehensive data base covering the eight year period 1972-1980, but FAS 33 data will also be considered. The lecture will conclude with an appraisal of the advantages and limits of inflation accounting for practical decision-making.

### **PROLOGUE**

In the last three years, inflation accounting has been adopted as a supplementary financial statement in the United States and the United Kingdom. This comes after more than 50 years of debate about methods of adjusting financial accounts for inflation. In a way, this is a sad commentary on the state of inflation in the western world. Inflation has attained a degree of permanence and consequently inflation accounting is becoming a standard feature of corporate reporting. The debate about methods continues but now theory is being confronted with actual data. Therefore we should shift attention from methods to applications and test the utility of this kind of accounting. Eventually the application of this data to the real life problems of investment and business management will forge one acceptable accounting method.

In this lecture, I will concentrate on a review of some actual inflation adjusted financial results for industries and companies in several diverse fields and show how this information can be interpreted and applied to investment and business decisions. But in order to do this I must first explain the theoretical framework I use to organize and analyze this data. We cannot escape theory, for good theory is essential to good data and substantive analysis. However, I will not rehash all the other theories that have been debated over the years.

My inflation-adjusted financial statements cover the nine-year period 1972-80 and are much more comprehensive than Statement 33 reports, and are arranged differently. This naturally leads to a critique of Statement 33 but on this I will be brief.

In conclusion, I will evaluate the merits of inflation accounting and try to provide some perspective on its future role in investment and business decisions. Advocates of inflation accounting often seem to be crusaders trying to change our entire view of the economic world. I suppose I am one of those crusaders, too, but with reserve. I regard inflation accounting as a desirable improvement in accounting but not an engine of revolutionary change in financial analysis.

## **OBJECTIVES, CONCEPTS AND METHODS**

### *Objectives of Inflation Accounting*

Inflation accounting has two broad objectives:

- To correct conventional historical cost accounts for the understatement of inventory and plant used in production, i.e. the cost of goods sold and depreciation, in order to prevent erosion of capital during inflation.
- To eliminate the "money illusion," the euphoria associated with inflation, by reducing the accounts to "real terms."

These are quite different objectives which the Financial Accounting Standards Board has attempted to satisfy by requiring two types of inflation accounting adjustments in Statement 33. The first objective is generally achieved by the current cost method which is also much more responsive to the general objectives of financial reporting. These are stated in Concepts Statement 1 to be: "to provide information that is useful to present and potential investors and creditors and other users in making decisions (and) in assessing the amounts, timing, and uncertainty of prospective cash receipts from dividends or interest and the proceeds from the sale, redemption, or maturities of securities or loans."

(1)

The second objective is better met by a statistical procedure than by accounting. The purchasing power or constant dollar method does not meet the general objective and inflation accounting methods should be consistent therewith.

There are limitations to inflation accounting and the failure to recognize them has led to unnecessary complexity in some methods, including Statement 33. Inflation accounting cannot isolate or condense into one earnings number all of the effects of inflation on a company. It is simply an improved system of measurement which brings financial statements into harmony with current costs and values. Such improved statements provide a foundation for analysis of a company's economic earnings and financial position in an inflationary environment, including any special effects of inflation.

## **SOME BASIC ACCOUNTING CONCEPTS FOR INCOME AND CAPITAL UNDER INFLATION**

There are some basic concepts of economics and accounting that need exposition in order to understand the data produced under the current cost method and to support the particular approach I have used.

*Income and capital:* The economic concept of income, in fundamental terms, was stated by Sir John Hicks as the maximum value which a man can consume during a week (or period) and still expect to be as well off at the end of the period as he was at the beginning. In other words, income is the amount that can be consumed without impoverishing the individual (or firm). (2) Capital is a source of income and cannot be consumed without affecting future income. The distinction between income and capital becomes very important during inflation.

These ideas seem reasonably clear when applied to personal circumstances or to a short-term business project, but they become more complex in a going-concern continuum. Consequently, it will be useful to distinguish the accounting theory for a project from a going-concern. Later I will show how this distinction can be applied to inflation accounting analysis of certain industries.

## ACCOUNTING FOR INCOME IN A STABLE PRICE ECONOMY

*Short-term business project:* In a short-term project of, say, a year, the following sequence takes place: capital is invested to buy machinery and inventory, people are hired, a product is produced or a service rendered, revenue is received and production costs are paid. At the end of the project the machinery is worn out and junked, without value. The inventory is liquidated in production. The cash remaining is allocated by the proprietor first to his original capital, which must be fully preserved, after which any surplus can be considered net income, profit or earnings. The amount of income compared to the amount of capital invested determines the rate of return of earnings on the capital.

If a project runs for several periods, it may be desirable to know what is earned in each period. In order to do so, it is necessary to allocate some of the cost of long-lived assets to each period by a depreciation charge, in order to insure that the total cost is recouped over the life of the project. This insures that periodic income in excess of the capital allowance can be paid out without fear of impoverishment. At the end of the project, capital is reclaimed through cash in the depreciation fund, the equipment being worn out and of no further use. Depreciation is thus a means of allocating capital consumption to earning periods. In the project situation it is not a reserve fund accumulated to replace the equipment when it is exhausted. Although in theory that could be done if another project were undertaken, that would be a new capital investment decision. In any event, such accumulation would be adequate because it is assumed that the new equipment could be purchased at the old price under stable state conditions.

Capital can be measured in two ways: in money terms and physical terms. Under stable price conditions financial capital and physical capital are identical. Capital in money terms is intact at the end of the project and it will command the same physical assets as at the beginning.

*The going-concern:* This analysis of a project illustrates the interrelationship of earnings and capital in microcosm. An oil exploration and drilling partnership is an example of a project investment. In contrast, a corporate business enterprise is composed of many projects or earnings cycles overlaid one on the other with no final termination. This is the going-concern. Periodic net income of the enterprise is a composite of earnings from many projects and cycles. Each one is charged for depreciation to recoup the original capital invested in its long-lived assets, or, in effect, to provide for their replacement when they are worn out, because the projects are continually renewed. Since these measurements are imprecise, depreciation accounting entails many conventions, some related to tax consequences. However, it is assumed that in a stable price environment, depreciation provides for capital replacement so that the business can continue without a new infusion of capital. Financial and physical capital remain identical.

Stated in a different way, the ongoing enterprise in a stable state economy is considered self-sustaining at its prevailing level as long as adequate provision is made for capital consumption through depreciation and no loss is shown. Hence, all net income can be paid out without fear of consuming capital. However, if the enterprise wishes to expand its business, it can convert some of its net income into new capital by retaining it in the business and investing in additional earning assets. Assuming the rate of return on capital is constant, the rate of growth of capital and earnings is a function of the return on capital and the percentage of earnings retained.

Accounting for periodic income in complex going-concerns is the principal focus of financial accounting. The primary purpose is to continually distinguish between return of capital and earnings

return on capital. It is fraught with difficulty.

*Accounting for income and capital under inflation:* In his definition of earnings, Hicks uses the terms "maximum value" and "well-off." These concepts become more difficult to define under conditions of changing prices. Are "value" and "well-off" to be expressed in money terms or real terms?

Prices change in a wide range of circumstances. A persistent rise in almost all prices is called inflation and is a monetary phenomenon. Prices of specific goods or services are determined by supply and demand factors in the particular market. Both inflation and supply/demand forces can operate at the same time so that all prices will tend to rise but specific prices will rise more or less than the general average. The relative importance of the two factors at any point in time is not important because each individual project or firm must deal with the specific prices affecting its sales and costs.

Although specific price changes occur in a stable state environment, they have not been deemed of sufficient continuing importance to require a recognition in accounting for income and capital for the project or the firm, although logically they might be. When price changes become persistent and pervasive due to inflation, the concepts of income and capital must be refined. This can be demonstrated in a parallel analysis to income and capital in a stable state.

*The single project:* Under inflation, the cash flow from operation of a single project may increase over what was expected at the outset due to higher selling prices. In addition, at the completion of the project the equipment, which was deemed worthless under stable price conditions, now has an unexpected residual value. However, the original capital invested in the enterprise has been fully reserved through depreciation and conversion of the inventory to sales and is returned at the end of the project out of accumulated cash flow.

Net income for the project is greater than expected due to the residual value of the equipment and the extra profit on inventory due to rising prices. This income is called a holding gain while the income from the project based on stable price conditions is considered operating income. If this is a one cycle project the distinction is of no consequence because all income can be distributed along with the original capital. Financial capital has been preserved and physical capital is moot.

At the end of the project, the investor may want to know whether his additional money resources, comprised of his original capital and the earnings derived from the project, will buy as much as at the beginning. This depends on how he wants to use the money. In general, we say that, if the general price level has risen, the gain in real buying power of these funds is less than the gain in money terms. However, individuals are more affected by price changes in the specific thing they consume than by the price change of a fixed basket of goods purchased by a typical urban family. Thus, any measure of the investor's wealth or well-being at the end of the project under conditions of rising prices is imprecise and to some extent a personal equation. It is one thing if he wants to travel to Japan and another if he wants to buy a new model computer which has double the capacity at half the cost of earlier models.

Despite this reservation, it is useful to show in a general way whether the buying power of the capital and the accumulated income is as great at the end as at the beginning. This could be determined by reference to price changes for the specific goods the investor wants to purchase but for convenience and general comparisons a broad price index is used. No single index is representative of all price changes in the economy but the Consumer-Price Index is a popular measure. Thus, financial capital may or may not have been maintained over the life of the project in terms of its buying power -- i.e., in real terms -- after adjusting for the rise in general prices as measured by an appropriate price index.

*A sequence of projects:* In a sequence of projects under conditions of rising prices, an increase in capital investment becomes necessary. Upon completion of the first project, the investor wishes to embark on a second project of the same scale but finds that his original capital is insufficient to buy the necessary equipment and inventory. In other words physical capital has been impaired. He must use some of the earnings from Project 1 to provide capital for Project 2. The necessary additional capital is measured by

the holding gains in Project 1 because they represent the amount by which the cost of new assets exceeds the original cost. Thus, only operating income from Project 1 can be distributed currently without impairing operating capability. In sum, financial capital has increased by the amount of the holding gains but physical capital remains the same. Under inflation, financial capital and physical capital are no longer identical.

Over the sequence of projects, the investor will have invested successively larger amounts of financial capital, the increment over the original amount having been derived from holding gains. Operating income would have been paid out. At the end of the sequence, his total capital will be the sum of his original capital plus retained earnings (holding gains) and will be higher than in the stable state economy. The retained earnings can now be distributed and the original capital liquidated. Physical capital is no longer pertinent.

During this sequence, operating income will be regarded as the most significant measure of return because it is distributable currently but at the end retained holding gains are also paid out. Thus total net income constitutes the full return on capital for the total life of the projects.

The investor's wealth has increased and, if desired, the buying power of his wealth can be measured by application of the index of prices most appropriate to the circumstances. It is not necessary to make this calculation to manage the sequence of projects however. The investor and the manager must make decisions in actual dollars.

*The going-concern* with its mix of overlapping and sequential projects is more complex than a sequence of single projects but the accounting for income and capital follows the same principles. The first objective is to maintain physical capital, i.e. operating capability. With rising prices, this requires greater financial capital which can be obtained from reinvested earnings or new capital. In simple terms, the amount of holding gains in each cycle will measure the amount of earnings required to be retained. Operating income will reflect the current cost of assets used in production and so can be distributed currently. In practice, the separation of conventionally calculated income into operating (current cost) income and holding gains can be complex and imprecise because replacement cycles of some assets are long, new assets may not be the same as retired assets, and current prices or costs of complicated assets are not always readily determinable.

*Income and capital redefined:* These simplified analyses now provide a basis for defining levels or layers of income and capital under inflationary conditions. These definitions are comprehended by the concept of capital maintenance. They form my model of inflation-adjusted financial statements.

*Income:* In the ongoing business, income that can be distributed currently has the greatest significance. This has been referred to as operating income but current cost income is a better term because it is distinguished from stable state (historical cost) operating income. It indicates that all current costs have been provided out of revenues, thus providing funds to replace production assets at current prices. Operating capability is maintained or sustained and therefore sustainable income is an alternative term. This income is distributable except to the small extent that additional monetary working capital may be required to carry additional receivables and payables. These elements are not costs, however.

*Holding gains* are the second category of income. They reflect the rise in value of inventory and fixed assets for the period. Current cost calculations are based on these adjusted values. Holding gains can be sub-divided into realized and unrealized but these terms are useful only to reconcile reported historical cost income. Holding gains cannot be distributed as long as prices remain at or above the current level because they must be reinvested in the business to sustain operating capability. They can be paid out only at liquidation or when operating capability is reduced.

*Economic income* is the sum of current cost income and holding gains, i.e. total net income. It conforms to the economist's definition of income as the total increase in wealth for the period; hence economic

income.

*Real income* is income adjusted for the rate of general inflation using an appropriate price index. It can be applied to each category of nominal dollar income defined above.

*Capital:* The two concepts of capital are *financial capital and physical capital*. In the stable state environment they are identical; the same dollars of financial capital represent the same amount of physical operating capability over time. Under inflation, the same physical operating capability will require increasing amounts of financial capital as prices rise. In simple terms the required financial capital will be the original capital plus accumulated holding gains, sometimes called *revaluation surplus*.

The essence of inflation accounting is capital maintenance. The relevant question is which kind of capital is to be maintained. Ordinarily, a going-concern would be expected to maintain or increase its operating capability. Hence both financial and physical capital must be maintained in their respective terms, linked by the effect of specific price changes on the firm. Under inflation, financial capital normally would increase to maintain physical capital. However financial capital might increase although physical capital declined because prices of existing capacity rose sharply but the capacity was not fully replaced. Crude oil reserves of oil companies are a current illustration. Conversely, declining prices despite inflation would release some financial capital for distribution although physical capital remained the same, e.g, computers. In the real world of course, these relationships are far more complex and difficult to measure. It turns out, however, that the only accounting difference between two concepts is the recognition of holding gains, which are included in income for financial capital but are called a capital maintenance adjustment for physical capital. For information analysis of the firm, capital ought to be examined from both viewpoints.

*Real capital* measures the command of financial capital over economic resources in general, as measured by an appropriate index of general price changes.

*Purchasing power gains (losses) on net monetary position:* I have not incorporated a purchasing power gain or loss on the net monetary position in the foregoing concepts of income. I consider this idea the great delusion of inflation accounting, although it engenders more analysis by economists and accountants than any other aspect of the subject. I have never understood their fascination with this idea. It is an economic truism that debtors benefit and creditors lose purchasing power during inflation. But accounting generally, and inflation accounting as well, focuses on the firm and is based on transactions or potential transactions. Transactions are conducted in actual (nominal) dollars; purchasing power dollars have no objective reality. Constant dollars, another term, are not dollars at all; they are constant prices measured by an index. In other words, purchasing power dollars, or constant dollars, are statistics which have all the limitations of general price indexes. They are not the precise monetary measures that accountants have assumed. In the last three years a constant dollar based on the GNP deflator has differed significantly from a constant dollar based on the Consumer Price Index which, in 1983, will be superseded by a new constant dollar based on a revised Consumer Price Index. In sum, purchasing power is not an independent entity that can be quantified in a transaction.

Furthermore, the concept of purchasing power gains on debt is erroneous. There are no gains on debt unless debt is actually retired at a discount. Few firms can manage to retire debt during inflation even though their bonds are selling at a discount in the market. What actually happens in transaction terms is not that a debtor pays off an obligation with cheaper dollars, but that he invests borrowed money in assets that appreciate in value due to inflation. All of the gain accrues to the shareholder; the lender gains none of the appreciation. Changes in asset values vary widely, except monetary assets, which are simply assets that do not change in price. The purchasing power adjustment on debt implicitly assumes that all non-monetary assets appreciate at the rate of the general price index, which is fallacious. So, it is assets that should be measured, not the debt.

The advantage of debt during inflation is merely an exaggerated case of leverage. The gain (or loss) from leverage is recorded as a proportionately greater increase in earnings for the common stock than in total earnings before interest expense, or in the book value of the common equity than in total assets. Inflation generally enhances these gains, although the interplay between interest rates and inflation may mute the expected advantage.

This view of the purchasing power gain on debt concept may seem iconoclastic but I think it is a realistic view of the way investors and managers think. They have never accepted earnings derived from purchasing power gains on debt as a meaningful indicator of financial progress. It is often noted that under this concept the most profitable firm is the heaviest debtor who is one step away from the bankruptcy court.

## **INFLATION ACCOUNTING DATA BASE**

Based on the foregoing concepts, which are essentially the current cost method, I have developed an inflation accounting data base for the nine years 1972-1980, although 1972 data is not complete. Most of the data is based on ASR 190 or Statement 33 reports, to which I have added some estimates for earlier years. The effects of inflation on a company can be determined better by historical trend analysis than by cross-sectional analysis for one year, as is necessary when using Statement 33 data. The data base encompasses 112 industrial companies in 30 industry groups and 12 electric utility companies in a regulated sector. A similar index for 10 banks is in preparation. Except for the omission of oil companies, in the index (due to the difficulty of calculating the current cost of reserves), the list is fairly representative of institutional portfolios. The index was constructed to provide analytical insights and does not purport to be an index of the market parallel to, say, the S&P 500 index.

Due to slight differences in accounting methods between ASR 190 and Statement 33, there are discontinuities in the data for a few companies. Generally, however, the data are sufficiently reliable to provide both the historical continuity and detailed ratios necessary for interpretation. The industrial sector is shown in Exhibit A.

Although only four figures are used to adjust the historical cost statements to a current cost basis -- inventory, cost of goods sold, plant and equipment, and depreciation -- the financial statements are presented in a comprehensive format. This provides a better perspective on the scope of the adjustments in relation to the enterprise as a whole. The key inflation accounting elements in each statement are as follows:

### *Income account*

- Cost of goods sold adjustment
- Depreciation adjustment
- Current cost income
- Holding gains
- Economic income

### *Balance sheet*

- Current cost value of inventory
- Depreciated current cost value of plant and equipment
- Revaluation surplus
- Stockholders' equity at current cost

### *Funds Statement*

- Capital maintenance requirements for monetary working capital, inventory, and plant and

equipment  
 Discretionary cash flow  
 Expenditures for volume growth -- monetary working capital, inventory, and plant and equipment

*Real returns to the shareholder*

Current cost income per share  
 Dividends per share  
 Retained current cost income per share  
 Economic income per share  
 Current cost book value per share  
 Market price

All data are expressed in nominal dollars. These are the dollars in which investors and businessmen transact business. Investors live in a world of nominal dollars. Since investment analysis is a comparative process there is little to be gained from dividing all of these nominal dollars by a constant divisor, i.e., some general price index. In a second, statistical step, however, the key figures for the stockholder are reduced to real terms, using the C.P. I. on a 1972 base. This is a useful exercise to give some historical perspective to the ability of business to protect stockholders from inflation.

**INFLATION-ADJUSTED FINANCIAL TRENDS, 1972-1980**

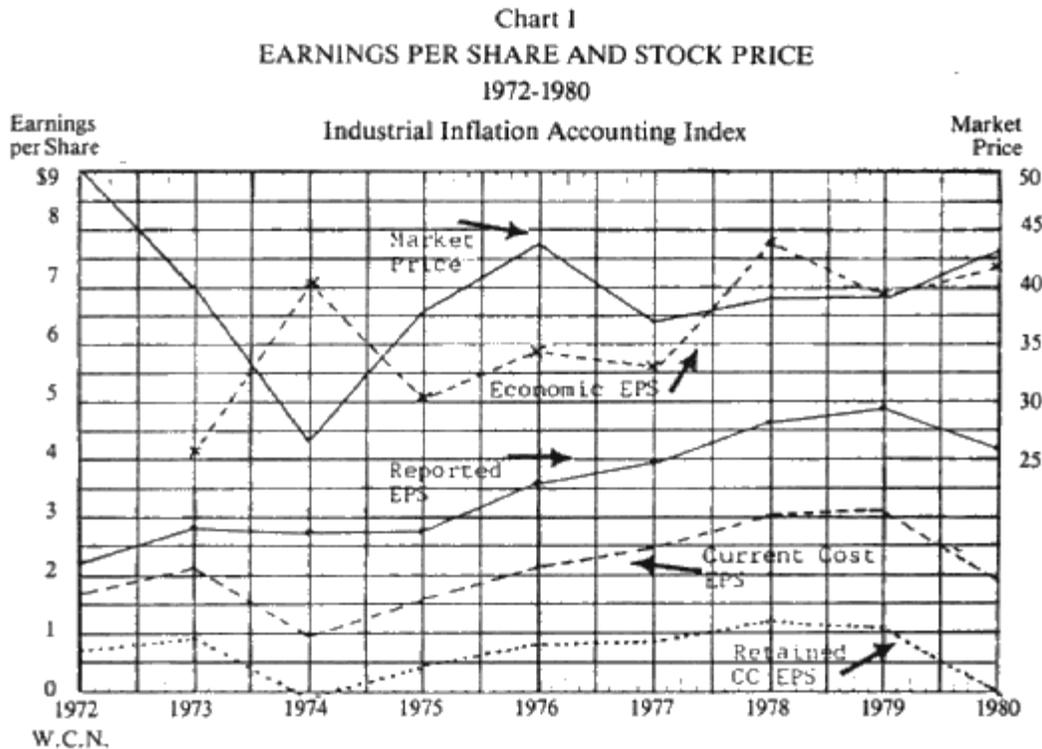
Complete current cost financial statements for nine years for 112 diversified industrial companies provide many figures for analysis, far beyond the time available in this lecture. I can only summarize a few trends which illustrate the dynamic effects of inflation over this period. Keep in mind that this was a volatile period for the inflation rate, as briefly illustrated by year-to-year changes in the Consumer Price Index or the GNP Deflator, take your pick.

**INFLATION RATE**

**1972-1980**

	% Increase, December-December	
	Consumer Price Index	GNP Deflator
1972	3.4%	4.1%
1973	8.8	7.5
1974	12.1	11.1
1975	7.0	7.4
1976	4.8	4.8
1977	6.8	6.1
1978	9.0	8.2
1979	13.3	9.1
1980	12.4	9.7

This first chart shows the trend of composite reported earnings per share compared with current cost earnings, retained current cost earnings per share, and the composite market price for the 112 industrial companies. Four aspects of these earnings should be noted: the reduction in reported earnings due to inflation adjustments; divergencies in the trends of the two measures of earnings; relative growth rates; and dividend payout.



*Inflation adjustments* reduced reported earnings an average of 44% to arrive at current cost earnings for the high inflation periods 1974-1980. In 1972 and 1973, the adjustment was only 25% but it leaped to 64% in 1974, when the inflation rate rose sharply and unexpectedly. The reduction was 52% in 1980, partly because of another year of high inflation and partly because of a relatively heavy weighting of the auto industry's disastrous year. A rising rate of inflation in 1979 and 1980 might have been expected to cause even larger current cost adjustments, were it not that more companies now use LIFO accounting and that business managers today better anticipate inflation. Also, there are discontinuities in the data for some companies due to the shift to the less rigorous Statement 33.

*Divergencies* between reported earnings and current cost earnings are important because they give a different perspective on the outlook. They occur when there is a sharp change in the rate of inflation. In years of high inflation reported earnings may continue to rise while current cost earnings decline. The reverse occurs when the inflation rate subsides. 1974 is the most notable example of the first effect; 1981 and 1982 may illustrate the second.

*Growth:* For this mix of companies the composite annual growth rate in reported earnings per share was 8% between 1972 and 1980, whereas current cost earnings rose less than 2%. Measured only to 1979, the comparative growth rates were almost 12% for reported and 9% for current cost earnings per share.

As already noted, holding gains are the other side of current cost adjustments. Economic earnings per share grew at 9% annually during the 1973-1980 period, (3) but with considerable year-to-year variation due to fluctuations in the inflation rate. Economic earnings were 68% above reported earnings for this eight year period, representing unrealized holding gains, and were 188% above current cost earnings, of which 120% was realized holding gains. (In effect, current cost adjustments to reported income are realized holding gains.)

*Dividends:* The crux of inflation accounting is determination of the earnings that can be distributed without consuming capital, as measured by maintenance of operating capability. These 112 companies on average have enhanced capital in all but two years --1974 and 1980 -- as shown by retained current cost earnings. For the nine-year period, the average payout ratio on current cost earnings was about 75% compared with 44% on reported income. In effect, these companies retained sufficient reported earnings to absorb the current cost adjustments and still leave something for growth. There was considerable variation between companies, of course.

Holding gains are not considered distributable except upon liquidation of the firm. Hence they do not weigh as heavily in investment decisions, except in special circumstances, such as property companies.

*Market comparison:* It is evident that the market tended to follow the trend of current cost earnings more closely than reported earnings in the 1973-1976 period, but since then the market has been somewhat independent of the trend of both measures. I will explore the market to earnings relation again but will note here that current price-earnings ratios are sharply lower than at 1972 year-end for both measures. At the end of 1980, the P/E on reported earnings was 10.3 times and on current cost earnings was 22.2 times. The P/E on current cost earnings will almost always be higher than on reported earnings, of course, but that is to be expected, not only from the arithmetic, but from the higher "quality" of current cost earnings, which provide for all current costs. So a P/E is a ratio without real significance -- merely the result of a division.

### ***Composite Capital and Return on Capital --- Charts II and III***

As inflation continues, holding gains accumulate and asset values rise. It is not practical to revalue assets by market prices every year so current (replacement) cost is used as the measure of value. In principle, this measurement basis is comparable to historical cost, which is appropriate in a stable price environment. They are both accounting numbers. The value of individual assets in the market place depends on many factors but cost measures of value can provide useful approximations in many instances. In Chart II, reported composite book value per share for the 112 companies is compared with current cost value. Reported book value grew at 9% compound rate between 1972 and 1980 while current cost book value grew at 13% and exceeded reported book by 64% at the end of 1980.

These current cost book values may seem theoretical until one reads with increasing frequency that the merger and acquisition wave is partly engendered by the sizable discounts from replacement value at which many companies are selling today. Chart II shows that while the composite market price was 133% of historical cost book at the end of 1980, it was only 81% of current cost book. Many factors enter into acquisition calculations but in some cases the opportunity to buy existing assets at a discount from current cost apparently is more attractive than building new assets at current prices.

*Return on investment:* One reason for the discount of market from current cost book value lies in the low return on current cost. Chart III shows that from 1974 onward, the return on historical cost equity ranged between 13% and 17% and averaged 15%, whereas on current cost equity the return has been only 4% to 7% with an average of 6%. Correspondingly, the reinvestment rate on current cost has been around 2%, but it was about zero in 1980. This is a measure of the real internal growth of these companies after providing for capital maintenance.

Chart II  
**BOOK VALUE PER SHARE AND STOCK PRICE**  
 1972-1980

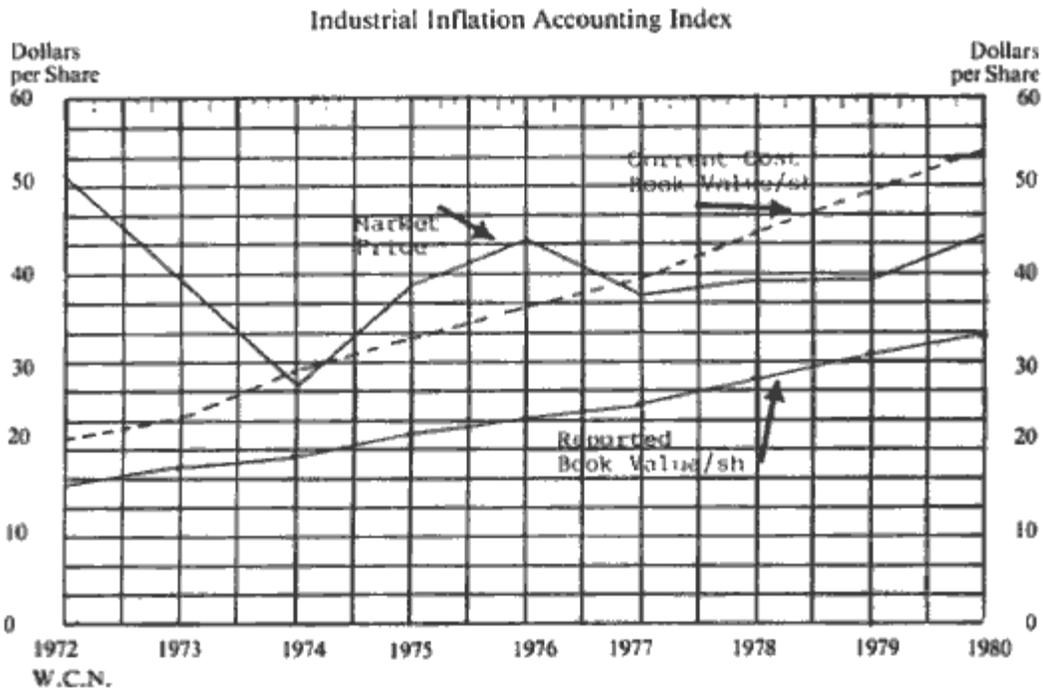
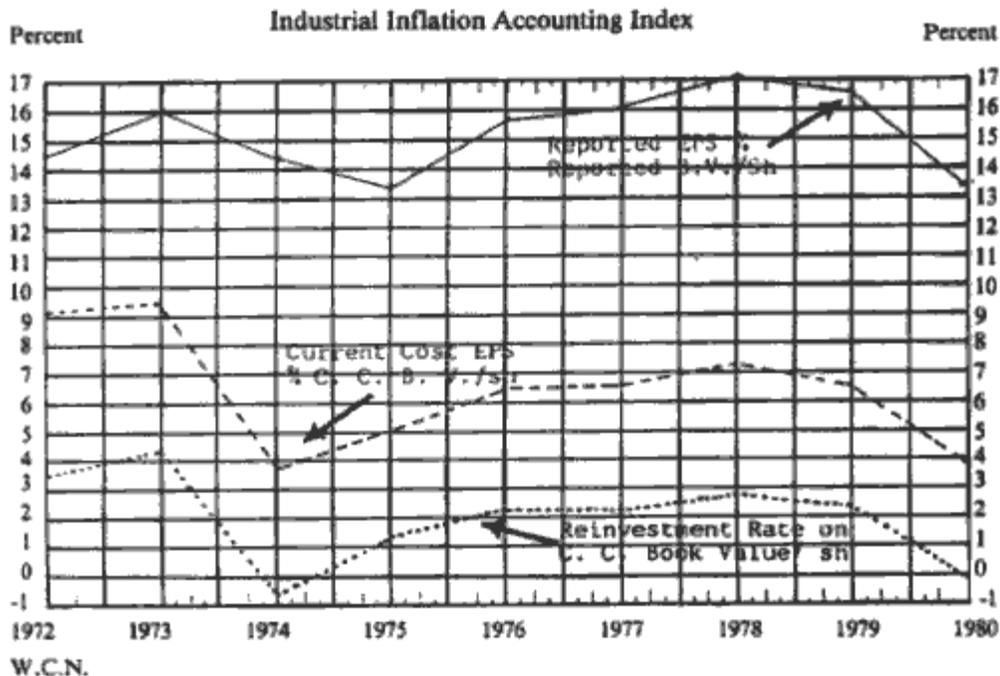


Chart III  
**RETURN ON BOOK VALUE**  
 1972-1980



The current cost return should give some indication of returns on new investment because both assets and costs are stated at current prices. Most companies set "hurdle" rates for new investment projects at a substantially higher rate and I have not investigated the discrepancy. Possible explanations are non-productive investments, e.g., pollution control, greater productivity of new investments, or overly optimistic projections for new projects. But if companies are actually achieving these hurdle rates on new investments, the current cost return ought to be rising.

If holding gains are considered part of the current return on investment, analogous to a total investment

return, the economic income return on current cost soars to an average of 17% for the period. However there is no allowance for capital gains taxes on the unrealized portion and the timing of realization is problematical. Hence, this return should be heavily discounted.

### ***Real Returns to the Stockholder --- Chart IV***

One ultimate purpose of inflation accounting is to determine how the shareholder has fared relative to inflation after the company has provided for maintenance of its operating capacity. Statement 33's constant dollar method attempts to do this by adjusting all financial statement elements by a general price index. This concept has not been found useful or meaningful by investors and many companies are now reaching this same opinion. Analysts prefer to work with nominal dollars for analytical purposes and deflate the key figures of interest to the stockholder to so-called real terms when the analysis is completed.

Although the CPI has not been a good index of inflation in recent years, I have used it because Statement 33 uses it. On this basis "real" current cost income declined between 1972 and 1980, although it was fairly well sustained for a few years after 1975. Dividends were a little ahead of inflation until 1980. From a wealth perspective, real current cost book value per share showed a compound growth of 3% from 1972 to 1980, but at the same time the real market price was declined 10% per year. These results could be improved by using the GNP Deflator, but with either index the common stockholder in these 112 companies has not been able to stay ahead of inflation in recent years.

**Chart IV**  
**REAL RETURNS TO THE STOCKHOLDER**  
 In Constant 1972 Dollars - CPI Index  
 1972-1980  
 Industrial Inflation Accounting Index

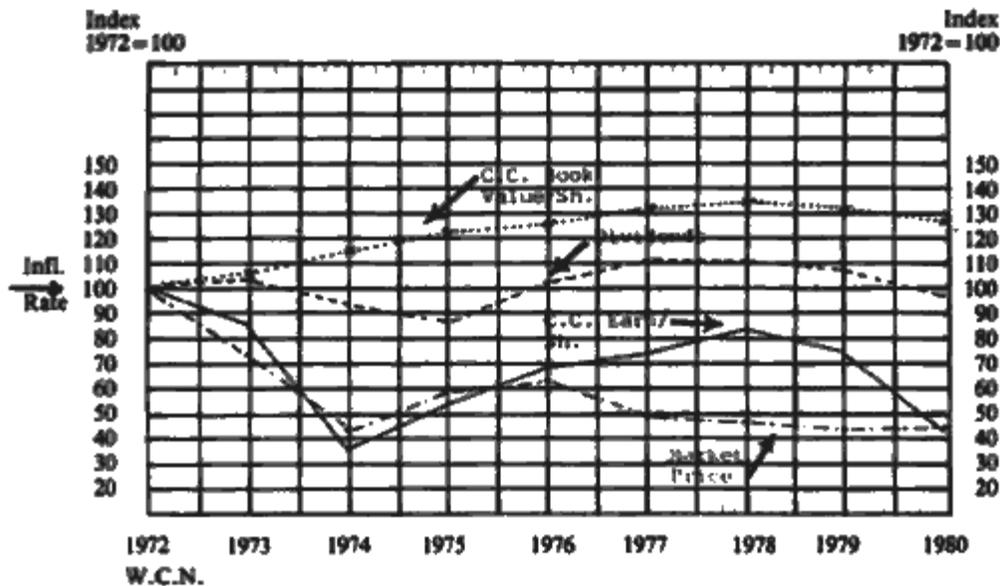
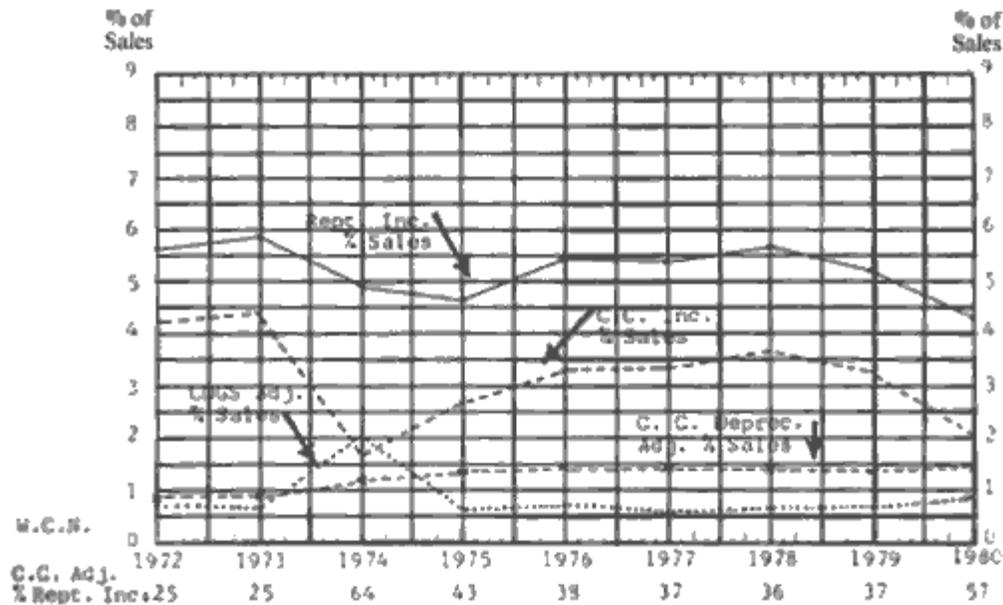


Chart V  
**INCOME AND CURRENT COST ADJUSTMENTS % SALES**  
 1972-1980  
 Industrial Inflation Accounting Index



**Current cost adjustments --- Chart V**

The current cost adjustments to match costs with current prices and volumes are relatively small in relation to sales, but they go right to the bottom line where they have a substantially depressing effect on net income. To gain a better understanding of these adjustments, they should be analyzed in relation to sales. Chart V shows them in relation to sales and the reported margin on sales.

The largest impact occurred in 1974 when high inflation was largely unanticipated and most companies were still on FIFO accounting. The cost of goods sold adjustment was 2.06% of sales and the total current cost adjustment was 3.15%. In 1974, more companies moved into LIFO so that the effect of rising prices on inventory was partially absorbed in reported income thereafter. (4) But the depreciation adjustment rose to around 1.45% of sales from 1975 onward due to the cumulative impact of inflation on long-lived assets. Consequently, total current cost adjustments have run a little over 2% of sales since 1975. Although the inflation rate hit its peak in 1979, the ratio of both current cost income and reported income to sales did not change much from the previous several years. Apparently managements were better able to anticipate inflation and pass cost increases through in price increases. In 1980, however, current cost adjustments rose to 2.27% of sales, which was 57% of reported income, due primarily to the sharp profit margin decline in the automobile related industries.

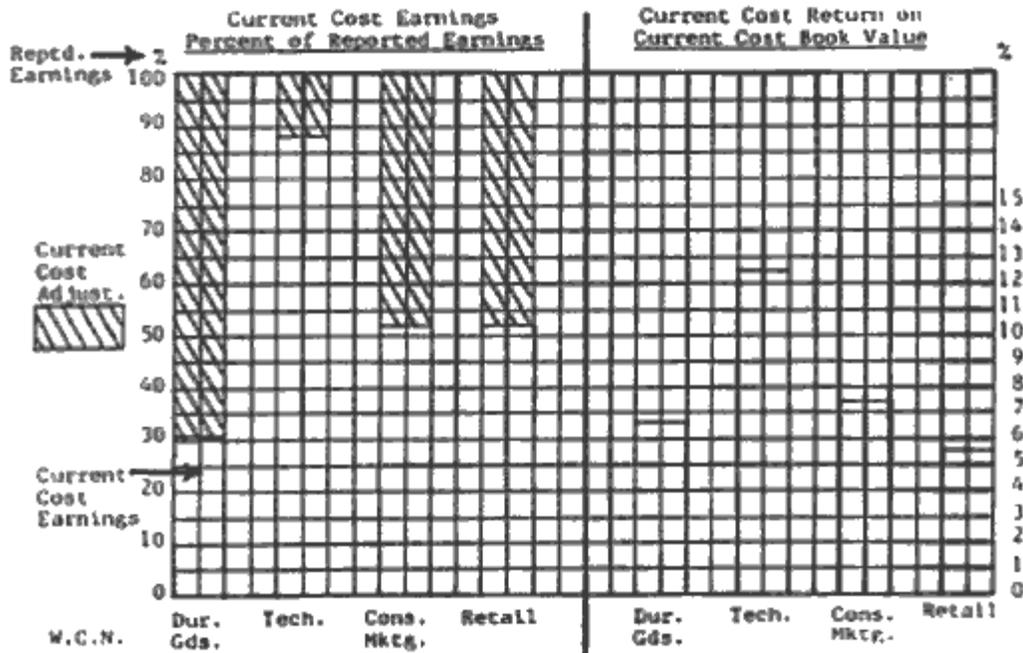
In summary, current cost adjustments have run at a fairly steady ratio to sales but they have a big leverage effect on net income. The cost of goods sold adjustment is more variable year-to-year because changing prices are quickly reflected in inventory. The depreciation adjustment resembles a long term fixed cost. These characteristics vary somewhat from company to company, depending on accounting methods, and from industry to industry, depending on economic factors.

**Results in industry groups --- Chart VI**

This composite data obscures a considerable diversity in the impact of inflation on industries. I have divided the 112 company composite into a number of industry groups based on their economic characteristics, of which four are shown in Chart VI. The durable goods manufacturing group consists

of 38 companies in such industries as automobiles and parts, electrical appliances and equipment, machinery, diversified manufacturing, rubber, and steel. The consumer marketing group covers 14 companies in the beverage, food and toiletries-cosmetics industries. There are 17 technology companies including electronics, office equipment-computers, and specialty companies. The nine retail companies include both food claims and general merchandising. More groups and industries were developed but these four are sufficient.

**Chart VI**  
**RESULTS IN SELECTED INDUSTRY GROUPS**  
 Averages, 1973-1980  
 Industrial Inflation Accounting Index



The durable group suffered the greatest inflation impact with an average current cost adjustment to reported earnings per share of 60% over the 1973-1980 period. There were two deficits in current cost income out of eight years. The average return on current cost equity was 6.6%.

In contrast, the technology group's current cost adjustments were only 12% of reported income per share for 1973-1980 and its average return on current cost equity was a favorable 12.5%.

The inflation rate in the two groups and the rate of sales growth explain the differences. Prices in the technology group generally rose more slowly than the rate of inflation and some components actually declined in price. In the durable goods industries, heavy equipment and new plant costs rose faster than inflation and most other costs advanced at least as fast as general inflation. Strangely, the ratio of fixed assets at current cost to sales is about the same in the two industry groups but depreciation expense is a higher percentage of sales in the technology field, reflecting a faster depreciation rate on gross plant. However, because of more favorable current cost experience on fixed assets, plus the shorter life and relative newness of plant, the current cost adjustment is a smaller percentage of sales than for durables.

Although 80% of the durable goods companies are predominantly on LIFO, whereas only 17% of the technology companies used LIFO, the cost of goods adjustment was a higher percentage of sales for the durable goods. The steady to declining prices of many technological products, e.g., semi-conductors, made it unnecessary for the technology group to provide much for higher replacement costs for inventory.

Sales growth in the technology group was faster and steadier than for durables, permitting easier

absorption of rising costs and maintenance of margins. As noted, the depreciation adjustment is a kind of fixed charge; hence when sales growth slowed in the durable goods group in 1980, the depreciation adjustment had a leverage effect on current cost net income.

There is not sufficient time to explore all of the variations in the impact of inflation on companies and industry groups. The accounting impact is a product of the interaction between the accounting methods used for financial reporting, the structure of the industry and the specific price experience. Each company or group requires individual analysis. For example, both the consumer marketing and retail groups showed average current cost adjustments of about 45% for 1973-1980. Yet all of the retail companies were on LIFO by 1980 whereas only 14% of the consumer companies used LIFO. Clearly other factors were at work to produce about the same end results for these two industry groups.

### ***Cash flow and inflation accounting --- Exhibit B***

It is often said that business is "overstating" earnings by continuing to use historical cost accounting. Yet, cash flow is the same under current cost and historical cost accounting. Exhibit B on the following page is a Funds Statement (Statement of changes in Financial Position) rearranged on a current cost basis to show how the capital maintenance concept impacts cash flow under inflation. It extracts four selected years from the comprehensive statement on page 5 of Exhibit A. In my opinion, it explains inflation accounting better than the adjusted earnings statement.

The table begins with gross cash flow, which is calculated the same way under any accounting method. Inflation accounting assumes that the first demand on that cash flow is capital maintenance. Additional monetary working capital (receivables less payables and accruals) is needed for the higher dollar value of the existing sales level but for these companies payables exceeded receivables so there was a net gain in funds. For inventory, companies on FIFO accounting must provide for the additional cost of replacing inventories at higher prices whereas 100% LIFO companies have made this provision in the earnings statement.

Plant and equipment must also be replaced at a higher cost than the historical cost of retired plant. The annual cash requirement is measured by current cost depreciation, which may be regarded as a theoretical figure but it is the only measure available. In 1980 it was more than double 1974. Few companies divide capital expenditures between replacement and new capacity but one company that now does so has told me that its actual replacement expenditures have exceeded current cost depreciation in 1979 and 1980.

Funds for discretionary expenditures -- dividends and growth -- are available only after providing for capital maintenance. In these selected years discretionary funds amounted to only 32% to 45% of gross cash flow. Besides dividends, these discretionary expenditures support growth in real volume with additional monetary working capital, inventory, and fixed assets. Stated another way, changes in working capital and inventory have been divided between price and volume.

When total capital expenditures are split between replacement and growth, it is apparent that real growth in capacity has been well below the impression given by the gross figure. In 1980, only 36% of total capital expenditures was allocated for growth and for some companies it was negative. Of course, the actual classification of replacement and growth expenditures is more complex than portrayed here.

The net cash flow to be financed is the same under either accounting method. Thus, inflation accounting merely rearranges the priority of cash expenditures. It does not reduce cash flow or increase the amount of financing as compared with historical cost cash flow.

Taking a cue from these relationships, British inflation accounting (SSAP-16) introduces a gearing adjustment to current cost earnings. The theory is that part of the increased replacement cost of fixed assets can be financed with debt, thereby relieving the common stockholder of part of the inflation

burden. The amount is determined by the ratio of debt to total capital -- the "gearing ratio" -- and has the effect of raising current cost earnings. It is a dubious concept to incorporate borrowing as an element of earnings but from a cash flow viewpoint this argument has some practical validity. Although cash is fungible, it is apparent from Exhibits A and B that debt financing is an important funds element which enables these companies to finance both capital maintenance and growth expenditures and still pay dividends. They have been able to do this with very little change in the ratio of debt to total capital over the entire period -30% low (1976-1978) to 33% high (1974) on a historical cost basis and 21% low (1978) to 26% high (1973) on a current cost basis.

### Exhibit B

#### CAPITAL MAINTENANCE CASH FLOW TABLE INDUSTRIAL INFLATION ACCOUNTING DATA FOR 112 COMPANIES Selected Years, 1974-1980 (in billions of dollars)

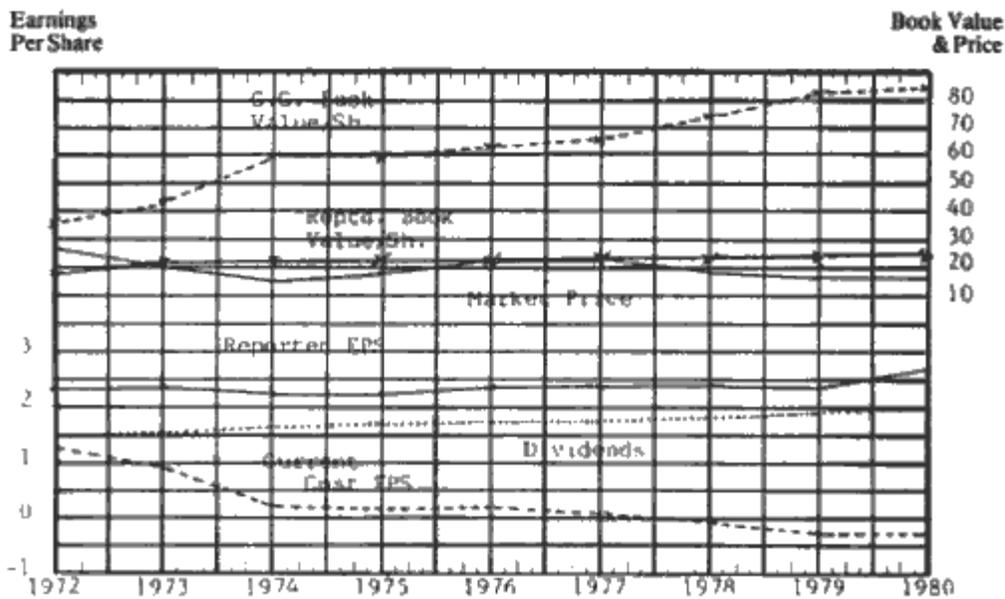
	1974	1977	1979	1980
Gross Cash Flow				
Reported Net Income	\$16.9	\$25.1	\$32.0	\$28.0
Depreciation at Historical Cost	12.0	15.7	20.2	23.1
Deferred Taxes	.9	.8	1.9	2.8
Gross Cash Flow	29.8	41.6	54.1	53.9
Capital Maintenance due to Inflation				
Monetary Working Capital	(2.6)	(1.5)	(2.5)	(3.1)
COGS Current Cost Increment	7.0	2.4	3.6	5.2
Fixed Asset Replacement Requirements <sup>(a)</sup>	15.8	22.4	28.6	32.6
Total Capital Maintenance Requirements	20.2	23.3	29.6	34.7
Discretionary Cash Flow	9.6	18.3	24.4	19.2
% of Gross Cash Flow	32.4%	43.9%	45.2%	35.7%
Discretionary Expenditures				
Dividends	7.4	10.8	13.4	13.8
Additional Monetary Working Capital	.7	(1.9)	0.9	0.5
Additional Inventory due to Volume	4.4	3.4	8.7	2.2
Capital Expenditures above Replacement	8.3	5.7	14.4	18.1
Total Discretionary Expenditures	20.8	18.0	37.4	34.6
Net Cash Flow before Financing	(11.2)	0.2	(13.0)	(15.4)
Financing				
Fixed Obligations	9.9	6.5	12.1	15.4
Stock	.6	---	1.6	2.8
Total Financing	10.5	6.5	13.7	18.2
Net Change in Cash and Other Items	\$(0.7)	\$6.6	\$0.7	\$2.8

(a)Current Cost Depreciation

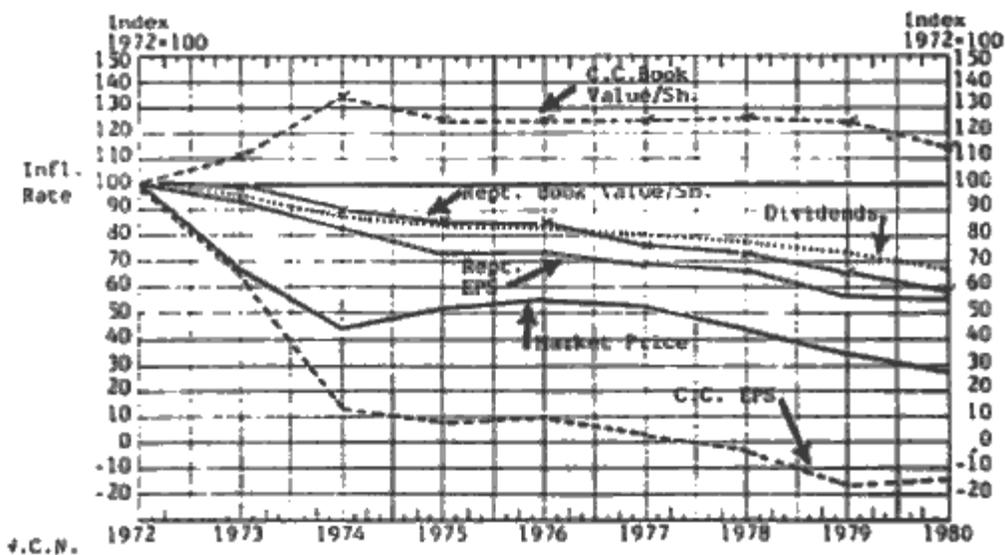
Extract from Exhibit A.

The electric utility industry presents dramatically different inflation-adjusted results since 1972 than does the industrial sector. Chart VII on the next page is based on an index of 12 geographically diversified utility companies developed on the same current cost model used for the industrials. This is sufficiently broad for analytical purposes because the effects of inflation are fairly homogeneous throughout the industry

Chart VII  
**ELECTRIC UTILITY INDUSTRY**  
**EARNINGS PER SHARE, BOOK VALUE AND STOCK PRICE**  
**1972-1980**  
 Electric Utility Inflation Accounting Index



**REAL RETURNS TO THE STOCKHOLDER**  
 In Constant 1972 Dollars - CPI Index



Generally only depreciation and plant and equipment are adjusted to current cost. Sometimes a small adjustment may be made for fuel, analogous to cost of goods sold. Utilities are very capital intensive and depreciation is a large cost factor, even though the depreciation rate is low relative to industrial properties. Consequently, the cumulative impact of rising construction costs on plant investment has

become substantial. The current cost of fixed assets of the index was 90% over historical cost at the end of 1980. The Handy-Whitman Index of public utility construction costs rose 121% from 1972 to 1980, compared with 103% for the CPI.

It is obvious from Chart VII that utilities have failed badly to keep their stockholders even with inflation. "Real" reported earnings, dividends, and market price have declined steadily since 1972. Our inquiry here concerns the significance of generally non-existent current cost earnings and the theoretical reduction in current operating capability implied by the continuous deficit in retained current cost earnings. Enormous holdings gains which produce high economic income provide a theoretical but unrealizable future offset. In an industrial company such a combination would imply reorganization, retrenchment or liquidation.

Electric utility companies are highly regulated on a cost-of-service basis. Regulation is the key to earnings. The allowed rate of return is based on the historical cost of assets, and is geared to covering operating costs, depreciation and interest expense plus a return on the common equity. When new plant comes on line, the depreciation charge and the cost of capital becomes a cost to be covered, possibly by higher rates. In essence, regulation takes a project view of a utility company. Employing the accounting framework for a project, we can say that each plant unit is an individual project allowed to earn enough to recapture its cost and earn a return thereon. If, at the end of its useful life, this capital is insufficient to build a new plant because of inflation, regulation will allow higher rates to finance the additional capital required. Thus, regulation assures that adequate generating capacity will be available to serve the public which, meanwhile, does not pay rates commensurate with rising current value of the generating plant.

Conversely, the stockholder's capital in real terms is steadily consumed during the life of the plant. At the end of the generating station's life cycle, his equity capital is recouped in nominal financial terms but not in real terms. The substantial holding gain in the current cost of plant is not available to the stockholder because the facility cannot be moved or sold and the present value of its future cash flow must be calculated on historical cost.

Statement 33 provides for a purchasing power gain on net monetary position and here the utilities shine because they have large debts and very few monetary assets. In all inflation accounting models using a purchasing power adjustment, utility companies show the most favorable results. This is fallacious because regulated utilities do not benefit from inflation, either in earnings' growth or asset appreciation. The burden of debt remains unchanged from the start. It is the ratepayer who gains a purchasing power benefit from these fixed costs in the rate base. In my opinion, therefore, the Statement 33 reports of utility companies are contradictory because on the one hand they reduce the holding gain to "net recoverable cost" (i.e., historical cost), but yet claim a purchasing power gain on debt.

Inflation-adjusted financial statements do not provide any useful insight to the operation of the regulated utility business in an inflationary environment. But they do indicate that the stockholder is severely penalized, far more than in unregulated industries. This data ought to have probative value in requests for higher rates but it is seldom advanced. The fair value approach to rate making is rarely employed today. Hence the value of current cost accounting for utilities is moot although the stockholder ought to be made aware that his real capital is being consumed by this industry.

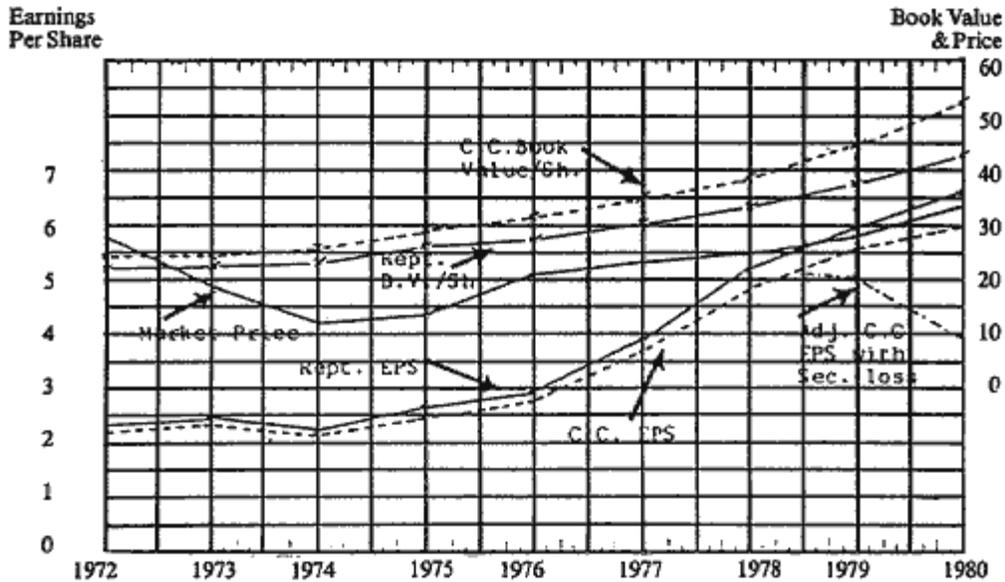
### ***Banking Inflation-Adjusted Results -- Chart VIII***

The banking business is affected by inflation but the financial statements do not require significant adjustment. Indeed, banks are the conduit for inflation; the expanded money supply moves from the Federal Reserve to the public through banks, expanding bank assets and liabilities in the process. Substantially all assets and liabilities are monetary; hence they do not change in price as do non-monetary assets. A bank's only non-monetary asset is normally its banking premises, which is commercial real estate. It is a very minor percentage of total assets, although it may be a significant, e.g., 50%, proportion of stockholder's equity. Bank premises will give rise to a current cost adjustment

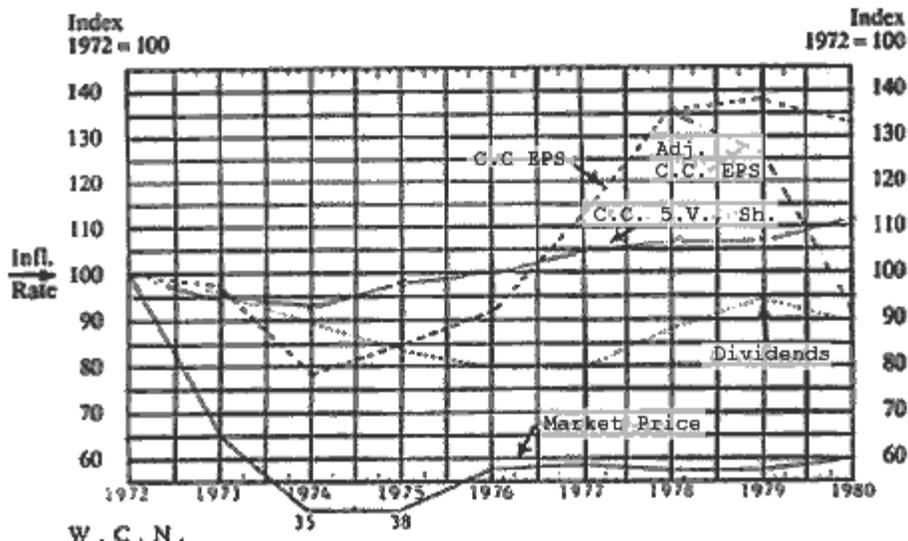
which is only 5 % to 10% of reported income in most cases. This is not significant for analysis.

Banks are thought to be disadvantaged during inflation because they experience a purchasing power loss on their net monetary assets - which are largely equivalent to stockholders' equity. Statement 33 requires such an adjustment. However, Chart VII demonstrates that banks do relatively well during the inflation. This chart shows only one bank -- Security Pacific Corporation of Los Angeles -- because my bank inflation index is not completed. Like utilities, however, banks are very homogeneous with respect to inflation.

Chart VIII  
BANKING INDUSTRY  
EARNINGS PER SHARE, BOOK VALUE AND STOCK PRICE  
1972-1980  
Security Pacific Corporation



REAL RETURNS TO THE STOCKHOLDER  
In Constant 1972 Dollars - CPI Index  
1972-1980



Security Pacific's reported and current cost earnings are close to and parallel with growth rates of over 13% for the 1972-1980 period, well ahead of industrials. Current cost book value grew somewhat faster

than reported book but the lines are essentially parallel. However, there is one adjustment that should be added for banks -- unrealized gains or losses in the bond portfolio account. The present accounting convention reflects only realized security profits (losses), which are typically nominal. Unrealized gains are shown only in the financial statement notes but to fully measure the impact of inflation they should be recognized. Inflation generally causes interest rates to rise, not necessarily by the inflation rate as is popularly supposed, and thereby causes a decline in bond prices. In 1979 and 1980, the unrealized losses (after tax effect) in Security Pacific's bond account amounted to \$2.16 per share in 1980 and \$0.48 per share in 1979. If the maturity structure is relatively short, the losses will be recovered without difficulty but some banks have suffered a permanent impairment of capital due to bond losses.

Typical of most banks, Security Pacific's dividends have grown more slowly than earnings as the payout ratio dropped. This is another effect of inflation, although no adjustment to the accounts is required. The inflation induced expansion in bank assets and liabilities, which requires more supporting capital. Banks have had to retain more earnings to build their capital accounts but nonetheless capital ratios for many banks have declined somewhat, although not for Security Pacific. This need to build capital is to support asset growth and differs conceptually from an industrial's need to build capital to sustain operating capability at the prevailing level.

In real terms, bank results are generally more favorable than industrials. For Security Pacific, its real reported and current cost earnings per share both rose about 4% annually but dividends were flat. Stated and current cost book value were about even with inflation. The real market price declined only 6% annually compared with 10% for industrials. While in theory banks may lose purchasing power on their net monetary assets during inflation, their asset expansion and higher interest returns, also due to inflation, more than offset this loss.

I have shown this bank example to emphasize the importance of first developing a comprehensive analysis in nominal terms and then comparing the final consolidated result over time with some index of inflation. A single point analysis is inadequate and the purchasing power loss by itself is misleading.

### ***Recapitulation: Inflation-Adjusted Financial Trends, 1972-1980***

This long, and perhaps exhausting, review of inflation-adjusted financial trends has only touched the surface of the analytical possibilities. Nonetheless we can draw some general conclusions about the effects of inflation on the financial results of the corporation and the real returns to the stockholder. The central concept is that capital and operating capability should be maintained in current cost terms before current earnings that can be distributed to stockholders are recorded. The key points:

1. The current cost adjustments to historical cost financial statements are small in relation to sales for the average industrial company but they cause a substantial reduction in net income. In recent years, the reduction has averaged over 40%, with year-to-year variation due to changes in the rate of inflation and business profitability.
2. The greatest reduction occurred in 1974, a year of high and unexpected inflation. Wider adoption of LIFO accounting and anticipation of inflation have mitigated the impact somewhat in recent years.
3. The cost of goods sold adjustment is smaller but more variable than the depreciation adjustment which, in effect, becomes an additional fixed charge on earnings. Hence, current cost earnings are more volatile than historical cost earnings.
4. There is a considerable range of results between industries and companies arising from their varied price experience, economic characteristics, growth, and profitability. Technological industries are in the most favorable position.
5. Current cost accounting separates current operating income from holding gains. Holding gains expand under inflation but their realization must await sale or liquidation of the business. Hence they must be essentially discounted in the market

- price.
6. Current cost accounting does not change cash flow but it reallocates it between capital maintenance and discretionary expenditures. In this inflationary era, the composite industrial company has been able to finance capital maintenance out of earnings, pay increasing dividends, and finance investments for growth without, through 1980, expanding debt leverage in the balance sheet.
  7. Current cost accounting does not provide useful information for regulated utilities although it does show that the stockholder suffers a substantial erosion of real capital.
  8. Current cost accounting is not significant for banks (and other financial institutions); historical cost statements provide relevant information for inflation analysis because substantially all assets and liabilities are monetary.
  9. In real results, the composite industrial company has not been quite able to maintain current cost earnings and dividends even with inflation over the past eight years. A typical bank has done a little better than inflation in these respects but the utility stockholder has fallen far behind. Industrials have recorded the best real gain in asset value per share.

## **INVESTMENT APPLICATIONS AND INTERPRETATIONS**

The crucial issue about this inflation accounting information is what investors can do with it. If the kind of analysis I have just made has no utility for investment decisions it will get little attention from analysts no matter how many theoretical studies develop from the data that accumulates.

So far most analysts have not done this kind of inflation analysis, partly because the data has not been readily available. ASR data was hidden in the Form 10-K reports and Statement 33 reports are confusing, incomplete, and have no historical record. Further, there is a learning curve which has yet to be tackled.

I do not mean to imply that analysts are lazy; they concentrate on the most dynamic factors in projecting future earnings. There are many other important elements besides inflation in a company's performance: products, competition, market share, sales, costs, productivity, management, and others. The analyst now assesses these within a familiar system of accounting measurement and he is reluctant to convert to a new system until its merits are proven.

### ***Correlation tests***

An important test of the merits of any new accounting or financial reporting requirement seems to be whether it can cause a reaction in the stock market. Under the efficient market hypothesis, the only information that is important is that which is impounded into the market price. I don't have that much faith in the market's immediate discernment of information nor in the statistician's ability to sort out specific connections between information and price changes. So I don't regard a market connection as a proper basis for determining the utility of current cost information. Nevertheless, possible relationships should be studied.

A number of studies have been unable to find much connection between replacement cost data and prices. However, in our early work at Duff and Phelps, we ran a series of correlation studies that indicated a closer relationship between annual changes, in current cost earnings and total return on the stock than with changes in historical earnings for considerable number of companies. (5) With the passage of time many of these correlations have now faded out and no defined pattern prevails any longer. The 1973-1975 period of parallel current cost earnings and price movement apparently caused the earlier high correlations but that sequence has not been repeated.

### ***Utility for investment***

I see four uses of current cost data for investment analysis:

1. It can assist research by providing more systematic data for comparative analysis of company earnings power under current price conditions -- inflationary or stable. It eliminates the significant non-comparability between companies arising from differences in inventory and depreciation accounting.
2. It can provide useful insights to the relative effects of price changes on revenues, costs, and financing requirements across industries and companies.
3. It can provide screens to classify stocks as hedges against inflation.
4. It can provide an improved basis for estimating long-term dividend-paying capacity and internal growth, as compared with the historical cost model.

### ***Current Investment Applications***

I am now beginning a survey of present practice in the use of this data but a few applications over the past two years can be mentioned.

1. A bank trust department has constructed a dividend valuation model using a normalized payout of projected current cost earnings based on a normalized rate of return on current cost book value. The model did improve investment performance.

In the long run, current cost income should be a better indicator of dividend capacity than reported earnings under inflationary conditions. But in the short run, current cost earnings do not appear to predict dividends as well as reported earnings because they are more variable while dividend policies are generally fairly stable. However, cash flow is the best predictor. For the 112 companies, dividends are an almost unvarying 24%-25% of gross cash flow.

2. An investment advisory firm has based issue selection on the highest rates of return on equity, calculated by current cost earnings return on current cost stockholders' equity.
3. An investment banking firm evaluates the credit quality of bonds using current cost financial statements. This may be theoretically correct but it does not provide much incremental value for credit analysis. Cash flow is crucial for credit analysis and inflation accounting does not change cash flow.

### ***Common stocks as a hedge against inflation***

Are common stocks a good hedge against inflation? This is the central question that inflation accounting should help to answer. Our concern here is limited to stock behavior during the inflation period and not over a longer period encompassing both price stability and inflation. As investors, our objective must be to find companies that maintain both the price of the stock and our required total return in real terms while the company maintains its operating capability as measured by current cost accounting.

To maintain operating capability in times of inflation and pass the positive fruits of inflation through to the investor, companies must maintain their profit margins on the basis of current cost accounting. This means that in historical cost terms, profit margins must rise in order to absorb increased replacement costs for inventory and fixed assets.

Maintaining operating capability is not sufficient however. Companies must increase current cost earnings and dividends enough to not only maintain the shareholder's real return but also to offset the corollary rise in the discount rate. Altogether this is a formidable task.

## *Issue Selection*

Issue selection based on the foregoing objectives will seek companies that offset added costs by increasing selling prices or reducing other costs. Companies which have pricing flexibility due to proprietary products, market leadership, or supply shortages are in the most favorable position. Strong growth in demand is often important. However, companies whose products have some political sensitivity, for example steel prices, in the past, have found it hard to advance selling prices sufficiently. Also cost increases can be partially offset through increased productivity, faster turnover, and the like.

Analysis of these factors, coupled with current cost measurements, will enable the investor to appraise a company's "pass-through" capability. Subject to further study, I believe that current cost measurements will tend to reorder the relative attractiveness of some stocks near the top or bottom of the list but the broad middle group will not change much. Tentatively, some of the industry groups which are relatively least affected by the current cost accounting adjustments to earnings and thereby may offer the best chance of staying ahead of inflation, other things being equal, are:

Banks	Insurance companies
Drugs ---health care	Office equipment and computers
Electrical equipment	Toiletries and cosmetics
Electronics	

Conversely the most severely affected and hence least attractive are:

Automobiles	Rubber
Non-ferrous metals	Steel
	Utilities

## **BUSINESS APPLICATIONS FOR CONTROL AND PLANNING**

Although investors have not yet made much use of inflation-adjusted financial data, business management has been showing increasing interest in it recently. Both the Conference Board and the Financial Executives Institute have sponsored meetings on the subject. Up to now, however, the list of companies actually making inflation adjustments to internal accounting data is short. General Electric's adoption is widely known. American Standard and Federal-Mogul have installed similar systems in the last five years. TRW began one this year and Union Carbide has been developing one. Other companies may make partial inflation adjustments or reset objectives to overcome inflation.

All of these internal systems are based on the capital maintenance concept and use the current cost accounting method. In brief, division capital assets are shown at current cost and income is usually calculated using current cost depreciation, although there are variations. Standard costs are used for inventories and these may be raised during the year if price changes are substantial. In any event, the division is not given credit for price variances during the year. LIFO accounting is usually done at the corporate level.

These inflation-adjusted systems are regarded as more rigorous measures of division performance. Older divisions enjoying lower historical cost depreciation are put on the same basis as newer divisions -- both are required to show a return on the current value of the assets in their custody. Formerly, a return on sales was usually the measure of division performance. This approach can stimulate division managers to adopt more aggressive pricing policies, improve turnover of receivables and inventory, and get rid of assets and product lines. All of these measures can be adopted without adjusting for inflation,

of course, but current cost accounting apparently provides a sharper focus when inflation persists.

This kind of accounting is also pertinent to strategic planning. There appears to be an accelerating trend toward redeployment of assets in many large companies based on return on capital investment objectives. Low return divisions are being sold or liquidated. Current cost accounting provides a more rigorous test. Of course other measures are also used. The companies that have adopted internal current cost accounting seem to have had success with it because they have demonstrated improved financial results in the past several years. This is another indication that it is worthy of investor's attention.

## **THE FUTURE DIRECTION OF INFLATION ACCOUNTING**

Inflation accounting sometimes has overtones of a crusade and I want to conclude this lecture by trying to place it in a more realistic perspective.

### ***A better measurement system***

Continued inflation is rendering historical cost accounting obsolete. The general price level has doubled in the past eight years and at the current pace will double again in the next eight. Current cost accounting is conceptually a better measurement system under these conditions but there are practical difficulties in costing some types of assets. The replacement cost method of pricing is well understood and accepted for inventories because the turnover time is short and new purchases quickly provide new prices. Fixed assets, which are often unique or special purpose structures with long lives, are more difficult to price each year. Technological change may introduce other problems. Nevertheless, as businessmen and accountants continue to develop current cost data, accuracy will improve.

Inflation accounting can aid economic decisions by providing better measurement and eliminating some of the euphoria that is generated by inflation inspired historical cost results. But it is not going to change the basic thrust of most of these decisions because the fundamental content of accounting statements will tend to be the same under either method. Sales are the same, and most costs and expenses are the same and cash flow is the same, Current cost accounting separates operating income and holding gains and this becomes more important to capital maintenance as the rate of inflation rises.

### ***Factors in user adoption***

Investors and analysts have been slow to adopt inflation adjusted financial statements because the additional information they provide is viewed as marginal compared with all other factors that affect company earnings and financial position -- management, markets, new products, competition, labor costs, etc. Adopting new financial measures is analogous to learning to convert from gallons to liters at the gas pump: we continue to translate liters back to gallons until eventually we get used to metric measures. Likewise, the advantages and insights provided by current cost accounting will become better understood, more data will become available, and communication about financial statements will gradually shift from the old to the new system.

Inflation accounting will have to deliver different messages than historical cost accounting from time to time and these messages will have to prove meaningful. If the trend of current cost earnings merely parallels historical cost earnings at a lower level, they will not add much information. That was the composite pattern between 1976 and 1979. The 1973-1975, or possibly the 1980, divergencies provide opportunities for current cost earnings to prove their value.

The future course of inflation will determine the pace of adoption. If the Administration's current monetary policy persists for another two years or so, we should see a much lower rate of inflation and the impetus for a change in accounting will lapse. But if the current rate of inflation continues, interest in current cost accounting should accelerate.

## ***FASB Statement 33***

The FASB recently published some summary data from its new data base at Columbia University which provide cross-sectional analyses of some 1100 companies for 1980. (6) Of "blockbuster" proportions, these inflation adjustments reduced aggregate earnings from continuing operations by 66% on a current cost basis and by 53% on a constant dollar basis. The current cost impact was greater than for my 112 company index but, in general, the same patterns appear that I have discussed in this lecture.

The FASB is now promoting major research on inflation accounting using this new data base. This will no doubt stimulate interest among academicians but most of the ideas, principles and facts about inflation accounting are already well known. This is an appropriate place to express my views on Statement 33. Although it provides the four numbers I need for my model, I consider it a poor standard. Born out of a compromise on the Board, it requires two different inflation accounting methods but produces only limited information from each. The result is confusing and I am sure it is a cause of user disinterest. I also believe the treatment of holding gains is hard to understand and the purchasing power adjustment erroneous.

I see no application of constant dollar accounting to investment analysis. The principal advantage of this type of inflation accounting is to puncture the "money illusion." This may be desirable for discussions of public policy but it has only secondary value to the investor in making investment decisions. As I have shown, this objective can be accomplished very easily by deflating the principal earnings and wealth results produced by the current cost method. Statement 33 does this in its five year summary.

To gain user interest, I believe it is important for the FASB to improve Statement 33 disclosures by: (1) eliminating the constant dollar method in order to simplify the presentation; (2) reducing the measurement latitude now existing in the standard by requiring straight line depreciation and inclusion of operating assets not in the books; (3) moving to a comprehensive set of adjusted financial statements; (4) prescribing a standard statement format, and (5) requiring nominal dollar as well as real dollar current cost historical data. Hopefully, some of these steps can be taken before the full five year experimental period runs its course so that investors and analysts will begin to make use of this information. If Statement 33 fails, we will need South American rates of inflation to ever revive interest in inflation accounting.

### ***Conclusion***

Some companies fare better than others under inflationary conditions. The task of the analyst is to sort them out. Even after sufficient consistent data is accumulated over the next several years, inflation accounting alone will not be decisive in investment policy. All of the other factors an analyst normally evaluates in appraising a company will still need to be evaluated. But the analytical framework I have outlined here and the data already available suggest that the analyst should begin now to factor inflation accounting into his valuation analysis, even if the inflation rate continues to decline. Current cost accounting is simply more realistic.

### **FOOTNOTES**

(1) Financial Accounting Standards Board, Statement of Financial Accounting Concepts No. I (Stamford, Connecticut, November, 1978)

(2) Accountants and economists have elaborated on and dissected the Hicksian income definition endlessly. I am content to use it as a starting point and avoid pointless debate. I was advised by an Australian accounting professor that in a lecture in Australia, Hicks inferred that he wished he hadn't made the statement in the first place.

(3) Economic income could not be calculated for 1972 because 1971 balance sheets were not developed. A prior year balance sheet is needed to calculate unrealized holding gains.



COGS	1866.0	7029.6	2130.7	2596.9	2421.0	3038.7	3555.0	5245.6
Depreciation, Depletion, Amort.- Reported	10981.7	12033.4	13057.3	14116.3	15661.7	17478.0	20229.2	23069.9
Current Cost Depreciation	13374.0	15752.5	18200.5	20162.0	22465.4	25138.8	28620.2	32556.9
Current Cost Increment to Depreciation	2392.3	3719.0	5143.2	6045.7	6803.7	7660.7	8390.9	9487.0
Balance for fixed charges- Reported	34190.7	34935.6	35253.3	44692.9	50271.3	59641.1	60738.5	55997.8
Balance for fixed charges- Current Cost	29932.4	24187.0	27979.4	36050.4	41046.6	48941.6	48792.6	41265.3
Total Interest Expense	3323.3	5599.4	6435.3	7805.4	10173.0			
Pretax income-Reported	30867.4	30383.4	30182.7	39729.5	44671.9	53205.8	52933.1	45824.8
Less: Total Current Cost Increment	4258.3	10748.6	7274.0	8642.5	9224.7	10699.5	11945.9	14732.5
Current Cost Pretax income	26609.1	19634.8	22908.8	31087.0	35447.2	42506.3	40987.1	31092.3
Current income tax	12967.5	12000.1	12120.4	16224.7	19269.1	21875.5	20745.0	16399.4
Deferred income tax	865.5	1534.2	1316.8	1446.7	876.7	1993.1	1143.3	2290.3
Total income tax	13832.9	13534.3	13437.2	17671.4	20136.3	23868.6	21887.3	18689.7
Net income before Extra items- Reported	17267.6	16902.4	16894.8	22452.9	25146.4	30076.0	31977.6	28096.8
Current Cost Income before Extraordinary	13009.3	6153.7	9620.9	13810.4	15921.8	19376.5	20031.7	13364.3
Preferred dividends	238.2	257.0	252.4	247.2	268.6	270.2	381.8	491.4
Reported Net Income for Common before Extra	17029.4	16645.4	16642.5	22205.8	24883.0	29805.8	31595.8	27605.4
"LIFO" Earnings (COGS Adjustment Only)	15163.5	9615.8	14511.8	19608.9	22462.0	26767.1	28040.8	22359.8
Current Cost Net Income for Common	12771.1	5896.7	9368.5	13563.2	15658.3	19106.4	19649.9	12872.8
Reported Net Income for Common after Extra	17297.9	16931.3	17024.1	22492.1	25143.3	30383.8	31686.0	28447.6
Dividends on Common	6989.3	7122.6	7162.8	8931.3	10566.3	11624.4	12999.3	13306.1
Retained Net Inc.-Reported (before extra)	10040.1	9522.8	9479.6	13274.5	14316.6	18181.4	18596.6	14299.3



Economic Income	8.43	12.53	8.65	8.98	7.75	9.38	7.39	7.61
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### OTHER RATIOS

Depreciation Rate on Gross Plant	6.48	6.42	6.52	6.57	6.63	6.60	6.64	6.76
COGS Adjustment % Reported Income	10.81	41.59	12.61	11.57	9.63	10.10	11.12	18.67
Depreciation Adjustment % Reported Income	13.85	22.00	30.44	26.93	27.06	25.47	26.24	33.77
Current Cost Adjustments % Reported Inc	24.66	63.59	43.05	38.49	36.68	35.57	37.36	52.43

### TAX RATES

Current tax rate-Reported	42.0	39.5	40.2	40.8	43.1	41.1	39.2	35.8
Deferred tax rate-Reported	2.8	5.0	4.4	3.6	2.0	3.7	2.2	5.0
Total Tax Rate-Reported	44.8	44.5	44.5	44.5	45.1	44.9	41.4	40.8
Current tax rate-Current Cost	48.7	61.1	52.9	52.2	54.4	51.5	50.6	52.7
Deferred tax rate-Current Cost	3.3	7.8	5.7	4.7	2.5	4.7	2.8	7.4
Total Tax Rate-Current Cost	52.0	68.9	58.7	56.8	56.8	56.2	53.4	60.1

### DIVIDEND PAYOUT

Dividends % Reported Net Income	41.9	43.7	43.9	40.9	43.1	39.5	41.8	49.1
Dividends % Current Cost Net Income	55.6	119.9	77.1	66.5	68.1	61.4	66.8	103.2
Dividends % Cash Flow	24.8	24.7	23.8	24.2	26.0	23.9	24.7	25.6

[...]

**GAP IN PAGES (48-55).**

