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ADJUSTING ACCOUNTS FOR INFLATION

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OUTLINE OF THE PAPER

In the introduction I will give the meaning of inflation.

In the first part I will be concerned with the defects that exist, in traditional accounting statements because of the influences of inflation.

In the second part I will mention the harmful effects of inaccurate profit measurement under inflation, both from the business and the national point of view.

The third part will be concerned with the methods – and their rivals – that have been suggested for improving accounting statements during a period of inflation, and

In the fourth part I will state two measurement criteria which can be used as a basis for replying to the question «what is the right method for presenting accounting statements during inflationary periods».

In the last part I will summarise the above-mentioned.

INTRODUCTION

1.1. The meaning of Inflation

Most businessmen and consumers have been very familiar with the problems of inflation in recent years but there would probably be considerable differences of opinion if questions were asked regarding the precise meaning and causes of inflation.

Many businessmen would think in terms of their increases in costs, especially those related to raw materials, labour and capital equipment, and the difficulty of increasing prices to maintain profit margins. The typical consumer, on the other hand, would probably be primarily concerned with rapidly increasing prices, especially those related to food and other essential items, and the difficulty of obtaining wage increases in order to meet rising prices.

In most cases it would probably be possible to obtain a broad measure of agreement that during a period of inflation the general purchasing power of money declines while the general level of prices for goods and services increases.

PART ONE

DEFICIENCIES IN CONVENTIONAL ACCOUNTING STATEMENTS DURING A PERIOD OF INFLATION

1.1. Calculation of Business Profit

Accountants are in most cases very aware of the problems of increasing inflation and frequently provide advice for businessmen and private individuals regarding the implications of rapidly rising prices. The record of the accountancy profession will not be found to be so good, when an examination is made of the methods that are currently being used to determine business profit. In the vast majority of cases little or no provision is made for the effects of price level changes and as a result businessmen are frequently given a very false impression of business performance.

Traditional accounting methods have proved to be reasonably satisfactory during a period of relatively stable prices. In the absence of price-level stability, accounting reports can become extremely unsatisfactory. It is essential that accountants should examine very carefully their conventional methods of profit measurement.

1.2. Definition of Business Profit

There are some very significant differences of opinion regarding the way in which business profit should be calculated.

The accountant would generally define business profit as «the excess of business revenue over related costs». This method of profit measurement, which will be described as «the profit statement approach», has been used by accountants for many years and has generally been considered to be the best available indicator of business profit. In the absence of price changes, the major difficulty in this area is the allocation of costs and revenue to specific time periods. When the profit statement is being prepared the accountant generally has to make a number of estimates regarding future activities or events.

If the accountant did have knowledge concerning probable future developments, profit measurement as carried out under traditional accounting methods would still be unsatisfactory if there were significant

inflationary conditions. A comparison of costs with revenue can only be sarisfactory if one is comparing like with like. It is not possible to compare two apples with six oranges and to say that the result is four apples. Similarly it is not possible to make a realistic comparison between 1972 pounds and 1976 pounds, if there is a significant difference in the purchasing power of the pound for those years.

The economist would generally adopt a rather different approach to the measurement of business profit and would probably base his approach on the writings of J.R. Hicks who defined a man's income for a week as «the maximum value he can consume during a week and still expect to be as well off at the end of the week as he was at the beginning»[1].

If this method of profit measurement, which will be described as «the balance sheet approach», was applied to a business organisation, it would generally be suggested that business profit or loss should represent the difference between the capital or net worth of a firm at the beginning and the end of a financial year, after taking into account all capital additions and withdrawals. For this approach to be acceptable it is essential that objective methods of assessing the value of the firm should be available to the businessman.

In most circumstances, satisfactory valuation methods are not available, and the difficulties involved become greater in conditions of inflation.

There is, therefore, no completely satisfactory method of defining or calculating profit[2]. Difficulties would still exist even in the complete absence of price changes, but these difficulties are obviously made very much greater by the presence of rapidly increasing rates of inflation.

1.3. Profit statement deficiencies

The deficiencies that are present in accounting statements during a period of inflation are the following:

—Depreciation: The fixed assets of a business organisation will usually have been purchased on several different occasions extending many years into the past, and as a result the depreciation estimates contained in the profit statement will in a large number of cases be based on asset costs which represent a com-

1. See: Value and Capital - Oxford University Press, Oxford, 1946, p. 172.

2. See: What is profit? a report on the I.C.A. (Institute of Chartered Accountants in England and Wales) course at Cambridge in 1970.

pletely different purchasing power from that which is in existence today.

– The Cost of Goods Sold: In most business organisations there is a significant delay period between the date on which goods are purchased and the date when they are eventually sold. As a result the sales in a profit statement for 1976 will usually be matched against a mixture of 1975 and 1976 purchase costs although the latter will normaly be very much greater.

Accountants have always considered that if a businessman purchases certain goods for £ 40 and sells them in an identical condition four months later for £ 60, the gross profit should be £ 20. Today, however, prices of goods and prices in general may well have increased by at least 2 1/2% in a four-months period, so the sales figure of £ 60 should be compared with a more up to date figure of £ 41 (£ 40+2 1/2%), which might represent current replacement costs or alternatively historical costs adjusted for changes in general purchasing power. In this simplified example the adjustment made would produce a revised gross profit figure of £ 19, which could lead to a lower distribution of profit and the probability that more funds would be available for the increased costs of stock replacement.

– Miscellaneous Items: There are also other costs that have been incurred in past years, which have been partly or wholly charged against the profits of the current year.

Goodwill may be written off over a number of years in a similar way to more tangible assets and the problems will be similar to those relating to depreciation. In a similar way some marketing orientated companies may spread heavy advertising and promotional expentidure over a number of years.

It must also be remembered that in conditions of inflation, losses can be incurred by holding cash or its equivalent, e.g. £ 100 held in a bank current account during a year when there is 10% inflation will lose approximately £ 10 in purchasing power. Conversely the business organisation which gets into debt will gain, e.g. a £ 100 overdraft held over the course of the same year will produce a £ 10 gain (ignoring interest) as the amount repaid at the end of the year will have much less purchasing power than the amount originally borrowed.

These factors can produce significant errors in profit measurement during periods of inflation.

1.4. Balance sheet deficiencies

The calculation of business profit by means of a comparison bet-

ween capital or net assets figures, at the beginning and the end of a financial year, produces a number of complications. These can probably be illustrated most effectively by a very simple example:
A Limited Company owns capital of £ 2.000 on the 1 January 1976. During 1976, £ 250 is distributed out of profits to shareholders, but prices have increased by 10% during the year. Total capital, including retained profits, at the 31 December 1976, is £ 2.250. What is the business profit for 1976?

In most accounting calculations the business profit for 1976 would be regarded as £ 500, i.e. £ 2.250 - £ 2.000 + £ 250. This would, however, ignore the fact that the sum of £ 2.200 on the 31 December 1976 would only buy the same amount of goods and services as the £ 2.000 capital on the 1 January 1976. It would therefore appear to be more reasonable to regard the business profit as £ 300, a figure which takes into account the reduced purchasing power of the business capital.

The figures shown in the balance sheet for longterm assets and for stocks of goods are in most cases based on historical costs, which may represent the purchasing power of many months or years ago. The capital figures shown in the balance sheet are also inadequate because no allowance is made for the decline in purchasing power that has taken place since the capital was originally obtained. The provision of this information could indicate a failure to maintain the purchasing power of capital during periods of inflation.

PART TWO

EFFECTS OF INACCURATE PROFIT MEASUREMENT

If it is accepted that there has been a significant degree of error in profit measurement, primarily because of price changes, then there are a number of important financial areas where inaccurate profit measurement has undoubtedly had a very great influence.

1.1. Business Implications

- Taxation: It seems probable that in the vast majority of cases business profits are overstated during periods of inflation.

  Business taxation is currently assessed with the aid of conventional profit calculations and as a result the percentage of profit taken in taxation will in most cases be very much higher than the percentage shown in the official accounts.
- Return on Capital: The inaccurate measurement of profit produces many situations where businessmen believe they are earning a much more satisfactory return on capital than is actually the case.

  So the members of management that frequently use these estimates for decision-making purposes have been based on extremely inaccurate information and the businessmen can not really assess whether the business in making effective use of the funds at its disposal.
- Pricing Policy: It seems probable that many business organisations use product costings based on historical costs. In these circumstances it seems likely that the use of such methods, combined with inaccurate information regarding investment returns, may well have produced many situations where products are seriously underpriced. This viewpoint will naturally produce critisms from those persons who feel that prices are primarily a matter of supply and demand, but there seems to be very little doubt that costings based on historical information frequently provide a basis for pricing decisions[3].

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3. See: Icome and Value Determination and Changing Price Levels: An Essay towards a Theory, Accountants Magazine, June 1971, p. 292.

– Wage Bargaining: In recent years many wage claims have been partly or wholly related to the prosperity of the company or the industry in which the workers are employed. In many cases, however, profits have been overstated because of inflation, and as a result an increasingly large slice of the profits available has gone to organised labour, especially in industries where the unions are extremely powerful.

– Dividend Policy: The erosion of real capital is, of course, an extremely important matter, and must cause great concern to business management.

It seems probable, that in many companies much too high a rate of dividend is being paid to the ordinary shareholders, based on the inaccurate measurement of business profit. The introduction of price-level accounting methods could produce a situation where ordinary dividends were drastically reduced and naturally this is a prospect that does not appeal to company directors and shareholders.

– Liquidity: If profits are overstated in conditions of inflation and a fairly generous dividend policy is maintained, there will very often be a shortage of liquid resources, especially when substantial funds have to be found for large capital projects. For many years most companies were able to generate sufficient funds from trading activities to finance capital projects. Today this is definitely not the case and external sources of finance are having to be increasingly used for capital development programmes.

Large companies have usually been able to find the necessary finance, even though they may have had to pay high rates of interest[4]. But there are undoubtedly many liquidity problems ahead for the smaller company especially if inflation cannot be properly controlled and interest rates continue to increase.

1.2. National Implications

The inaccurate profit measurement has, naturally, an effect on the country as a whole. In recent years Governments in many different parts of the world have complained about the inadequate level of new capital investment. Expansion in this area has obviously been hit by deteriorating liquidity, which as it has already been stressed is at least partly due to the effects of inflation on capital and revenue expenditure and profit measurement. More accurate profit measurement would almost certainly have produced a more adequate level of profit

4. See: Function and Future of Liquidity Ratios, Accountancy May 1973.

retention, which in turn would probably have meant that more funds were made available for capital projects. Also, many other influences have been present, but it is felt that inaccurate methods of profit measurement have had a significant effect on recent national levels of capital expenditure.

Many Government decisions relating to the economy are based on national income statistics and other similar information, which is naturally influenced of business profits. Once again, therefore, there is the possibility of wrong decisions being made based on inaccurate information.

There are many other possible national implications of inaccurate profit measurement but only one more will be mentioned and this one is that, national taxation policy can be very seriously affected by inaccurate profit measurement.

PART THREE

EXAMINATION OF SUGGESTED ADJUSTMENT METHODS

1.1. Methods of Calculating Business Profit and their rivals

Business as well as accountants know inflation has caused many companies to overstate profits as a result of gains on the inflating value of inventories an understated allowances for depreciation. The two questions now are:

1. Should the traditional method of calculating profit be changed or supplemented? and
2. If so, what new method should be adopted?

Since 1974, substantial progress has been made in delineating the alternatives but with no result. Accountants have agreed however, on three other approaches to the current system, which is historical-cost accounting (embodied in the generally accepted accounting principles, or GAAP).

As illustrated in exhibit 1, each approach is defined by the answers to two questions:

1. Which measurement should be used - units of currency (nominal dollars) or units of general purchasing power (constant dollars)? and
2. Which valuation method should be used - acquisition cost or replacement value?

1.2. Generally Accepted Accounting Principles (GAAP)

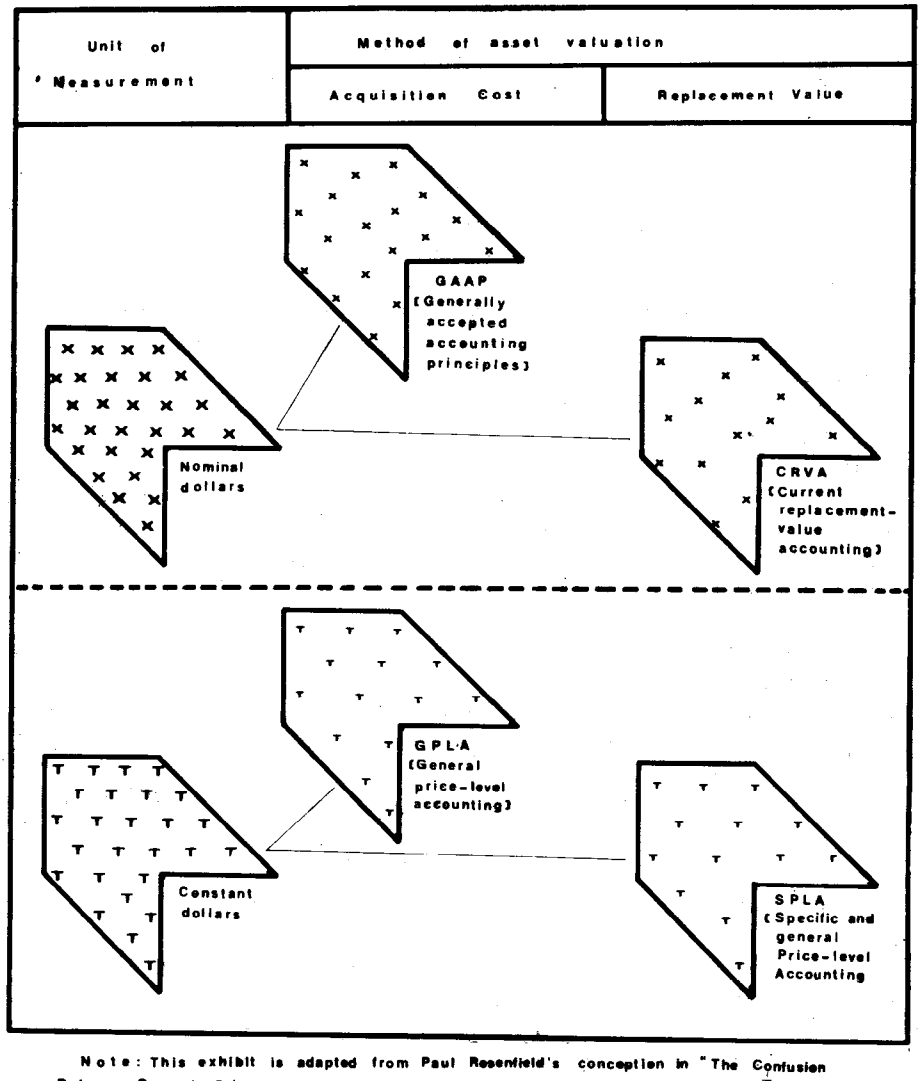
Calculation of profit according to GAAP involves using acquisition cost (the number of dollars changing hands in the original transaction) to value assets and liabilities. Since this method assumes that the purchasing power of the monetary unit is stable over time, profit is reported each period in nominal dollars.

Those who want to retain this method argue that it is widely understood and therefore more useful to decision makers than a «better» measurement that they might not comprehend.

But the monetary unit is not stable so calculating profits on the

EXHIBIT 1

Four methods of Measurement



Note: This exhibit is adapted from Paul Rosenfield's conception in "The Confusion Between General Price-Level Restatement and Current Value Accounting" (Journal of Accountancy, October 1972, p. 68).

basis of acquisition costs incurred at various times is like trying to add apples and organges. While managers think they understand GAAP profits, they find it hard to make intuitive adjustments for a varying rate of inflation. The danger is that GAAP users may act unwisely because they have been misled by faulty information.

1.3. General Price-level Accounting (GPLA)

Late in 1974 the Financial Accounting Standards Board (FASB) made the first proposal to cure this fault. It urged the preparation of financial statements in constant dollars and the presentation of such statements as supplementary information in corporate annual reports. The FASB stressed that its proposal would change only the measuring unit, not the accounting principles themselves - including the bedrock principles of acquisition cost valuation.

Some opponents insist that recording a current «monetary gain» related to outstanding long-term debt would be misleading. They acknowledge the gain from repaying the debt in cheaper dollars but believe that the gain should not be recognized until actually realized by reducing (not simply refunding) the debt.

Some detractors of GPLA also assert that business do not experience general inflation; they are affected by particular increases in their operating costs and plant expenditures. The national weighted average of these increases may in some sense measure general inflation, but some businesses are affected much more severely than others. Using the general rate to adjust the historical cost of plant in order to calculate a «better» number for depreciation expense would only coincidentally result in a number that pinpoints the current cost of replacing a plant.

Therefore, critics contend, GPLA profits reflect neither historical cost nor replacement value.

1.4. Current Replacement-value Accounting (CRVA)

In 1975, F. Sandilands, chairman of the Commercial Union Assurance Company[5] recommended «current cost accounting» a method which more often for descriptive purposes is called «current replacement-value accounting» (CRVA).

The essence of the CRVA method lies in dividing total profit into two pieces:

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5. See: Inflation Accounting: Report of the inflation Accounting Committee, London: Her majesty's Stationery Office, 1975.

1. operating profit, defined as revenue less the current replacement value of the assets consumed or used to produce that revenue; and
2. holding gains that result from owning physical assets that rise in value during an inflationary period.

Thus operating profit reflects the particular inflation experience of a company. Operating profit represents earnings available for distribution to owners, whereas holding gains represent earnings set aside in a valuation reserve and retained to provide sufficient capital for maintaining the physical capacity of the business.

There are two primary arguments against using the CRVA method. The first problem is that it makes no adjustment for changes in the general purchasing power of the monetary unit and thus eliminates the monetary gain on debt.

The other problem with CRVA, has to do with implementation. The proposal requires measurement of the replacement value of the physical, productive capacity of the asset, if that value is less than the replacement cost of an identical item.

1.5. Specific and General Price-level Accounting (SPLA)

This method incorporates both specific replacement values on physical assets and adjustments for changes[6] in the general price level. SPLA thus involves a change in the unit of measurement (to constant dollars) as well as a change in the method of valuation.

The primary arguments against it, are:

1. it requires current recognition of unrealized monetary gains on debt, and
2. it presents problems of measuring and validating current replacement values.

In considering these methods, note that they involve only two accounting changes. The choice to be made is to adopt either constant dollars (GPLA) or replacement value (CRVA), or on the other hand, to adopt neither (GAAP) or both (SPLA).

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6. See: Although he does not subject this method to the kind of multiperiod comparison undertaken in his article, *R.R. Sterling* suggests it as the best choise in «Relevant Financial Reporting in an Age of Price Changes», Journal of Accountancy, February 1975, p. 42. *J. Burton*, chief accountant of the S.E.C. doesn't foreclose this method in his advocancy of CRVA in «Financial Reporting in an Age of Inflation». Journal of Accountancy, February 1975, p. 68.

PART FOUR

MEASUREMENT GRITERIA

Now, in order to reply to the question «what is the right method» two criteria have been proposed as being the appropriate ones to apply in resolving this controversy. These criteria have been chosen by focusing on the use of accounting information by managers and investors.

1.1. Measure two types of Performance

There are two major classes of management decisions—operating decisions and investment decisions— and in most large corporations different managers make each type of decision.

A good measurement system recognizes this distinction and gauges performance in ways that allow both types of decision makers to evaluate the effectiveness of their actions.

A good measure of operating performance captures «what really happened» and eliminates all the static in the environment if possible.

Operating performance measurements should also permit realistic comparisons over a period of time. Investment performance is commonly evaluated by calculating the rate of return on investment. Even without inflation, R.O.I. has serious flaws and inflation complicates matters further. Nevertheless, R.O.I. is a pervasive, useful yardstick and a good measurement system should yield an R.O.I. calculation that permits managers to appraise the effectiveness of their actions to achieve corporate objectives.

1.2. Ensure maintenance of Capital

During inflation a good measurement system should record a profit only if the business has earned a profit. The business should «break even» (have no profit or loss) when its operations cause no rise or decline in the shareholder's capital. Implementing that idea, therefore, requires a measurement of capital and that, in turn, brings us back to the question of corporate objectives.

If it is conceived of as a form of capacity to take action, capital can be measured in three ways – nominal – dollar capacity, purchasing – power capacity and physical, productive capacity.

1.3. Financial Strategy

To be useful in security analysis accounting statements must also facilitate the analyst's determination of the financial strategy of the corporation. Financial strategy is reflected in those elements of the funds flow forecasts that deal with debt, dividends and retained earnings, and the sale or repurchase of common stock. The analyst thinks about financial strategy in terms of two primary parameters;

1. the debt/equity ratio, as a measurement of leverage and the related risk for the equity securities, and
2. the dividend payout, usually stated as a percentage of earnings.

Understanding financial strategy is clearly important for an analyst trying to prepare or modify a dividend forecast for an on-going business.

CONCLUSIONS

We have presented the defects of traditional accounting methods during a period of inflation. It is hoped that the inadequacies involved are appreciated. There is no solution to these problems and every time that a path is chosen many difficulties will be involved.

However, it is no use hanging on to inadequate methods in the hope that inflation will eventually disappear.

Inflation is obviously higlhy unlikely to disappear and even if it did disappear for a short period accounting statements extend many years into the past and distortion would still be present.

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