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ACCOUNTING FOR INFLATION -
A NEW ERA FOR ANALYSTS

By H.D.N. Reid, Sydney

In this high inflation era money is having a bad time. Of its three traditional roles only one - as a means of exchange - remains substantially acceptable. Of the other two, it is widely accepted that with negative real rates of interest it is no longer a satisfactory store of value, and it is coming increasingly under attack as a unit of account. It is with this latter area that the ensuing paragraphs are principally concerned.

Most investors are aware of the distortions to balance sheets that historical cost accounting can produce, particularly in relation to property assets. It seems likely, however, that few

people outside the accounting profession are as aware of the substantial and in some ways more serious effects that traditional accounting procedures can have on profit and loss accounts.

In general, in a period of high or accelerating inflation, most companies' profits are overstated in real terms. For a given rate of inflation the degree of overstatement for each company will depend on a number of factors, including the type of business it is involved in, its capital structure, and the return on funds employed. Those most prone to overstatement are manufacturing companies which have a high level of plant and equipment, stocks and work in progress, but a low level of fixed debt, coupled to a low return on funds: while the least affected are companies with a high volume of non-depreciating assets (e.g. land - ignoring short term fluctuations) no plant, no stock, good long term gearing and a high return on funds. In fact this latter type of company may well be understating its true profits if the 'inflation-proof' component of its assets exceeds shareholders' funds.

The two most important causes of profits overstatement are 1) Under-depreciation of fixed assets, and 2) Stock appreciation.

It is, of course, an accepted accounting and taxation principle that the cost of limited-life plant and equipment can be written off over its life as a charge before striking profits, the theory being that companies should be allowed to 'maintain their capital'. Under historical cost accounting the fact that the cost expressed in money of maintaining capital may be steadily rising is ignored. It is not possible to give an overall estimate of the amount by which Australian industry as a whole is under-depreciating, because the average life or composition of plant and equipment is not known. By way of example, however, consider a company which has an average plant life of seven years; uses straight line depreciation; physically replaces one-seventh of its plant each year; and whose plant costs are rising in line with inflation. If inflation has been and remains at a steady 10%, historical cost accounting will be providing only about 69% of the money amount needed to maintain physical plant levels, while at 15% inflation the figure falls to 59%. It is recognized that the example is unrealistic for a number of reasons but it does serve to illustrate the point.

By coincidence BHP, which is one of the very few Australian companies that makes any attempt to adjust its accounts to take the rising money cost of plant into consideration, in 1973 had a ratio of 69% between historic and the company's estimate of replacement cost depreciation. The accounts showed a total for 'fixed assets utilization' of \$143 million, of which \$100 million was allowable depreciation for tax purposes. The additional \$43 million had the effect of reducing net profits to about 65% of the level they would otherwise have been.

Stock appreciation is the second major problem area. Australia follows the 'First in, first out' (FIFO) convention of accounting for stocks. This produces the effect that where the money cost of physically replacing stocks is rising, profits are inflated by stock appreciation. UK statistics suggest that gross trading profits of UK companies in calendar 1972 were overstated by 19% for this reason, while the 'Economist' magazine has estimated that a similar adjustment in 1973 would produce the

rather startling figure of a 38% overstatement. In Australia the Bureau of Statistics gives corporate profits in the National Accounts net of 'Stock Valuation Adjustment' (S.V.A.) but does not incorporate the S.V.A. elsewhere in the GDP figures. In the year to June '73 gross trading profits of 'Companies' (which excludes farm and non-farm unincorporated enterprises) amounted to \$5379 million, while the non-farm S.V.A. was \$605 million, of which an estimated 90% or \$550 million related to 'Companies'. In 1974 the S.V.A. was running at an annual rate of \$830 million (say \$750 million for 'Companies') based on the figures for the first three quarters, compared to profits at the rate of \$6350 million. That these figures in terms of profits overstatement - 10% in 1972/73, 12% in 1973/74 - are much lower here is probably a reflection of the greater manufacturing orientation of British industry plus variations in the two countries' inflation rates. The reservation should be made that differences in definition and of the quality of the estimates can sometimes make this sort of inter-country comparison suspect.

Nevertheless, it is clear that profits in money terms are being substantially inflated at the pre-tax level in Australia. Because tax is charged on a basis consistent with historical cost accounting the effect at the net level is leveraged sharply. For the sake of example, consider a national company whose trading profit is inflated to the extent of 15% by stock appreciation, and which is only providing 75% of the real amount of depreciation needed to maintain the company's physical plant. The figures on the left are those based on historical cost, while those on the right are adjusted for these two items.

	<u>\$'000</u>	<u>\$'000</u>	<u>% Change</u>
Trading Profit	12,400	12,400	
Stock appreciation	-	1,860	
=	12,400	10,540	-15.0%
Depreciation	2,400	3,200	+33.3%
Pre-Tax Profit	10,000	7,340	-26.6%
Tax	4,750	4,750	-
Net Profit	5,250	2,590	-50.7%
Dividend	3,000	3,000	-
Retentions	2,250	- 410	-118.2%

This example, which is over-simplified to the extent that it has only used the two major distorting items, and has ignored the possibility of gains from net indebtedness, ownership of non-depreciating assets etc., shows a company which on the surface was satisfactorily profitable with a 1.75 times cover for its dividend, but which in real terms was 'living off its capital'. In practice, it would most probably have been increasing its bank facilities to cover the deficit and it is only now that a credit squeeze is in force that this point has been forcibly brought home.

Historical cost accounting can be misleading to large numbers of decision making people in the community including:-

company managements, who need to know real levels of returns on funds both in assessing trading, pricing, wage paying and dividend paying policies in respect of existing enterprises, as well as estimates of real future returns and cash flows in making new investment decisions;

lenders, shareholders (and their advisers) and trade creditors, all of whom are vitally self-interested in the real economic health of an organisation, with the first two being collectively responsible in the wider area of resource allocation;

Government agencies such as the Prices Justification Tribunal and the Industries Assistance Commission (the former, in particular, if it continues to base its judgements on apparent not real levels of profitability, will end up by severely curtailing the growth, or even putting out of business, numerous Australia companies);

the Government itself, and its economic advisers, particularly as regards the area of corporate tax levels and the distorting effects on real liquidity; and not least

the unions, who often base wage demands in part upon the apparent capacity of the industry concerned to pay.

Apart from the purely miselading aspects of inflated profits, it is worth dwelling slightly further on the invidious problem of tax. In the example above the company's tax rate based on historical cost accounting was the standard 47½%, but the 'real' rate was 65%. Many companies in Australia will be providing tax at a real rate even above this - there are almost certainly some companies paying a real rate of over 100%. This leverage most certainly does have a crippling effect on real cash flows and liquidity, particularly when the alternatives of new equity or debt finance are virtually unobtainable, as at present. It is already affecting, and if inflation continues or accelerates, will increasingly affect companies' capacity to invest in new plant and/or their capacity to maintain or improve dividend levels.

Economically, the failure of the corporate sector to maintain or increase real levels of investment militates strongly against those improvements in productivity from which gains in real living standards ultimately derive, while politically, the failure may lead, and in the U.K. has already lead, to increased demands for State intervention in industry.

If the proposition is accepted that share prices reflect the present value of expected future income flows, then it may be that the horrific fall in equity prices around the world is not only a reflection of the change in the required discount rate, but also an implicit recognition that the failure to earn adequate real returns and maintain real levels of investment will critically affect those income flows.

Adapting accounting procedures to cope with inflation is hardly a panacea for the markets' troubles, but it may be a step in the right direction. (This is based on the proposition that it will be impossible to eliminate inflation entirely for any sustained period. If private sector capital is to continue as the main driving force of our economic growth, it becomes essential to modify traditional concepts of 'money' to eliminate the serious distortions and random transfers of resources that occur in all money transactions involving a time element, and which derive from maintaining the pretence that money is a unit of constant purchasing power.) In the U.K., where the debate on the method of adaption is rather further advanced than it is in Australia, there are two main schools of thought: the one espousing the

Current Purchasing Power (CPP) approach and the other favouring Replacement Cost Accounting (RCA). The most popular of the two is the CPP approach recommended by the Accounting Standards Steering Committee of the Institute of Chartered Accountants, although the Society of Investment Analysts supports RCA. The Government appears to have no official opinion but the Sandilands Committee on Company Accounts and Inflation, which is due to report at the end of the year, is looking into it.

In January 1973, the Institute of Chartered Accountants in England and Wales published its Exposure Draft 8 (ED8) which recommended that companies publish, in addition to their normal historical accounts, a supplementary statement of accounts based on CPP principles. It is in some ways a remarkable document because it represents such a fundamental change of attitude, and to the cynics is tacit admission that all those 'true and fair' endorsements were the nonsense that they had always maintained them to be. An additional publication 'Accounting for Inflation - a working guide to the accounting procedures' gives detailed instructions on how to make the adjustments for CPP, and supplementary accounts based on this approach have now started to filter through in the U.K. (Not surprisingly various South American countries have also adapted their accounting principles to cope with inflation, mostly by using some form of CPP approach. In Holland, the RCA method is quite widely used.)

The arguments for and against the two methods (CPP or RCA) are fairly complex, and the following is only a brief and simplified description and summary of the pros and cons.

CPP accounting is an attempt to show how a company has performed after keeping up with the general level of inflation. All items in the profit and loss account and balance sheet are adjusted by a standard index to balance date or year end dollars.

RCA tries to show what a company has earned after maintaining its real physical assets. Balance sheet items are revalued to their current replacement cost.

An essential difference between the two is that under CPP a single index is used for all items and all companies, whereas RCA uses valuations specific to each company and each class of asset.

The advantages of the CPP approach are said to be that:-

- it is conceptually simpler to understand;
- the appropriate adjustment procedures, once learned, are quite easy to apply, do not require a vast amount of time and are objective not subjective; and
- the use of a single index makes for comparability between companies.

Against it the arguments are that:-

- there are problems in selecting an appropriate index for inflation;
- use of a single index does not really clarify matters as individual components of a company's assets may be changing their price at entirely different rates; while
- similarly the argument about comparability between companies is spurious because the realised rate of inflation is likely to be different for each company; and in particular

the treatment of property is inadequate (it is assumed to rise at the inflation rate, which is patently incorrect).

On the side of RCA it is said that:-

it throws up a figure that is nearer to 'true' profit after physically maintaining the business (which is the theoretical aim of the whole exercise); and because of this

RCA is more likely to be a useful tool to management, shareholders etc.; whilst the counter arguments are that:-

it is difficult, expensive and time-consuming to administer;

it will involve subjective judgements in the valuation of assets;

these valuations will be difficult for auditors etc. to verify; and

figures will not be comparable between companies.

There are substantial volumes of supporting arguments and rebuttals for all of these points, and it is not the intention here to become embroiled in the debate, except to say that analysts seem likely to favour RCA on theoretical grounds but adopt CPP on practical grounds. At least with CPP an analyst can produce his own estimates of 'real' earnings from existing data, whereas access to accounting records etc. is generally needed to make estimates using RCA. It is worth remarking that the two approaches are not in any way mutually exclusive, so that although the CPP method is now starting to be used in the U.K. it is possible that a compromise solution will eventually emerge using indexation of some classes of asset but specific valuations for others.

There seems to have been relatively little public discussion about the problems of accounting for inflation in Australia. The Securities Institute and the Australian Society of Security Analysts have not apparently made any public statements or recommendations on the subject.

On the other hand there has been a good deal of discussion in accountancy circles and the Accountancy Research Foundation, which is sponsored jointly by the Institute of Chartered Accountants in Australia and the Australian Society of Accountants, is due to publish an Exposure Draft on the subject within two or three months. It can reasonably be anticipated that this will follow the broad lines of the British ED8 recommendations.

There seems to be a tendency amongst businessmen and even accountants and analysts to regard accounting for inflation as too academic and 'unrealistic'. It is my view that it is historical cost accounting that is unrealistic, sometimes hopelessly so, and even accepting that no method of accounting for inflation will ever give absolute precision, it is time that the investing community demanded that some sort of realism be brought back into company accounts.