

THE USE OF A CONSTANT VALUE UNIT OF ACCOUNT IN BUSINESS ACCOUNTS

1. INTRODUCTION

- 1.1 Inflation has become the 'bogyman' of economics. It is continually presented as a retribution which will befall us if we, as a community, misbehave in any one of a variety of ways — deficit financing by the Government — excessive wage demands — too much bank finance — profits which are higher than they need be — devaluation — inefficient use of resources, etc. Almost any sort of economic action seems capable of being condemned as a generator of inflation.
- 1.2 Of course inflation is a fact and not an apparition but we have so endowed it with emotive qualities by constant repetition that our fear of it has, like that of children for the bogeyman, become unreasoning. So much so that we seldom pause to chronicle and consider the damage which inflation actually perpetrates. If we did so our reaction to inflation might be more logical and reasonable than it has been thus far.
- 1.3 The author of this article, Mr R. W. R. White, Governor of the Reserve Bank of New Zealand, listed some of the damage done by inflation in an address to the Economic Society in Wellington last year. In the course of the address he suggested that much of the damage and distortion caused by inflation arises from our persistence in using the dollar in financial contracts and business accounts as if it were a constant measure of value even though this is patently untrue.
- 1.4 Many of the problems associated with inflation would be eliminated if a constant value unit of account, i.e., a constant unit of purchasing power, were adopted to express the amount of debt in term financial contracts and in business accounts. This would leave the current dollar with the medium of exchange and the means of settlement functions of money.
- 1.5 The constant value unit of account (the Real) would represent at any time the number of dollars required to buy specified amounts of a wide ranging list of goods and services. The Real would therefore be related to the dollar by a monthly index of the dollar price of the goods and services specified. The index would be prepared by the Government Statistician. Such indices are costly to produce but this cost, together with the inconvenience cost of not being able to use the dollar as a constant measure of value, would be small compared with the inefficiency of our present method of specifying term financial contracts.
- 1.6 This article is the third in a series written to amplify the proposal. It deals with the importance to businesses of financial contracts expressed in a constant value unit of account and has been prepared with the benefit of constructive criticisms received from many quarters since the original proposal was made in August 1979. Incorporation of these suggestions has resulted in substantial changes being made to the original proposal. No doubt more will be desirable. The article draws heavily on the report of the Committee of Enquiry into Inflation Accounting (The Richardson Committee). The community, including the author of this article, is indebted to the Committee for a document which is widely regarded as being the best exposition of inflation accounting concepts in the world.
- 1.7 The proposal that the amount of debt in loan contracts should be expressed in terms of a constant value unit of account has important and favourable cash flow implications for commercial enterprises.
- 1.8 Managers often complain about the inadequacy of the cash flow of their businesses and tend to blame monetary policy, the Government and the system of taxation for this state of affairs. However, they could contribute to their own salvation by seeking the adoption of a constant value unit of account, in combination with low interest rates, for use in loan contracts. The advantages to both savers and borrowers could be substantial as the following paragraphs demonstrate.
- 1.9 The conventional practice is for lenders and borrowers to express the amount of indebtedness in loan contracts in dollars with any adjustment for the expected reduction, because of inflation, in the purchasing power of the amount to be repaid being incorporated in the interest rate. (Although interest rates are usually determined by market forces, experience shows that participants in the market take account of expected inflation in setting the interest rate in loan contracts). The adjustment for inflation is really an adjustment of the principal of the debt and accordingly should be regarded, for repayment purposes, as part of the capital of loan contracts. Its inclusion in interest has, however, given it the characteristic of a revenue item with payments due annually or more frequently. This accelerates considerably the payment of the inflation adjustment compared with what would be the case if the adjustment were part of the capital of the debt. Consequently, businesses depending on loan capital must either borrow additional money or increase prices in order to provide an adequate cash flow to meet loan commitments. Managers should recognise that the conventional form of loan contracts which carry high interest rates in times of high inflation mean that businesses are effectively accelerating the repayment of their loan capital. It is little wonder that they experience cash flow problems. Expression of loan contracts in Reals would have the effect of applying the adjustment for inflation to the capital element of debt and would thus avoid the cash flow problem mentioned above.

- 1.10 The payment of high rates of interest on loan capital in inflationary times, i.e., the incorporation of the inflation adjustment in the interest rate, also gives rise to demands from equity shareholders for a level of dividend payments which is comparable with the interest paid on loan capital. The low interest rates which would accompany loans expressed in Reals should modify these demands with the result that businesses might be better able to retain sufficient funds to maintain their operating capacity than is the case under the present regime.
- 1.11 A more indirect but nevertheless important benefit arising from the adoption of a loan format of the kind suggested would be the creation of a clear distinction between the inflation adjustment and interest. This would give the Government a basis on which it could, if it so wished, change the tax laws to make the inflation adjustment of the capital of debt non assessable in the hands of the savers. Savers would then have the possibility of maintaining the purchasing power of investment in financial assets, a possibility which the existing tax laws deny them. Businessmen should be interested in adopting a form of loan contract which would at least provide the opportunity for an amendment to the tax law in a way which would help preserve the flow of savings for productive investment.
- 1.12 Businesses would achieve yet another cash flow advantage by expressing financial contracts in Reals. Some businesses may need to invest the funds representing depreciation provisions outside the enterprise. This investment would normally be in the form of financial assets but under the current conventions the whole of the interest received on such investments is regarded as revenue. It is therefore distributable as profit after payment of tax and is not available to finance the replacement of the depreciated asset. When the financial asset is sold or redeemed the purchasing power of the principal of the investment is likely to be quite inadequate to replace the physical asset. Expression of financial contracts in Reals, together with the tax revision suggested here, would avoid this problem to the extent that the change in the price of the physical asset being replaced is matched by the change in the general level of prices.
- 1.13 The expression of loan contracts in Reals would also remove the uncertainty which is inherent in conventional loan contracts in which future rates of inflation have to be guessed at when the interest rate is set. Uncertainty about the real value of the flow of dollars which will be yielded by interest and capital payments inevitably leads to a shortening of debt with increased refinancing problems for business.
- 1.14 Perhaps even more importantly, uncertainty about the effect of inflation on future income flows may deter business managers from undertaking new investment if loan commitments are fixed in dollar terms. If loan commitments are fixed in purchasing power terms, i.e., in Reals, there is much greater certainty about the ability of a business to service debt because both income and dollar equivalent of the loan commitments will be affected by the same factor of inflation.
- 1.15 The advantages to business of expressing loan contracts in Reals are substantial but there is an apparent major disadvantage in that the inflation adjustment on loan capital would not be deductible for tax purposes as it is when it is incorporated in interest paid by business borrowers.
- 1.16 This tax disadvantage would be more than offset in most cases by the tax advantages attained if inflation accounting rules are adopted. These advantages derive from:—
- (i) depreciation provisions which are appropriate to the current value of the asset,
 - (ii) elimination of the tax on the false profit arising from the increase in the money value of inventories in inflationary circumstances,
 - (iii) account being taken for tax purposes of the loss involved during the accounting period in holding financial assets specified in dollar terms.
- 1.17 Inflation accounting is therefore a corollary of the expression of financial contracts in terms of Reals. Equally, the extension of inflation accounting concepts to financial contracts is necessary if grave distortions are to be avoided when inflation accounting procedures are adopted. In this regard it is pertinent to note that the limitation of the Richardson Committee's studies to business accounting methods led the Committee to propose a rational system of accounting but one which, in combination with the existing convention of including the inflation adjustment in the interest part of loan contracts would effectively result in the double taxation of the return on loan capital in much the same way as profits distributed as dividends are taxed twice. Thus the supply of loan capital as well as the supply of equity capital would be inhibited by these anomalies.
- 1.18 It is clear, therefore, that the concept of a constant value unit of account for the expression of financial contracts and the suggestions regarding the taxation of income there from could, with advantage, be introduced into the inflation accounting proposals put forward by the Richardson Committee. The objective would still be the determination of a profit available for distribution after maintenance of the operating capacity of the enterprise at current values. The paragraphs which follow suggest a number of ways in which the constant value unit of account concept could be integrated into inflation accounting.

2. INTEGRATION OF MONETARY ASSETS AND LIABILITIES EXPRESSED IN REALS INTO C.C.A. ACCOUNTS

Through the Capital Maintenance Reserve

- 2.1 The simplest, but perhaps not the best, method of incorporating monetary assets and liabilities expressed in Reals into accounts prepared in accordance with the Richardson Committee's concept of Current Cost Accounting (C.C.A.) would be to revalue the asset or liability in terms of dollars at the end of the accounting period by applying the index value appropriate at that time to the Real amount of the item concerned. The

difference between this valuation and the dollars either paid for an asset or received for a liability acquired during the accounting period would represent the loss or gain in dollar terms derived from holding the item. If the item were in the accounts at the beginning of the accounting period the amount of the adjustment would be the difference between the value of the items in terms of dollars at the end of the accounting period and the value at the previous balance date.

- 2.2 The amount of the adjustment would be carried to the Capital Maintenance Reserve. In inflationary conditions the entries would be:—

For monetary assets expressed in Reals:

Dr : Monetary Asset (e.g., Term Deposit Account)

Cr : Capital Maintenance Reserve

For monetary liabilities expressed in Reals:

Dr : Capital Maintenance Reserve

Cr : Monetary Liability, e.g., Debenture Loan Account.

Adjustment of Profit Distributable to the Owners

- 2.3 Under the Richardson Committee's proposals the appreciation in the value of assets attributable to loan capital is to be added to revenue before a profit distributable to the owners is determined. The expression of loan capital in Reals would require a further adjustment because the business must retain sufficient assets to meet the increase in the dollar value of liabilities expressed in Reals. The further adjustment would be by way of a reduction in the profit attributable to the owners by the amount of the change in the dollar value of liabilities expressed in Reals during the accounting period.

The entries would be:—

Dr : Revenue

Cr : Capital Maintenance Reserve

- 2.4 Readers will note that, so far as monetary liabilities expressed in Reals are concerned, the debit to Capital Maintenance Reserve as suggested in paragraph 2.2 is precisely offset by the credit entry under 2.3 thus leaving a net entry for the amount of the adjustment of:—

Dr : Revenue

Cr : Monetary Liability e.g., Debenture Loan Account

This is, no doubt, how the entries would be made in practice but the longer form has been used in this article as a help in explaining the two steps in the reasoning involved. It must be remembered that the entries suggested in 2.3 are a reversal, or part reversal, of the gearing ratio adjustment which would be made in accordance with the Richardson Committee's recommendations.

3. A MORE EFFECTIVE METHOD OF DEALING WITH MONETARY ASSETS AND LIABILITIES IN C.C.A. ACCOUNTS

- 3.1 The Richardson Committee recognised the need for further discussion on the treatment of monetary assets and liabilities in current cost accounting but concluded that:—

- (i) the loss in purchasing power arising from holding Circulating Monetary Assets expressed in dollars should be charged to revenue,
- (ii) the difference between the historic dollar cost of Fixed Monetary Assets and their current cost at balance date should be dealt with through the Capital Maintenance Reserve, and
- (iii) monetary liabilities should be recorded in the balance sheet at their historic dollar cost with interest paid being deducted from revenue after the determination of an operating profit.

- 3.2 Both monetary assets and monetary liabilities are financial contracts under which purchasing power is given up when a loan or credit is granted in return for a flow of dollars in the future by way of capital and, possibly, interest payments. There is no difference in the characteristics of monetary assets and liabilities which warrants different treatment under inflation accounting rules. In fact, because the positive cash flow of a business can usually be directed either to the increase of a monetary asset or to the decrease of a monetary liability with equal felicity, it is important that the two categories of financial contracts be treated alike. If this is not done management will have the option of directing cash flows to achieve the best tax advantage.

- 3.3 The establishment of a current cost value for financial contracts expressed in Reals is no problem. It is simply a matter of converting the Real amount of the asset or liability to dollars at the index value appropriate to the balance date. Financial contracts expressed in dollars cannot be valued with any accuracy because the purchasing power of the dollars to be received or given up under the contract will vary by the rate of inflation between the balance date and the dates on which capital and interest are paid. The problem is not solved even if the financial contract is marketable and can be valued according to the market price at the balance date. The market itself can only guess at the future purchasing power of the flow of dollars. The market value therefore may be quite different from the value of the flow of dollars to the business if the financial contract is held to maturity.

- 3.4 This inability to place a current cost value on monetary assets and liabilities expressed in dollars is a considerable stumbling block to a system of accounting, such as C.C.A., which depends on the establishment of such a value for all items in the balance sheet. There is no completely logical answer to this problem but the following solution is put forward for consideration to businessmen and the New Zealand Society of Accountants.

- 3.5 The basic concept of C.C.A. is that a revenue surplus is taxable and distributable only after revenue has been charged or credited with the amount necessary to maintain the current cost value of the items in the balance sheet at the beginning of the period or acquired during the period. Monetary assets and liabilities have a value to the business according to the purchasing power of the cash flows arising from those financial contracts. Financial contracts expressed

in Reals maintain this value by definition and, therefore, require no special adjustment.

- 3.6 Financial contracts expressed in dollars cannot be revalued for C.C.A. purposes but it is suggested that the changes in the purchasing power of the contracts during the accounting period which can be measured should be taken into account. These changes are the amount of interest paid and the change in the purchasing power of the principal of the debt during the period. The entries for the monetary adjustment of both monetary assets and monetary liabilities would be, mutatis mutandis, the same as for the monetary adjustment of Circulating Monetary Assets as proposed by the Richardson Committee. Both interest and the adjustment for the change during the accounting period in the purchasing power of the principal of monetary assets and liabilities would be included in a separate section of the statement of profit after determination of the operating profit. The operating profit would therefore not include a monetary adjustment on account of Circulating Monetary Assets as proposed by the Richardson Committee. However, the section of the statement dealing with monetary assets and liabilities could be presented with any degree of disaggregation to provide the information which might be required by users of the accounts.
- 3.7 As the change in the purchasing power of monetary assets and liabilities would be taken into account specifically there would be no need to adjust revenue for the increase in the Capital Maintenance Reserve arising from the revaluation of assets financed by borrowing as proposed by the Richardson Committee.
- 3.8 The following example gives an indication of how the current cost statement of profit could be presented.

	\$
Current cost operating surplus for the year ¹	
Add:	
Interest received on dollar monetary assets.	
Interest received on Real monetary assets.	
Monetary adjustment to dollar liabilities ²	_____
Deduct:	
Interest paid on dollar liabilities.	
Interest paid on Real liabilities.	
Monetary adjustment to dollar assets.	_____
Profit attributable to the owners before tax.	_____
Deduct: Provision for tax for the year.	_____
Profit attributable to the owners after tax.	=====

Notes:

- 1. Current cost operating profit determined in accordance with the Richardson Committee's proposals except that a monetary adjustment on account of Circulating Monetary Assets is not made at this stage.
 - 2. The introduction of a monthly price index would provide a more accurate means of establishing the change in the purchasing power of the principal of monetary assets and liabilities than the averaging method proposed by the Richardson Committee. The dollar balance of the monetary asset or liability account at the previous balance date would be converted to Reals at the index value appropriate at that time. Changes in the dollar balance of the account between the dates of changes in the index would be converted to Reals and the Real Balance adjusted accordingly. At the end of the accounting period the Real balance would be converted to dollars at the index appropriate to that date. The difference between this amount and the dollar balance of the account would be the increase or decrease in the purchasing power of the business as a result of the appreciation or depreciation of the item concerned.
- The Real balance of R4,666 at the end of the period is converted at the index value (1.1360) for that date to \$5,300. The difference (\$300) between this amount and the dollar balance of the account is the loss of purchasing power to be charged against revenue and credited to the Capital Maintenance Reserve.
- 3.9 The proposal that the change during the accounting period in the purchasing power which will have to be given up to repay the principal of monetary liabilities should be added (in inflationary circumstances) to revenue is open to argument. In particular, the Richardson Committee has argued that only the change in the value of liabilities as calculated by the change in the value of the assets financed by those liabilities should be treated as a profit distributable to the owners. The Committee's argument seems to be based on the need to show that a profit has been earned on the assets purchased with loan funds before a gain or loss can be taken into account. However, if this is the argument, the practice is not applied consistently otherwise before a profit could be taken on the sale of an asset the cost of financing that asset would have to be taken into account. In the view of the author, the change in the value to the business of each item in the balance sheet should be taken into account as a separate entity. The change in the purchasing power of the amount which has to be given up to repay a monetary liability should be treated in the same way, conceptually, as the change in the purchasing power of a monetary asset. That this is reasonable is demonstrated by the fact that one business's monetary asset may be another business's monetary liability.
 - 3.10 The proposal in this section provides consistency in the revenue treatment of monetary assets and liabilities whether they are denominated in dollars or Reals. It does nothing, however, to solve the problem of the balance sheet value to be placed on

Example:

TRADE RECEIVABLES

	(1) Dollar Balance	(2) Change in Dollar Balance During Month	(3) Index Value During Month	(4) Column 2 Converted to Reals	(5) Real Balance at end of Month
<i>Brought Forward</i>	1,000				1,010
April 30	1,500	+ 500	1.0000	+ 500	1,510
May 31	Nil	- 1,500	1.0125	- 1,481	29
June 30	3,000	+ 3,000	1.0260	+ 2,924	2,953
July 31	1,500	- 1,500	1.0390	- 1,444	1,509
August 31	1,000	- 500	1.0490	- 477	1,032
September 30	2,000	+ 1,000	1.0615	+ 942	1,974
October 31	2,500	+ 500	1.0740	+ 466	2,440
November 30	4,000	+ 1,500	1.0840	+ 1,384	3,824
December 31	2,000	- 2,000	1.0980	- 1,821	2,003
January 31	2,000	Nil	1.1120	Nil	2,003
February 28	4,000	+ 2,000	1.1220	+ 1,783	3,786
March 31	5,000	+ 1,000	1.1360	+ 880	4,666

dollar denominated monetary assets and liabilities. As has been said before, the absurdity of expressing term financial contracts in dollars does not permit a realistic value in terms of current dollars to be placed on such contracts. And yet creditors and others must be vitally concerned about the future flow of dollars to be received and paid by a business under financial contracts. This is particularly so if the business is a financial intermediary. The only answer seems to be to record the monetary asset or liability in the balance sheet at its historic dollar cost. Balance sheets should continue to be supported by schedules of monetary assets and liabilities showing maturity dates and rates of interest payable or receivable as the case may be. Creditors can then form their own opinions as to the soundness of the business.

accounts. (The Real equivalent of dollar wages paid could be calculated in the same way as was the Trade Receivable Account shown in the example in paragraph 3.8).

4. EXPRESSION OF C.C.A. ACCOUNTS IN REALS

4.1 There would be considerable advantages in expressing C.C.A. balance sheets in Reals as well as in dollars if the concept of a constant value unit of account for financial contracts is accepted and widely understood. This could be done quite simply by converting the dollar amounts in the balance sheet at the index value appropriate on that date. Balance sheets for different dates expressed in Reals would be directly comparable and this alone would be a considerable advantage. In addition, the explanatory power of the accounts would be increased because expression of a business's balance sheet in Reals would show the declining real value of shareholders' contributions, a decline in value which would be shown to be more or less offset by the Capital Maintenance Reserve. This formulation would avoid a danger which exists with C.C.A. accounts expressed in dollars. This danger is that employees would consider that owners were achieving substantial profits because of the large amounts which would show up in gains to the shareholders through the Capital Maintenance Reserve. It would also be helpful to employer/employee relations if the profit distributable to the owners were expressed in Reals and if wages paid were expressed in the same way as a footnote to the

5. A WIDER USE OF THE CONSTANT VALUE UNIT OF ACCOUNT IN INFLATION ACCOUNTING

5.1 The preceding paragraphs have shown how the use of a constant value unit of account concept could complement current cost accounts. C.C.A. is the most widely accepted form of inflation accounting but it does suffer from the disadvantage of lack of precision for taxation purposes. This uncertainty could be avoided, if it becomes a sticking point in the acceptance of C.C.A. for taxation purposes, by the use of historic costs in terms of Reals to determine business profits for taxation purposes. Asset accounts liability accounts, inventories and expense accounts could all be translated into Reals at balance date by the procedure described for determining the Real cost of Trade Receivables in paragraph 3.8. Depreciation would be calculated on the basis of the cost of the asset in Reals. In essence this would be Constant Purchasing Power (C.P.P.) Accounting up to the stage of determining a profit for tax purposes. Further adjustments could then be made to take account of current cost values and current cost depreciation in order to arrive at a profit distributable to the owners, while maintaining the operating capacity of the business.

5.2 Such an arrangement of the accounts would provide consistency and certainty of tax treatment in that only revenue surplus to that needed to maintain the purchasing power of the historic cost of both the monetary and real assets of the business would be subject to taxation. The subjectiveness of the valuations involved in C.C.A. would be limited to entries affecting relationships between the business and its owners. Notwithstanding these advantages, the complexity of combining the two systems of accounting is such as to make the proposition suitable only as a last resort solution in the event of non-acceptance of the C.C.A. method for taxation purposes.

6. CONCLUSION

- 6.1 Conventional conditions under which businesses raise loan capital mean that in times of high inflation and high interest rates loan capital is being repaid in real terms at an accelerated rate. At present rates of inflation and interest rates the degree of acceleration is damaging. In these conditions high rates of interest also give rise to expectations of high rates of return on equity shares and depression in the price of shares when these expectations cannot be met. Partially as a result of this phenomenon the market value of shares in public companies is only about fifty per cent of the net asset backing for those shares. Early repayment of loan capital and difficult conditions for raising equity capital make the funding of business assets difficult and investment, production and employment inevitably suffers.
- 6.2 The same conventions means that savers who invest in financial assets are taxed on the high rate of return in dollar terms so that it is usually impossible for the saver to set aside a sufficient amount of the interest to maintain the purchasing power of his original savings. He is therefore inclined to look for avenues of investment such as land, gold, diamonds and antiques which are not subject to obsolescence and wastage and on which the gain in value because of inflation is not taxable. This means hoarding and a diversion of savings from productive investment.
- 6.3 The trend described in the preceding paragraph is exacerbated in the case of the acquisition of farm land by the practice of regarding interest paid, including the inflation adjustment component, as being deductible for tax purposes when used to purchase a business asset. Tax on other income, say by way of salary, can be avoided by the deduction of any interest on loan money in excess of the net income derived from the farm. The appreciation in the value of the farm is not taxable. Under this system the price of farm land is likely to rise to a level which will put farms out of reach of those who cannot achieve a tax benefit on the side.
- 6.4 Inflation and the treatment of interest as a revenue item mean that a business which finds it necessary to invest its savings, say retained profits or depreciation, outside its own business will be unable to maintain the purchasing power of its investment even if the whole of the interest after tax is reinvested. This is another threat to an adequate level of investment.
- 6.5 Uncertainty about the ability of a business to service loan commitments expressed in dollars whose value cannot be accurately assessed in advance may well deter managers from undertaking the amount of investment needed to achieve an adequate level of production and employment.
- 6.6 All of these factors bear heavily on our future prosperity. They arise because of our stubbornness in adhering to a form of loan contract and to accounting and taxation systems which have long been outmoded by inflation. Much of the illusion — delusion in fact — arising from inflation could be avoided if we expressed financial contracts in purchasing power terms, i.e., in Reals, instead of dollars of uncertain value, changed the tax laws so that the inflation element of such loans was neither assessable in the hands of the recipient nor deductible by business borrowers and adopted the Richardson Committee's recommendations on inflation accounting as adjusted by the suggestions in this article. These proposals may be opposed by people who are bound by convention or who profit from the uncertainty and deception which arises from inflation in combination with the present system. But there is little doubt that if we don't break the halter of traditional thinking in these matters we will not be able to take full advantage of the opportunities for progress now being presented to New Zealanders.