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The financial effects of inflation

Kahn, Lionel Malcolm

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T H E F I N A N C I A L E F F E C T S O F I N F L A T I O N

Lionel Malcolm Kahn

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ABSTRACT

Inflation, the phenomenon of steady price increases and the resulting decline in the purchasing power of money, is generally accepted as a phenomenon which will persist for some time.

This research report examines the effect of inflation on the company's annual financial statements. Various methods of accounting for inflation are discussed and the contribution of the Sandilands Report and the Proposed Statement of Standard Accounting Practice (I . .) are noted with approval.

The drain that inflation causes on the funding of companies which have high levels of working capital in relation to sales is illustrated, and the need for strict controls over stocks and debtors which flows from this is highlighted.

A method of inflation adjustments to constant price budgets is proposed, allowing management to take into account the effects of varying rates of future inflation on their budget projections, without losing the feel for cost, price and volume relationships.

INTRODUCTION

Inflation is the phenomenom of steady price increases and the resulting decline in the purchasing power of money.

Annexure A shows the history of the increase in the Consumer Price Index in South Africa for the period 1945-1970. Inflation is currently running at ± 12% p.a. and even if it was possible to reduce this to a laudable 5% p.a. (which I am sure will be regarded as a complete victory) it still means that prices will double in 15 years.

The question of whether or not inflation will continue and if so, to what extent, can be debated for days.

Inflation is also very much a political issue as is seen when one considers to what degree countries (especially South Africa) can afford unemployment. The result is that governments attempt to pursue policies of full employment and in so doing, encounter the consequential effects of inflation.

Thus we can accept inflation not only as a fact of life but also as a phenomenon that will be with us in varying degrees, for many years.

Although much has been written on the various techniques of accounting for the effects that inflation has on published financial statements, very little has been written on how management can best deal with inflation. The objects of this research report are to:-

1. Review the necessity for accounting for the effects of inflation, consider the various most popular techniques available and to comment on their usefulness to management and investors.

2. Demonstrate the adverse effects inflation can have on a company's liquidity and to suggest what management can do in order to try and safeguard the company against such erosion.

3. Present management with a workable technique that can be used to illustrate the effects that varying rates of future inflation will have on their traditionally prepared budgets. Such a method which subjects the traditionally prepared constant price budgets to the effects of anticipated future rates of inflation, has been developed by the author in conjunction with the Industrial Development Corporation of South Africa Limited.

C O N T E N T S

		Page
INTRODUCTION		1
CHAPTER I	- Inflation Accounting	3
1.1	The necessity of considering accounting for inflation.	3
1.2	The effects of inflation on company accounts	4
1.3	Methods of dealing with inflation in company accounts:-	9
1.3.1	LIFO	9
1.3.2	Reserves for additional depreciation	13
1.3.3	Asset revaluations	14
1.3.4	Replacement cost accounting	15
1.3.5	Current purchasing power	18
1.3.6	Current cost accounting	21
1.3.6.1	The Sandilands Report	21
1.3.6.2	Exposure Draft 18	27
1.3.6.3	Implications & Criticisms of E.D.18	30
1.4	The usefulness of inflation adjusted accounts to the shareholder.	33
1.5	The use of inflation adjusted accounts to management.	35
1.6	Inflation adjusted accounts and the Secretary for Inland Revenue.	38
1.7	Criticisms of CPP	39
1.8	Conclusion	40
CHAPTER II	- The Effects of Inflation on Cash Flow Forecasting	43
CHAPTER III	- Inflation Adjustments to Constant Price Budgets	53
CONCLUSION		67
APPENDICES		69-80
BIBLIOGRAPHY		81-84

CHAPTER I : INFLATION-ADJUSTED ACCOUNTING

1.1 The Necessity for Considering Accountaning for Inflation

Accounting is the language of business and accurate accounting is the essential language of profits. The American Institute of Certified Public Accountants defines accounting as a discipline which provides financial and other information essential to the efficient conduct and evaluation of the activities of any organisation.[1]

Accounting as we know it, can only be done in money values. Money is the traditional "means of exchange" and "store of value" and as such has served as the yardstick for the evaluation of business activities and as a means for comparison measurements.

However, inflation has eroded the value of money such that Rands last year and Rands this year can not be equated. Thus we can still measure, but the results of different periods cannot be compared. Therefore, traditional accounting can no longer meet its primary objective and so it is essential that another standard of measurements be found. This is the dilemma facing the accounting and business world at present. Its seriousness cannot be overstressed.

In the past inflation has been overlooked because the rate of money erosion was not progressing fast enough (annualised rate was 5% or less) to result in significant distortions between one set of financial statements and the next.

However, given present day rates of inflation, the accounting and business community are in agreement that something must be done to highlight the effects of changing price levels on profits disclosed in companies' financial statements.

Thus, present day rates of inflation result in comparisons of financial results being almost meaningless. This applies not only to comparisons of one year's financial results with another within the same company, but especially to inter-company comparisons. The reason is that each year's results are not expressed in the same unit of measurement as the purchasing power of money has decreased. The result is like comparing a balance sheet in rand in year one to one in dollars in year two. This becomes very clear when looking at the fixed assets of a company. The fixed assets figure on a Balance Sheet is the sum of the assets purchased with say 1970 rands, 1971 rands, 1972 rands etc. However, in terms of purchasing power the 1970 rands are not comparable to the 1971 or 1972 rands.

1.2 The Effects of Inflation on Company Accounts

It is therefore obvious that the income statement prepared in historical rand does not reflect the real profits of a company and consequently the income tax is payable on the reported "book" profits of a company and not on the real profits.

Using Stewarts& Lloyds of S.A. Limited as an example we find the following statement concerning the Group results and financial position adjusted for the effect of inflation contained in the 1976 Group Annual Report: "As a consequence of inflation the figures in the Group's historical financial statements (which are expressed in rand of varying purchasing power), do not show the present day purchasing power of the ordinary shareholders' investment or the inflationary effect on the Group results for the year. A statement has been prepared which shows the estimated effect of the change on the purchasing power of money on the items comprising the ordinary shareholders' investment as at 30 September 1976 by adjusting these figures to the rand of current purchasing power (C.P.P.) at that date by applying conversion factors derived from the Consumer Price Index".

The statement referred to has been reproduced in Annexure B together with the table of some of the Consumer Price Indices used.

From Annexure B it can be seen that inflation has had the following effects in the case of Stewarts & Lloyds:-

a) The difference between the 1976 "book" profits and the 1976 real inflation adjusted profits was a staggering R7 million - a decrease of 39%.

b) From the above it naturally follows that inflation distorts certain commonly used financial ratios. Annexure B shows this effect by comparing the historically based ratios for Stewarts & Lloyds with inflation adjusted ratios.

c) Inflation also results in inflationary profits being made on stock. These inflationary profits, also known as holding gains, result purely because a company has held the asset for a period of time during which prices have increased. Such inflationary profits are not highlighted in historical accounts. The inflationary stock adjustment for Stewarts & Lloyds was R6 million - which is 33,3% of the historical net profit of R18 million.

d) Inflation has grave implications in terms of the percentage of real profits paid in tax. In the case of Stewarts & Lloyds this was 66,5% as compared with 39,8% of the "book" profits that were paid in tax in 1976 (1975 = 53,8% and 39,8% and 1974 = 63,3% and 43,5% respectively).

e) A further factor that adds to the widening gap between "book" profits and real profits is the effect that inflation has on a company's net monetary items.

Monetary items are those amounts which are fixed by contract or otherwise in terms of number of rand, regardless of changes in general price levels - for example cash, debtors, creditors and loan capital.

Holders of monetary assets lose general purchasing power during periods of inflation to the extent that any income from these assets does not adequately compensate for the loss; the converse applies to holders of monetary liabilities. A company with a material excess of debt over cash and debtors on average over the year will experience a gain in purchasing power during the year. Such a gain is a real gain to the equity shareholders in purchasing power.

The adjustment required involves re-stating the monetary items in the balance sheet at the begining of the year in terms of rand of current general purchasing power. This means multiplying the items in the previous statements by the ratio of the current price level to the price level of the previous period.

The adjustment required in the case of Stewarts & Lloyds to its net monetary items was R0,6 million.

f) The final adjustment required was in respect of additional depreciation based on the higher cost of the fixed assets which were adjusted to current purchasing power rand. Such adjustment accounted for R1,5million in 1976.

It is impossible to determine the precise effect of inflation on company earnings without certain internal information. Nevertheless, it is possible to detect certain main tendencies and trends which may afford a valuable insight into the effects of inflation.

In the conventional accounts for Stewarts & Lloyds (Annexure B) the turnover figures for 1973-1976 are not truly comparable as most sales prices will have changed over the period. The inflation adjusted figures are more comparable, but it must be remembered that adjustments have been made with the aid of a consumer price index. The adjusted figures are therefore only truly comparable if sales prices have moved in the same way as consumer prices and if each year's sales mix is approximately the same.

As far as expenses are concerned, the same comments apply. With wages for example, the restated figures provide more meaningful comparative information, but it must be remembered that wage rates may have changed at a very different rate from consumer prices. In addition the composition of the labour force may have changed significantly over the years.

Conventional accounting ignores purchasing power losses and gains on monetary items. For Stewarts & Lloyds:-

	1976 R000	1975 R000	1974 R000
Gain in purchasing power for Preference Capital & long term borrowing	3274	2078	2113
Interest charges & preference dividends	3259	2069	1443

Thus on each of the 3 years there is a negative cost as the rate of inflation exceeds the rate of interest and preference dividend.

The updating of charges in respect of stock and depreciation can have a very substantial effect on a company's income. In the Stewarts & Lloyds accounts stock is the most significant adjustment item. The reduction in historical operating surpluses due to stock adjustments is 34% in 1976 ($\frac{6092}{18081}$), 24% in 1975 ($\frac{5109}{21441}$) and 25% in 1974 ($\frac{4492}{17873}$). It must be remembered that the consumer price index (on which the adjustments are based) could have increased at a very different rate from the fixed assets and stocks which are being employed in the company.

Dividend cover is one of the most important items of additional information that is revealed by inflation-adjusted accounts. Annexure B shows a decrease in dividend cover for the years 1974-1976. It is possible therefore that the restated accounts may affect dividend policy. Once again it must be remembered that different figures might be obtained if specific asset indices were used, as opposed to a general consumer price index.

The percentage of earnings on total assets (Annexure B) is an important figure when considering investment opportunities. Comparative rates of return are more meaningful using the restated figures, although it is difficult to assess what a satisfactory rate of return should be when adjustments have been made for the effects of inflation.

The foregoing example serves to illustrate the necessity for expressing a company's financial statements in terms of rand of current day purchasing power, in order to account for the effects of inflation and hence to "fairly present" the company's state of affairs.

1.3 Methods of Dealing with Inflation in Company Accounts

It is proposed that the most elementary techniques that can be used to account for inflation in company accounts be discussed first.

1.3.1 L I F O

Adoption of the 'last-in-first-out' basis of valuation enables a company to write off against income the current costs of replacement of stock, and to value stocks on hand at the cost of earlier purchases. Thus in times of rising costs of stock replacement, the LIFO basis results in a lower value of closing stock than would the 'actual cost' basis and therefore a reduction in taxable income.

The basic philosophy behind LIFO is that a company needs to maintain a certain asset base (in real terms) to carry on its activities. In terms of stock, this means that a company must ensure that it places itself in a position of being able to maintain its stock at a certain minimum level.

Example

Opening balance sheet:

Share Capital R 10	Cash R 10

Assume one item of stock is purchased for R10

Share capital R10	Stock R10

The item of stock is sold for R12 and assuming that the cost of the newest purchase of stock prior to the sale or at year-end is R12.

Under FIFO (first-in-first-out) costs of the earliest purchase are the first costs charged to cost of goods sold and costs of later purchases remain in stock.

Thus the position will be as follows:-

Income Statement

	FIFO	LIFO		FIFO	LIFO
Opening stock	10	10	Sales	12	12
Add Purchases	12	12			
	22	22			
Less Closing stock	12	10			
Cost of sales	10	12			
Profit	2				
	R12	R12		R12	R12
Profit	2	-			
Less Tax at 50%	1	-			
Retained	R1	-			

Balance Sheet

Share Capital	R10	R10	Cash	-	-
Retained income	1	-	Stock	R12	R10
Receiver of Revenue	1	-			
	R12	R10		R12	R10

Under the FIFO basis, once the tax is paid the company will be unable to replace the item of stock on hand after it has been sold. If a dividend is declared, this would further aggravate the problem - that of insufficient funds being available to continue trading.

The LIFO concept results in matching the latest incurred costs against sales and thereby more realistically reflecting profits available for distribution in dividends, taxes, wage increases and price increases. Thus the advantage of adopting LIFO is that profits are not distorted by stock appreciation.

It has been shown that during periods of rising prices, LIFO will reduce reported profits. such reduced profits could cause shareholders to perceive lower expected returns and/or increased risk. Should this be the case, the company may encounter difficulties raising capital and/or the cost of capital may become more expensive - a drawback for LIFO. Sophisticated analysts would not be so misled; the company is in a better financial position by reducing the stock profits otherwise reported.

Because the LIFO procedure charges more recent costs to costs of sales, it results in the older costs being reported as the cost of stock on hand in the balance sheet. Thus the value of stock reflected in the balance sheet is dated, does not reflect the replacement cost of the stock and is thereby of limited use to the users of the financial statements in assessing the true financial position of the company - a further disadvantage of the LIFO method.

The LIFO method of stock valuation is legally permitted for income tax purposes, but subject to such conditions as the Secretary for Inland Revenue in his discretion is entitled to impose.

In its efforts to minimize prejudice to the fiscus the legislature has vested wide powers in the Secretary. Furthermore, taxpayers, once they have adopted the LIFO basis, cannot vary their basis of

valuation in a subsequent year 'save with the consent of the Secretary and subject to such conditions' as he may determine can create a most unsatisfactory situation. For example, if a taxpayer adopts the LIFO basis subject to certain conditions and further more onerous conditions are imposed in a later year, the taxpayer will presumably have to comply with these further conditions or else apply to vary his basis of valuation. However, such a variation will also be subject to whatever conditions may be imposed by the Secretary. Taxpayers who do propose to adopt the LIFO basis should not overlook the fact that they will have to continue to apply the LIFO basis forever, possibly even subject to more stringent conditions, unless they apply to vary their basis of valuation.

The net result is uncertainty, since taxpayers who apply to adopt the LIFO basis are unable to rely on clear statutory provisions and instead have to depend upon departmental practices.

In an article by J.D. Edwards and J.B. Barrack entitled "LIFO Inventory Valuation as an Adjuster for Inflation" [2] the authors contend that LIFO is of limited usefulness as an adjuster for inflation in financi statements. This is because the LIFO procedure applies only to inventories - other major areas in which inflation may play a major role, such as property, plant and equipment, are ignored by the LIFO application. Furthermore, LIFO does not inherently eliminate inventory profits, but merely postpones them. The extent of such postponement is dependant on the facts of each case. Assuming continual replacement of stock and continually rising prices, LIFO substantially reduces the stock profits

included in the income statement for a long time. However, should these assumptions not hold true, the stock profits deferred in prior periods may suddently be included in income, thereby materially distorting the reported income in that year.

There are thus pros and cons associated with adopting LIFO. Each company should assess its particular situation and expectations for the future and weigh the costs and benefits associated with adopting LIFO.

1.3.2 Reserve for Increased Replacement Cost of Assets

This method consists of creating a reserve for the increased replacement cost of fixed assets by means of a transfer of profits to reserves. The rationale for such a reserve is that in times of inflation, historical cost depreciation will not secure sufficient funds out of the cash flow from operations to finance the increased costs of replacement of assets used in production. Thus we are trying to ensure that funds required for the replacement of assets are not declared as dividends. Such transfer of profits would not be allowed for tax in South Africa.

This method has two shortcomings:

a) It does nothing to indicate the effects of inflation on balance sheet values.

b) The amount set aside is often quite arbitrary - being related to profits available and not to price variations.

1.3.3 Asset Revaluations

A popular method of accounting for inflation is the revaluation of fixed assets and thereafter the restatement of the depreciation charge. A purpose of such revaluations is to disclose the cost of fixed assets used by the firm in terms of current prices (or current price levels) and thus provide a more uniform basis for inter-company comparisons and a more realistic measure of capitalisation for both external financing purposes and for internal measurements of efficiency. If such revaluation is accompanied by a similar adjustment to the depreciation charge, the income statement will also reflect some of the effects of price variation and, furthermore, if the adjustment is allowable for tax - which is not the cast at present in South Africa as the Income Tax Act No.58 of 1962 as amended permits an allowance for wear and tear based on the cost of the asset to the taxpayer - it will eliminate one of the inflationary distortions from taxable profits.

In the case of Stewarts & Lloyds (Annexure B) the additional depreciation, resulting from the revaluation of fixed assets to rand of current purchasing power, resulted in an increase from R2,139 million to R3,613 million in 1976 - an increase in depreciation of 169%.

However, although such revaluations do result in the Balance Sheet reflecting the current rand value of the fixed assets and the Income Statement being charged with a realistic amount of depreciation, such revaluations cannot be regarded as a solution to the financial reporting problem in a period of unstable prices, because it measures the effect of price variation on only some of the company's assets. A further drawback is that the adjustment to the depreciation charge is not allowable for tax in S.Africa.

It is now proposed that the three main approaches to the problem of accounting for inflation be considered, namely:-

a) Replacement Cost Accounting (R.C.A.)
b) Current Purchasing Power (C.P.P.)
c) Current Cost Accounting (C.C.A.)

1.3.4 Replacement Cost Accounting

In its most simple form, the replacement value theory comprises two elements:

a) assets are valued at replacement value
b) transaction profits are calculated on the basis of the replacement value of goods consumed.

This technique requires that current values are carried continuously in the accounting records and so demands a high level of expertise. In small undertakings this may lead to exhorbitant costs. A point in favour is that this method ensures tha balance sheet values are checked periodically against current values.

The major problem of replacement cost accounting is how to define the replacement cost. For example, is it:

a) an identical fixed asset?
b) an asset of the same physical output?
c) an asset generating the same sales income?
d) an asset capable of generating the same profit?

Furthermore, when considering c) & d) above, does one measure sales or profits in C.P.P. rand or in historical rand?

Replacement value theory is not merely a calculation technique used in preparing the annual accounts of an organisation, but is integrated into the accounting system of each section of the concern at every stage. Thus managerial information is compiled in accordance with the principle and hence replacement value automatically enters into all management thinking.

Replacement value is determined on the basis of the trend of specific price levels and not on the basis of the general price level. That is to say, the trend of prices is followed for:

a) factories, buildings and houses - revaluation being on the basis of index numbers;

b) machinery, either on the basis of market prices, or if the machinery is made by the company itself, on the basis of current costs.

Normally assets are accounted for in homogenous groups. Only where individual machines cannot be classified in this way is the revaluation effected item by item.

When an increase in the replacement value occurs, the appropriate fixed asset account is debited to bring it up to current replacement value, the necessary contra entry being made to "Revaluation Surplus".

Example

A machine is acquired on 1.1.61 for R10,000 and has a life expectancy of 10 years. If at the end of 1969 the replacement value was still R10,000, depreciation of R9,000 would have been charged on the income statement

and appear in the balance sheet as accumulated depreciation.

Assuming at this point that the replacement value increases by 50% to R15,000, depreciation for 1970 (based on replacement value) will be R1500 and thus the total charge for the 10 years will be R10,500. Strict application of Replacement Cost Accounting demands that backlong depreciation of R15,000 - R10,500 (i.e. R4,500) can be charged in 1970 so as to ensure that R15,000 is available for the replacement after the tenth year.

However, this is not always done because of the size of the concern. In such cases the composition of the total fixed assets, as far as lives are concerned, approximates an average and as a result annual replacements for all practical purposes, are equal to the annual depreciation.

Example

Assume a company has 10 identical machines which are acquired at annual intervals at the begining of years 1 to 10. If at the end of year 10 this type of machine costs R12,000 (cost was R5,000 in year 1), the charge for depreciation in year 10 (based on replacement value) will be:

$\frac{R12,000}{10} \times 10 = R12,000$ (ignoring any scrap value). Thus we have provided for the sum required to replace the machine on 1 January, year 11.

1.3.5 Current Purchasing Power

CPP is concerned with removing the distorting effects of changes in the general purchasing power of money on accounts prepared in accordance with established practice. It does not deal with changes in the relative values of non-monetary assets (which occur also in the absence of inflation). It should therefore be distinguished from methods of 'replacement cost' or 'current value' accounting which deal with a mixture of changes in relative values and changes due to movements in the general price level.

In converting the figures in the basic historical cost accounts into those in the supplementary current purchasing power statement a distinction is drawn between:

a) monetary items, and
b) non-monetary items.

Monetary items are those whose amounts are fixed by contract or otherwise in terms of numbers of rand, regardless of changes in general price levels. Examples of monetary items are cash, debtors, creditors and loan capital. Holders of monetary assets lose general purchasing power during a period of inflation to the extent that any income from the assets does not adequately compensate for the loss; the converse applies to those having monetary liabilities. A company with a material excess on average over the year of long- and short-term debt (e.g. debentures and creditors) over debtors and cash will show, in its supplementary current purchasing power statement, a gain in purchasing power during the year. This is a real gain to the equity shareholders in purchasing power but it has to be appreciated that there may be circumstances in which it will be accompanied by a dangerously illiquid situation or by excessively high gearing, and for this reason any such gain should be shown as a separate figure.

It has been argued that the gain on long-term borrowing should not be shown as profit in the supplementary statement because it might not be possible to distribute it without raising additional finance. This argument, however, confuses the measurement of profitability with the measurement of liquidity. Even in the absence of inflation, the whole of a company's profit may not be distributable without raising additional finance, for example because it has been invested in, or earmarked for investment in, non-liquid assets.

Moreover, it is inconsistent to exclude such gains when profit has been debited with the cost of borrowing (which must be assumed to reflect anticipation of inflation by the lender during the currency of the loan), and with depreciation on the converted cost of fixed assets.

Non-monetary items include such assets as stock, plant and buildings. The retention of the historical cost concept requires that holders of non-monetary assets are assumed neither to gain nor to lose purchasing power by reason only of changes in the purchasing power of the rand.

The owners of a company's equity capital have the residual claim on its net monetary and non-monetary assets. The equity interest is therefore neither a monetary nor a non-monetary item.

In converting from basic historical cost accounts to supplementary current purchasing power statements for any particular period:

a) monetary items in the balance sheet at the end of the period remain the same;

b) non-monetary items are increased in proportion to the inflation that has occurred since their acquisition or re-

valuation (and conversely, reduced in times of deflation).

CPP makes use of a general consumer purchasing power index only, without making any upward adjustment to current values and is considerably simple than replacement cost accounting. In addition it is possible to use the conventional financial statements as a basis for it and it is no more subjective than historical cost accounting.

The fundamental difference between CPP and RCA is that:

a) CPP is aimed at maintaining the purchasing power of the shareholders' equity, whereas

b) RCA is aimed at maintaining the physical assets of the company, that is the real production base of the company.

The essentials of any financial statement published for the benefit of the users of accounts are: comparability; consistency; comprehensibility However, because of the multitude of bases directors can use, with impunity, under CPP accounting, one is unlikely to glean anything worthwhile from CPP adjusted statements.

Annexure C sets out an example showing how the CPP technique is applied to financial statements.

1.3.6 Current Cost Accounting

1.3.6.1 The Sandilands Report

In September 1975 the "Report of the Inflation Accounting Committee" under the Chairmanship of Mr. F.E.P. Sandilands was presented to the British Parliament. The Committee reached 3 main conclusions:-

a) It is essential that financial statements should allow for changes in costs and prices.

b) Existing accounting conventions do not do so adequately, and thus tend to be misleading.

c) The most fruitful line of development in accounting for changes in costs and prices is a system based on the principles of value accounting which shows the specific effect of price changes on individual companies.

Throughout the report the term "inflation" is frequently used. The Committee concludes that the rate of inflation varies for different individuals and entities according to the selection of goods and services which it buys.

In relation to measuring changes in costs and prices the Report states that "the concept of 'general price changes' in the abstract, unrelated to the purchasing pattern of any class of individuals or entities, is unquantifiable"[3] and conversely "no precise meaning can be attached to the concept of the general 'purchasing power' of money in the abstract. The 'purchasing power' of money is not an attribute of money quantifiable without a knowledge of what the money is to be spent on".[4] The use

of a general index, such as the Consumer Price Index, is an inappropriate measure of the rate of inflation as it affects all individuals and entities. Only specific indices affecting particular homogenous groups or entities are considered to be appropriate.

In considering CPP accounting the Report concludes that it is conceptually the most difficult method of inflation accounting. Furthermore the proposals that CPP statements should be supplementary to the financial statements of a company is likely to "detract significantly from any usefulness the CPP method may have".[5] The Committee rejects CPP accounting - "we do not think the concept of profit adopted by CPP supplementary statements is useful to shareholders. It fails to show the company's 'operating profit', it is potentially misleading in including net gains on monetary items which exist only in terms of current purchasing power units and not in terms of monetary units, and it shows how far the 'purchasing power' of a shareholder's investment has been maintained in a sense which is not useful to him for any practical purpose."[6] It is also unlikely to "provide useful information for other users of accounts."[7]

The recommendations may be summarised as follows:-

a) All companies should as soon as practical adopt an accounting system to be known as "Current Cost Accounting". The main features are:-

   i) Money is the unit of measurement.

ii) Assets and liabilities are shown on the balance sheet at "value to the business".

iii) "Operating Profit" is determined after charging the "value to the business" of assets consumed during the period, thus excluding holding gains from profit and showing them separately.

b) CCA to become the basic published financial statements but the net book value of assets on a historic basis and historic cost depreciation should continue to be shown by way of notes.

c) Companies should include a funds statement with their financial statements and directors to include a statement on the adequacy of the cash resources likely to become available to meet the company's requirements in the ensuing year.

d) It is not recommended that CPP supplementary statements should be attached to current cost accounts.

The Report has stated that in most cases"value to the business" is written down current replacement cost (purchase price). The figure of current cost (operating) profit may be derived from a historic cost profit by adjusting the historic cost figures for depreciation and of sales in order that the provisions for ...se items should reflect the "value to the business" of assets, both fixed and current, consumed during

the year. Thus the availability of 3 sets of specific price indices for each industry is essential: One specific price index for capital expenditure on plant and machinery and two indices for stock, one of which will be for raw materials and fuel and the other for finished goods. The fact that the necessary specific price indices are not readily available in South Africa should not prejudice the appraisal of the recommendations.

The fundamental concepts of CCA are summarised below:

1. The unit of measurement is money.
2. Assets are recorded at their current value to the business.
3. Current cost profit is struck after charging the current value to the business, as at the date of consumption, of assets consumed during the period, excluding revaluation surpluses. Extraordinary gains are shown separately.

The fundamental concepts of historical cost accounting are:

1. The unit of measurement is money.
2. Assets are recorded at their historical cost although fixed assets are sometimes recorded at a valuation where that valuation is considered to be materially different from historical cost. Assets are shown at the net amount which is expected to be recovered from their normal use when this is lower by a material amount than the historical cost. (Although short term fluctuations in fixed asset values are usually ignored).

3. Historical cost profit is struck after charging the cost of assets consumed during the period where 'cost' is calculated on an historical basis. Extraordinary gains, and pluses and deficiencies arising from a revaluation of fixed assets, are shown separately.

The fundamental failing of historical cost accounting, however, is not the inconsistencies or complexities which have been introduced, but the basic concept of historical cost accounting itself. By recording only the historical cost of assets, information required by users on the current value and changes in value of those assets will never be shown in historical cost accounts, except by chance, so that the economic and business reality is suppressed. The recognition of this fact has led to the introduction of some of the accounting policies which have made historical cost accounting complex and internally inconsistent and yet have still failed to provide adequately the information required by users.

The followingt table sets out the main differences between accounts drawn up using CCA and historical cost accounting (HCA) principles:-

Profit & Loss Account

	CCA	HCA
Cost of sales	Current value to the business of stock consumed	Historical cost (or, if lower, the net realisable value) of stock consumed
Depreciation	Current value to the business of fixed assets consumed	Time allocation of historical cost (or of revaluation, where made)

Balance Sheet

	CCA	HCA
Fixed assets	Value to the business	Normally historical cost less depreciation. Sometimes at valuation less depreciation
Stock	Value to the business	Lower of historical cost and net realisable value.

The general principles involved in showing assets and liabilities at their value to the business can be summarised as follows:-

Plant & Machinery are shown at their written down replacement cost unless this is higher than both their economic value and their net realisable value, in which case they are shown at economic value or net realisable value, whichever is the higher.

Land & Buildings are shown at open market value for existing use plus acquisition costs. If no open market valuation can be made of a building it should be shown at the lower of depreciated replacement cost and economic value.

Investment in subsidiaries and associated companies are shown at cost plus post-acquisition movements in reserves less amounts written off in respect of goodwill.

Stock and work in progress are shown at the lower of current replacement cost and net realisable value.

Intangible assets are either not included or shown at a valuation.

Monetary assets are shown at their net realisable value.
Monetary liabilities are shown at the full amount required to settle the liability.
Unlisted investments are shown at a valuation.
Listed investments are shown normally at mid-market price.
Tax (deferred or current as appropriate) is provided in full unless the liability is not likely to be payable in the foreseeable future.
Share Capital is shown at its paid up nominal value.
Reserves are analysed between general reserves and revaluation reserves.

1.3.6.2 Exposure Draft 18 (E.D. 18)

E.D.18 was prepared by the Inflation Accounting Steering Group (The Steering Group) under the Chairmanship of Mr. Douglas Morpeth for the Accounting Standards Committee of The Institute of Chartered Accountants in England & Wales, The Institute of Chartered Accountants of Scotland, The Institute of Chartered Accountants in Ireland, The Association of Certified Accountants, The Institute of Cost & Management Accountants and The Chartered Institute of Public Finance & Accountants.

The recommendations in the Sandilands Committee's report for the introduction of CCA were broadly accepted by the British Government in 1976 and E.D.18 is based on these recommendations.

The Steering Group stated that it was necessary to balance three requirements in producing E.D.18 :-

a) the need for more useful information;
b) the need to minimise the extra work required to produce the information;
c) the need to minimise the opportunity for misleading manipulation of the figures.

The Steering Group believes that it has the balance about right.

Current Cost Profit

One of the problems that is central to inflation accounting is the definition of profit. Under historical cost accounting, profit is what is left over after maintaining the money value of capital; under CPP accounting, it is what is left over after maintaining the purchasing power of capital. Under Sandilands, it is what is left over after charging against current revenue the current value of the physical assets consumed during the year.

Statement showing effect of change in the value of money

Such statement, to be included in the financial statements by way of note, will indicate whether the shareholders' net equity interest, valued both at the begining and end of the year in CCA terms, has been maintained in real terms, that is, in terms of purchasing power.

Also to be found in the notes to the accounts will be the amount of gain or loss

to the company as a result of owing monetary liabilities or holding monetary assets.

Valuation of fixed assets

The Steering Group decided that Sandiland's reliance on the use of official indices, while giving the impression of uniformity and accuracy, could in many cases be misleading and thus E.D.18 recommends that companies be free to choose from the following methods of arriving at a gross replacement cost of their fixed assets:

a) suppliers' official price lists, catalogues et., with appropriate deductions for trade discounts;

b) the company's own replacement cost estimates, based on expert opinion;

c) an index compiled by the company from its own purchasing experience;

d) authorised external price indices analysed by asset type;

e) authorised external price indices analysed by using industry.

Most companies will probably use a combination of methods, using the methods higher in the list for the more important and more expensive items of equipment, and the methods lower in the list for the less expensive and less important items of plant.

Land and buildings owned by non-property companies are to be valued by a professionally qualified valuer at intervals of not more than 3 years, and more frequently if:

a) the assets represent a major portion of the company's gross assets; or

b) there have been considerable market variations or major changes in the property assets since the previous professional valuation.

There is a similar choice of methods for the valuation of stock and the calculation of the value to the business of stock consumed.

Historic cost figures

E.D.18 proposes that historic cost figures be disclosed in published accounts for a minimum of 2 years after the introduction of CCA.

1.3.6.3 Inmplications and Criticisms of E.D.18 Current Cost Profit

The determination of current cost profit might result in insufficient being set aside to maintain the physical assets of the business because backlog depreciation is not charged in the income statement. Backlog depreciation over the life of an asset is the difference between the sum of the amounts of depreciation charged in successive year's income statements and the actual amount required to replace an asset at the end of its life. The difference arises because the effects of inflation on previous year's depreciation provisions may render them inadequate.

The amount labelled 'available for distribution and general reserve' in the income statement is the sum of the current cost profit for the year, and the surpluses on the revaluation of assets during the year, less the amounts appropriated to revaluation reserve by the directors.

In deciding what amount to appropriate, the directors must regard two matters:

a) what is the 'substance of the business' that they consider should be maintained (is it the physical assets, or all the assets, or the long-term capital, or the owners' equity etc?);

b) should this substance be maintained in money terms, general purchasing power terms, or specific price terms.

Directors could transfer all of the revaluation surpluses for the year and make transfers to revaluation reserve for such items as: backlog depreciation; the amount required to finance increased working capital as a result of inflation; or even an amount to maintain the purchasing power of the shareholders' equity.

Approached fairly by directors, the idea has many virtues. But is is not probable that companies wishing to maintain attributable profits will do so by transferring a lower figure to capital maintenance reserve than is prudent? Admittedly, according to E.D.18, directors must indicate their reasoning behind transfers to and from revaluation reserves. But is this enough?

E.D.18 (para.33) requires speculative gains or losses which embrace those arising in liquid funds temporarily invested within its definition of operating profit to be disclosed in the income statement. Thus

the Exposure Draft's requirements should ensure that the financial analyst is not mislead in this respect.

Statement showing effect of change in the value of money

While the main body of accounts prepared in line with the recommendations of E.D.18 will have money as the unit of account, such supplementary statement will have purchasing power as the unit of account. Small wonder that Professor Baxter [8] concluded that the combination of these two systems of accounting suggests 'the mythical beast who shambled along on one foot and one fin'.

Valuation of fixed assets

The whole question of the verifiability of figures which might be produced using the E.D.18 order of priorities for fixed assets other than land and buildings is fraught with difficulty.

With respect to land and buildings of non-property companies, Sandilands suggested valuations every three or five years, without any reference to updating in the intervening period. Morpeth goes further, and requires directors to update values in consultation with professional advisers. Surely E.D.18 is requiring excessive precision?

1.4 The Usefulness of Inflation Adjusted Accounts to the Shareholder

The English Institute of Chartered Accountants is strongly advocating for CCA. Inflation adjusted accounts are of immense importance to investors for the following reasons:-

a) Such accounts ensure the comparability of results between companies. One just has to think of companies which have purchased their fixed assets (e.g. land) over widely different periods of time under purchases in rands of varying purchasing power and the consequences when updated to present day values.

b) They actually quantify the effects of inflation. The disturbing feelings that investors have had about the effects of inflation on their company can now be quantified and shown in rands.

c) They will indicate to investors which companies are the most adversely affected by inflation. It has been shown that[9] :-

   i) capital intensive manufacturing industries show the greatest reduction in earnings when inflation adjusted accounting is applied because of the additional depreciation that is charged;

   ii) property companies show the greatest gains from inflation if they are holders of monetary liabilities;

   iii) long term liabilities greatly benefit the clothing companies, but this benefit is almost completely offset by losses due to high stocks;

iv) the most drastic causes of reduced profits as a consequence of inflation adjusted accounting are high stocks and inadequate depreciation.

With regard to the above it is necessary to be extremely cautious because although CPP might show that a property company with high gearing actually benefits from inflation, it is necessary to distinguish between profitability and liquidity. Such highly geared property company could actually be extremely illiquid due to the enormous interest burden that it has to bear.

Example of a highly geared property company

Glen Anil Development Corporation Limited and its subsidiary companies at 30/6/76 had net monetary liabilities of R17,8 million (1975 = R6,1 million).

Consumer Price Index: 30/6/74 - 138,2
30/6/75 - 159,0
30/6/76 - 176,8

The gain in purchasing power resulting from the effects of inflation was:

1976	1975
$(R17,8 \times \frac{176,8}{159,0}) - R17,8$	$(6,1 \times \frac{159,0}{138,2}) - R6,1$
= R1,1 million	= R0,9 million

Thus there was a net monetary gain for the year because of the effects of inflation, but examining the Group's liquidity it becomes evident that the group was quite illiquid:

	1976	1975
% Long-term borrowings to total shareholders' equity	254%	178%
% Equity to total assets	21%	23%
Times interest covered ($\frac{EBIT}{Interest}$)	1,02	1,55

The foregoing illustrates that although the net monetary gain increased in 1976 (from R0,9m to R1,1m) the Group's liquidity deteriorated.

Source of figures: Glen Anil Development Corporation Ltd. Annual Report 1976.

Consumer Price Index: Seasonally Adjusted Indices 1970 = 100

S.A. Reserve Bank Quarterly Bulletin December, 1976.

Thus it is obvious that CPP accounting does not dispense with the normal financial yardsticks used in evaluating financial statements.

A further danger is that investors, seeing greater profits being reported by highly geared companies, might very well be tempted to switch their investments from soundly based companies into those pursuing a hazardous financial policy. Thus it is possible that inflation-adjusted financial statements might actually confuse and mislead unsophisticated investors.

1.5 <u>The use of Inflation Adjusted Accounting to Management</u>

Firstly, looking at inflation-adjusted accounting as a management tool in dealing with the effects of inflation in the past:

a) It enables management to determine what the real profit of the company was.

b) It makes the comparability of past results more significant.

c) In the case of a group, it indicates which companies are most affected by inflation.

d) Once again it quantifies that 'feeling' that a manager has about the extent to which is company is being ravaged by inflation.

e) It highlights additional types of real cost, for example: i) additional depreciation
ii) the correct charge for the loss in purchasing power tied up in large sums of monetary assets.

f) Inflation adjusted accounts can help fight off dividend hungry shareholders.

g) It can help a company in its negotiations with the Price Controller, because it shows the real return a company is making on its investment.

h) It would prove useful as a means of resisting wage demands and combating accusations of profiteering.

Secondly, it is necessary to examine how inflation adjusted accounts can assist a company in dealing with future inflationary problems:

a) The biggest advantage is that it enables management to incorporate the additional costs highlighted by inflation adjusted accounting, into their product costs.

However, this carries a danger in itself. A progressive company which adopts inflation adjusted accounting and attempts to protect itself in the above manner could price itself out of the market and lose market share to a competitor who is not taking into account escalating costs when establishing the selling prices of its goods. It might even happen that the progressive company is liquidated and the

'historical cost' company profits as the increased market share that it has won is sufficient to compensate it for the effects of inflation.

The actual passing on of these additional costs will depend on the price elasticity of the product in the market in which the company is operating. But at least a company now has some idea of the additional costs to be recovered, whereas previously management only had a feeling (and unquantified at that) that something should be done.

b) Inflation adjusted accounting can indicate to management that they are not geared correctly in order to take the fullest advantage of operating in an inflationary climate as their monetary adjustment is negative and not positive.

c) The best tools that management has for dealing with future inflation are cash flow forecasts. Never before has 2-3 years forward planning been as important as in these inflation ridden times.

A company will have to estimate rates of inflation for all its costs and fixed asset acquisitions in order to arrive at an approximation of its balance sheets for the following 2-3 years. This is the only way in which a company can safely determine what dividends can be declared or prevent a frantic last minute scamble for additional funds.

The technique of cash flow forecasting in an inflationary environment will be dealt with in the following chapters.

> Inflation adjusted financial statements will provide management with a firmer base on which to establish policies that affect income. "Companies suffer from capital erosion when unadjusted earnings are distributed in the form of dividends, remuneration or other charges without taking into consideration the effects of the decline in the purchasing power of money, especially when said effects would have substantially reduced the amount of earnings or transformed them into losses".[10]

1.6 Inflation Adjusted Accounts and the Secretary for Inland Revenue

At the moment in South Africa, we have a stalemate situation - businessmen are loath to apply inflation adjusted accounting until it is accepted by the fiscal authorities and the Secretary for Inland Revenue will certainly not consider it until it is a generally accepted and applied accounting principle. The Finance Minister, Senator Owen Horwood, in presenting his budget speech, 31st March 1977, stated that "inflation accounting cannot be accepted yet, as no uniform accounting standards have yet been laid down". (Financial Mail 1.4.77).

It is necessary to bear in mind that the government requires a certain revenue from the tax paying community as a whole. Thus acceptance of CCA will not result in lower taxes as the Secretary for Inland Revenue will merely raise the effective rate of tax. At best, acceptance of inflation adjusted accounting by the tax authorities will result in a re-allocation of the tax burden amongst companies - for example, capital intensive companies (such as chemical companies) with large depreciation write-offs will pay less tax than other companies.

What South African companies should press for, is to try and get the additional depreciation, calculated on an inflation adjusted basis, allowed for tax purposes.

It should be remembered that great advantage is taken of the Secretary for Inland Revenue in the form of extended credit by postponing the submission of tax returns. What would the reaction of businessmen be, if the Secretary for Inalnd Revenue were to convert the actual tax liability at the year end to CPP rands at the date of payment?

By overlooking the effects of the decline in the purchasing power of money in the determination of income, the amounts imposed as taxes on companies by the fiscus can in reality, become portions of capital taken away in the guise of income tax and thereby serve to reduce the source of future income. Thus the adjustment of financial statements to a stable money for tax purposes is essential.

1.7 Criticisms of CPP

Professor R.S. Grynther of Australia[11] contends that the main limitation of CPP accounting, which he considers to be of "tremendous importance", is the fact that it is incorrect to include any so-called gains on borrowed capital in calculations of company profits. He maintains that these are not gains to the company itself and certainly could not be distributed by way of dividends without depleting the shareholders' equity.

J.K. Lepkowski[12] asks what relationship is there - if any - between the movement of the consumer price index (used in the CPP technique to update all amounts) and the value or replacement costs of such items as industrial plant and machinery. "What about the effects of currency fluctuations on values of imported equipment?" He is skeptical that inflation adjusted accounting may give an impression of "veracity and accuracy" to the figures which they do not possess.

The replacement value method apparently overcomes some of the above objections but replaces factual (historical) figures, with subjective estimates of value.

As inflation affects each business in different ways, Grynther considers that what is needed, is for each company "to account for the specific individual price change effects as they affect it and its assets." [13] But surely such a suggestion is not very practical?

Furthermore, inflation adjusted financial statements are criticised because of their complexity. It is argued that shareholders have enough difficulty in interpreting conventional balance sheets and will derive little benefit from the adjusted accounts.

The results of a survey conducted by T.A. Lee and D.P. Tweedie[14] show that a large proportion of the investing public take the financial statements at face value and rate the Chairman's statement as the most useful part of the annual financial statement for investment decision-making. The results further suggested that shareholders are very interested in information about the future of the company and that shareholders without a knowledge of accounting seem to prefer to consider an interpretation of the company's results rather than the published statements themselves.

1.8 Conclusion

Management needs up-to-date information on costs and values for the proper running of their businesses. The system of CCA described in E.D.18 will help to provide such information.

The introduction of CCA will lead to five major improvements by comparison with the present historical cost system:

a) depreciation will be calculated on the value to the business of the assets concerned and not on their historical cost and will thus give a more realistic measure of the cost of resources used;

b) cost of sales will be calculated in most cases on the cost of replacing goods sold and not on their original cost;

c) the appropriation account will show the current cost profit, the revaluation surpluses, the amount which directors consider should be retained within the business, having regard to their assessment of its needs, and dividends;

d) the balance sheet will show current values for most assets and will no longer show their historical cost;

e) the statement of the change in the equity interest after allowing for the change in the value of money will show how the company has performed in relation to the rate of inflation and will also show its gains or losses from the holding of monetary items.

The Steering Group is conscious that there are a number of areas where it has been able to put forward only an interim solution which will almost certainly require modification in the light of experience.

What is the present situation in South Africa? The Accounting Practices Committee of the National Council of Chartered Accountants published its Discussion Paper - "Accounting for Inflation and Other Changes in Price Levels" in January 1975 (which advocates the use of current values,

although the income determination formula is based on CPP) and no doubt will give its close attention to the Sandilands Report.

"For those who have followed the developments in inflation accounting closely, the Sandilands Report comes as a most timeous breath of fresh air. Carrying so much weight as it does, it might well result in a general acceptance of the logic and practicability of CCA".[15]

"CCA undoubtedly represents the biggest single step forward in British accounting thought."[16]

CHAPTER II : THE EFFECTS OF INFLATION ON CASH FLOW FORECASTING

"Today business people are generally agreed that inflation no longer lends impetus to growth, but is the enemy of growth. Inflation is causing labour and social unrest, uncertainty in financial markets, the misallocation of scarce production resources and the escalation of costs at the expense of profits and to the detriment of industrial investment". [17]

A high rate of inflation has an adverse impact on a company's liquidity as a result of:-

1) higher working capital requirements which are needed to support the inflated sales;

2) fixed assets which must be replaced at inflated prices such that the cash flow provided from depreciation is insufficient to ensure that adequate funds are available;

3) a squeeze on profit margins resulting in a smaller cash flow from the reduced profits.

Effects of Inflation on Liquidity

Companies will require additional working capital in future periods even if their real growth rate is zero, and they are able to maintain their existing levels of working capital in relation to turnover because inflation will increase the levels of working capital even if there is no change in the volume of production and sales.

This is illustrated in the following example (example 1). The financial results of company A are shown in the base year (in which there is no inflation) and also projected using 15% and 20% rates of inflation (equal to 1 1/4% and 1 2/3% per

month respectively). The projections are based on the following assumptions:-

1) The company achieves no real growth and maintains its existing level of working capital.

2) All expenses, excluding interest and depreciation escalate in line with the proposed rate of inflation.

3) The company is able to maintain margins and pass on all cost increases via an increase in selling prices.

4) Inflation, sales and expenses are spread evenly over the year so that the average selling price of the company in any one year is equal to the price ruling in the middle of that year. The same principle applies to expenses.

5) The company replaces 1 of its 10 machines each year (originally costing R50 000 each) but finds that the cost has doubled (now R100 000 each).

6) Dividends are paid at the end of each year and the company maintains a 2,5 times dividend cover.

INCOME STATEMENT

	Year 1	EXAMPLE 1 Base Year Projected at 15% Inflation	EXAMPLE 1 Base Year Projected at 20% Inflation	EXAMPLE 2 Base Year Projected at 20% Real Growth	EXAMPLE 2 Base Year Projected at 20% Growth + 20% Inflation
Sales	1000	1075	1100	1200	1320
Less Raw materials	500	538	550	600	660
Gross Margin (50% of sales)	500	537	550	600	660
Less Salaries & Wages	200	215	220	220	242
Overheads	130	140	143	143	157
Depreciation	50	55	55	55	55
	380	410	418	418	454
Profit before interest & tax	120	127	132	182	206
Less Interest [1]	39	39	39	39	39
Profit before tax	81	88	93	143	167
Less Tax at 43%	35	38	40	61	72
Profit after tax	46	50	53	82	95
Less Dividend	18	20	21	33	38
Retained income for the year	28	30	32	49	57

BALANCE SHEET

	BASE YEAR	EXAMPLE 1 Base Year Projected at 15% Inflation	EXAMPLE 1 Base Year Projected at 20% Inflation	EXAMPLE 2 Base Year Projected at 20% Real Growth	EXAMPLE 2 Base Year Projected at 20% Growth + 20% Inflation
Fixed Assets - at cost	500	550	550	550	550
Less Depreciation	275	270	270	270	270
	225	280	280	280	280
Current Assets					
Stocks [2]	223	264	274	273	321
Debtors [3]	250	284	296	300	355
	483	548	570	573	676
	R708	R828	R850	R853	R956
Shareholders' Equity	300	330	332	349	357
Long term loan	200	200	200	200	200
	500	530	532	549	557
Current Liabilities					
Creditors [4]	83	95	99	100	119
Receiver of Revenue [5]	–	3	5	26	37
Bank Overdraft	125	125	125	125	125
	208	223	229	251	281
	708	753	761	800	838
Funding shortfall		75	89	53	118
	R708	R828	R850	R853	R956

BALANCE SHEET

	BASE YEAR	EXAMPLE 1 Base Year Projected at 15% Inflation	EXAMPLE 1 Base Year Projected at 20% Inflation	EXAMPLE 2 Base Year Projected at 20% Real Growth	EXAMPLE 2 Base Year Projected at 20% Growth + 20% Inflation
Fixed Assets - at cost	500	550	550	550	550
Less Depreciation	275	270	270	270	270
	225	280	280	280	280
Current Assets					
Stocks [2]	223	264	274	273	321
Debtors [3]	250	284	296	300	355
	483	548	570	573	676
	R708	R828	R850	R853	R956
Shareholders' Equity	300	330	332	349	357
Long term loan	200	200	200	200	200
	500	530	532	549	557
Current Liabilities					
Creditors [4]	83	95	99	100	119
Receiver of Revenue [5]	-	3	5	26	37
Bank Overdraft	125	125	125	125	125
	208	223	229	251	281
	708	753	761	800	838
Funding shortfall		75	89	53	118
	R708	R828	R850	R853	R956

NOTES TO EXAMPLES

1. Interest

Interest has been calculated at 12% p.a. on the value of the loans as at the end of the base year (i.e. 12% of (R200 + 125)).

2. Stocks

Stock is valued on the FIFO basis so that the value of stock on hand at the year end reflects the costs of the most recent purchases.

Stockholding is equal to 4 months of raw materials and salaries & wages. In inflated periods the value of stock is based on the average rate of inflation in the 4 months prior to the year end. Thus at the 15% p.a. rate of inflation the average rate of inflation in the last 4 months is

$$\frac{111{,}25\% + 112{,}5\% + 113{,}75\% + 115\%}{4} = 113{,}3\%$$

and so the value of stock is 113,3% higher than in the base year.

Debtors and Creditors have been calculated on the same basis in inflated periods.

3. Debtors

Debtors represent 3 months of sales.

4. Creditors

Creditors are 2 months of raw materials.

5. Secretary for Inland Revenue

A credit is available from the fiscus by estimating the provisional tax payments on the amount payable in the base year. The period for which this credit is available will depend on the time taken for the submission and assessment of the tax return.

It can be seen from example 1 that at an inflation rate of 15% (bearing in mind that the company achieves no 'real' growth) the company is unable to finance the inflationary increases in working capital from retained profits and a shortfall of R75 occurs. If the rate of inflation would have been 20% a shortfall of R89 would have resulted.

The shortfall will increase if the company is unable to maintain its profit margins (relaxing assumption 3 above) as so often happens when consumer resistance is encountered in these times of inflation, or if working capital levels deteriorate and move upwards. A 10% decrease in the company's gross margin together with a 10% increase in working capital will result in:-

Gross margin will be 45% (90% of 50% - as in example 1) of sales (R1075)	=	484
This is a decrease of (537 - 484)	=	53
∴ Profit before tax (88 - 53)	=	35
Profit after tax (43%)	=	20
Less dividend		8
∴ Retained income		12

This represents a decrease of R18 in retained income

Working capital was (548 - 223)	=	325
A 10% increase represents		R33

∴ Funding shortfall will be R75 (from example 1 above) + R18 (decrease in retained income) + R33 (increase in working capital) = R126 - an increase of 168%.

The above problem is not solved by merely achieving a healthy 'real' growth. In fact this can aggravate the liquidity crisis. Example 2 shows a 20% real growth with no inflation and based on the assumption that 50% of salaries, wages and overheads are fixed. The shortfall will be R53.

However, if the company achieves a 20% real growth rate and is subjected to a 20% rate of inflation, the shortfall is R118 (an increase of 223%) which is equivalent to an increase of 94% in the company's overdraft facility.

The shortfall would be increased if we took into account interest on the shortfall - assuming that the shortfall could be financed by borrowing.

The example illustrates the drain that inflation causes on the cash requirements of companies that have high levels of working capital in relation to sales.

Example 1 (above) has illustrated that when a company which has high working capital requirements in relation to sales is subjected to rates of inflation of 15% p.a. and 20% p.a. respectively (bearing in mind that the company achieves no 'real' growth) it is unable to finance the inflationary increases in working capital and shortfalls occur. This is largely due to the fact that the company has high working capital requirements in relation to sales:

stock on hand = 4 months of raw materials and salaries & wages

debtors = 3 months of sales.

If the above working capital requirements were reduced to:

stock on hand = 2 months of raw materials and salaries & wages

debtors = 2 months of sales.

The example on the following page illustrates this proposed new position.

The example illustrates that by reducing its working capital requirements the company can finance the inflated sales from its own resources without resorting to borrowed funds.

BALANCE SHEET

	BASE YEAR	Base Year Projected at 15% Inflation	Base Year Projected at 20% Inflation
Fixed assets - at cost	500	550	550
Less depreciation	275	270	270
	225	280	280
Current assets			
Stocks	117	134	139
Debtors	167	191	199
Cash	74	23	18
	358	348	356
	R583	R628	R636
Shareholders' equity	300	330	332
Long-term loan	200	200	200
	500	530	532
Current Liabilities			
Creditors	83	95	99
Receiver of Revenue	-	3	5
	83	98	104
	R583	R628	R636

The question that must now be answered is, what can management do? Greater emphasis must be placed on working capital management. Stock levels must be reviewed and a balance struck between the protection offered by high stocks against stock shortages and the financial implications of funding these stocks at increasing prices. The maintenance of high stocks in order to profit from inflationary increases can result in serious liquidity problems.

Credit control must be strictly instituted. As in the case of stocks, it is necessary to consider a trade-off between increased sales resulting from easy credit and the financial burden of financing the escalating debtors. The occurrence of bad debts will further aggravate the company's liquidity. Even if management is able to maintain the same percentage of bad debts to sales (which is optimistic in these times of insolvencies) the amount of bad debts will still increase, owing to the inflated sales. Companies should rather be managed for cash than for unrealised profit. It is doubtful that extended credit will be available from creditors as they will similarly be applying tight credit controls.

It might be possible to reduce the dividend but the company certainly cannot pass the dividend completely. Investors are unlikely to make funds available in future, when called upon to do so, if they never see a return on their investment. A company's dividend payout should only be decided after the conventional Financial Statements have been restated to take into account the effects of inflation. This, together with cash flow forecasts will give management a clearer picture of what they can afford to pay. Thus it seems highly unlikely that management will be able to increase dividends in line with the Consumer Price Index - if a dividend is paid.

Proper forward planning is essential. This must include cash flow forecasting of projected income statements and balance sheets. This will help avoid last minute scrambles for finance and management will be able to execute approaches to shareholders and institutions for funds with better timing.

Thus it can be seen that preparing a meaningful set of inflation adjusted accounts is all very well but it will not ensure that a company will not experience the type of cash drain illustrated in the above examples. What is required is proper working capital management and cash flow projections in order to protect companies against the effects of inflation on their cash flow.

The above illustrates that one cannot ignore the effects of inflation when preparing financial forecasts. But the question remains, how best can management take into account the effects of inflation when they do not know what the future rates of inflation will be and furthermore, without losing the feel for cost, volume and price relationships when preparing budget income statements and projected balance sheets? The following chapter is intended to provide an easily understood and practical method which will quantify the effects that varying rates of inflation will have on a company's budgets and projected balance sheets.

CHAPTER III : INFLATION ADJUSTMENTS TO CONSTANT PRICE BUDGETS

Inflation has a severe impact on two of management's fundamental obligations:-

a) to safeguard the value of the assets entrusted to his keeping and,

b) to see that shareholders receive growth in their interest in the organisation and in dividends

Financial statements prepared in historical cost accounting do not permit management to see if they are achieving these objectives since, in the income statement, the profit figure is no longer a measure of the real profit earned, and, in the balance sheet, the book values of assets no longer gives a reliable indication of the assets' real values.

Profits may appear to be increasing, but profits should not be regarded as 'real' unless represented by cash. Unless this is understood and acknowledged, the consequentially higher tax which must be paid, and the higher dividends which shareholders feel entitled to, leads to a worsening of a company's liquidity. This aggravates the already precarious position of having to invest an ever increasing amount of cash in maintaining the 'value to the business' of assets, both fixed and current.

Thus management's demands on accounting are not only in the area of published accounts, but also in the area of management accounting. In working capital management, which is of greater importance than ever before, it is necessary to have up to date information which will allow stockholding at as low a level as possible, consistent with the ability to trade acceptably, and which will allow very tight credit control to be exercised. Furthermore, since budgetary control forms an essential part of management's activities, 'actual'

figures derived from the accounting system must be on such a basis as to make a comparison with budgeted figures both meaningful and informative. This is essential if management is to be able to control the vital 'real' ratios of profitability, debt to equity, current assets to current liabilities, and long to short-term loans.

The previous chapter demonstrated he effect inflation has on a company's liquidity and the consequential need for additional working capital. The object of this chapter is to propose a practical method of calculating the additional working capital requirements that will be needed in future budget years as a result of inflation.

Proposed Budgetary Method

The budgets are prepared and projected in the traditional way, at constant current year prices, that is, historical values are to be left unadjusted and not scaled up to expected future prices. Thereafter, an additional statement is to be prepared in order to calculate the effect that inflation will have on the budgeted income and expenses and on the projected funding requirements.

The advantages of this method are:-

1) The actual budget preparation is not altered and as all departments concerned are working with projections at present day prices, there are no differing assumptions as to the expected future rates of inflation and their effect on costs, prices and volumes.

2) It is easier to undertake sensitivity analysis in order to calculate the company's performances or future funding requirements at various projected rates of inflation. This is because it is easier to adjust the constant price budget than it would

be to work from an already inflated set of projections.

3) A project should show economic merit and an acceptable return at constant prices and not be dependant on a high rate of inflation to produce the required yield. This could occur if constant price budgets were not used in the evaluation, as in such a case the expected return on assets would be an expected inflated profit expressed as a return on the historical cost of the assets.

4) It is easier to evaluate a set of budgets if these are prepared at constant current prices.

The proposed method is based on the premise that not only working capital but profits increase when inflation exists - assuming that higher costs can be recovered by way of higher selling prices. Specific instances where this is not possible will be referred to at a later stage. Not only is the higher profit taxable, but interest must be paid on the higher funding required as a result of the inflated turnover and all of this must be incorporated in the additional budgetary statements. It is stressed that the proposal is a method of calculating the effects of inflation and has nothing to do with increased productivity. A basic assumption (and easily the most dangerous one) is that the total market size and the company's relevant market share are not altered by the increased higher selling prices caused by higher inflationary costs which are passed on to the consumers. Where costs inflate, it is assumed to be the same for all producers in the market - all should therefore, increase prices equally and sales volumes will not decrease. Where this is not the case it is assumed that an individual firm is able to increase its selling price.

Where certain cost increases caused by inflation cannot be recovered, these must be incorporated in the constant price budget. It is necessary even before preparing the budget at constant prices, to estimate the expected future rates of inflation during the budget period. The following example assumes inflation rates of 12% in 1977, 11% in 1978 and 10% in 1979. Assuming that the estimated inflation rate for salaries and wages is 17,5%, 15 and 12% respectively and that management is of the opinion that not all of this increase can be passed on as a higher selling price. The emthod to be used is as follows:-

	1977	1978	1979
Inflation rate for budget purposes	12%	11%	10%
Inflation rate for wages	17,5%	15%	12%
Rate irrecoverable	5,5%	4%	2%
Cumulative rate	2,75%	7,5%	10,5%
Wages from constant price budgets	200	200	200
Apply cumulative irrecoverable rate	5,50	15	21
Wages in constant price budget	205,5	215	221

Where no part of an inflationary cost increase is recoverable, the relevant expense in the constant price budget is to be adjusted as above, while keeping the selling price constant. No further adjustments are necessary as the resulting lower profit will automatically illustrate the higher funding required.

As profits are assumed to accrue evenly throughout the year, the higher profit is not based on the year end inflation rate for the full year, but on the average rate during the year. This represents both early in the year low inflation profits and year end high inflation profits. The rate therefore, accepting an even inflationary increase, can

be taken as 50% of the year end inflation increase.

In the second year the inflationary effect is the full first year plust 50% of the second year's rate. This assumes that the rate of inflation is linear during the year. It must be remembered that the prediction of the future inflation rates are themselves guesstimates and thus will not be 100% accurate.

The higher working capital required is the figure at the year end and thus the year end inflation rate should be applied to estimate year end working capital levels. Where working capital levels fluctuate widely during the year, the figure to be used is slightly different, but again the end result thereof is minute and can, for simplicity purposes, be ignored.

If the rates of inflation have been estimated as follows: 1977 - 12%
1978 - 11%
1979 - 10%

then the cumulative rates to be used will be:

<u>For Profits</u>

1977 - 100% x (100 + $\frac{12}{2}$) % = 106%

1978 - 100% x 112% x (100 + $\frac{11}{2}$) % = 118,16%

1979 - 100% x 112% x 111% x (100 + $\frac{10}{2}$) % = 130,54%

As profits are assumed to accrue evenly throughout the year the higher profit is based on the average rate of inflation during the year. In the second year the inflationary effect is the full first year plus 50% of the second year's rate. In the third year the inflationary effect is the full first and second year plus 50% of the third year's rate.

For Working Capital

1977 - 100% x 112%	= 112%
1978 - 100% x 112% x 111%	= 124,32%
1979 - 100% x 112% x 111% x 110%	= 136,75%

The higher working capital required is the figure at the year end and thus the year end inflation rate should be applied to estimate year end working capital levels. Thus at the end of the first year the rate of inflation to be applied is the full first year's rate (112%). In the second year the rate of inflation to be applied is the full first year's rate plus the full second year's rate. In the third year the inflationary effect is the full first year's rate plus the second year's rate plus the third year's rate.

The cumulative inflation factor for profits is applied to the selling figure, raw materials and all expenses excluding depreciation. It is of little consequence if the assumed rate of inflation differs for various expense types as each expense is inflated by its relevant cumulative inflation factor and so similarly, is the sales figure, thus maintaining the same profit margin as per the constant budgets. The attached example assumes that all cost increases are recoverable by way of increased selling prices and that the inflation rate is the same for all profit and loss items. The example illustrates the shortcut method which results from the above assumptions. That is, if sales, raw materials and all expenses have the same inflationary increase, then the net profit will similarly increase by the same factor. Depreciation is not included with other charges in the Income Statement as this fugre is derived from the historical value of the company's assets. Allowance can, however, be made for a higher replacement cost by selecting a higher figure to represent the reinvestment of depreciation in fixed assets. Tax is payable on the higher profit after interest, which must be paid for the increased funding.

In the following example of a supplementary budget statement:

1) Interest has been calculated at 12% p.a. on the R100 owing at the end of 1977 plus the average higher inflationary funds required as shown in the supplementary statement. It must be borne in mind that the higher profit figure is a cumulative one as the cash from the previous year's higher profits is still available in the present year. This is not the case with working capital.

2) Allowance has been made for a higher replacement cost of fixed assets by selecting a higher reinvestment of depreciation figure than that allowed for in the constant price budget. This additional investment for replacement of fixed assets is increased by 15% p.a.

INCOME STATEMENT

	31/12/76	BUDGET PROJECTIONS 31/12/77	31/12/78	31/12/79
Sales	1000	1100	1210	1331
Less cost of sales	500	550	605	666
Gross margin	500	550	605	665
Less Salaries & wages[1]	200	210	221	232
Overheads	130	135	142	149
Depreciation	50	50	50	50
	380	395	413	431
Profit before interest and tax	120	155	192	234
Less Interest[2]	12	12	3	–
Profit before tax	108	143	189	234
Less Tax at 43%	46	61	81	101
Profit after tax	62	82	108	133
Less Dividend	25	33	43	53
Retained income for the year	37	49	65	80

NOTES:

Budget projections are at 10% p.a. real growth.

1. Assumed 50% of salaries, wages and overheads are fixed.
2. Interest is at 12% p.a. on the value of the loans outstanding at the begining of each year.
3. Stocks are 4 months of raw materials, salaries and wages. Stock is valued on the FIFO basis so that the value of stock on hand at the year end reflects the costs of the most recent purchases.
4. Debtors represent 3 months of sales.
5. Creditors are 2 months of raw materials.

BALANCE SHEET as at	31/12/76	BUDGET PROJECTIONS 31/12/77	31/12/78	31/12/79
Fixed assets – at cost	500	500	500	500
Less Depreciation	275	325	375	425
	225	175	125	75
Current assets				
Stocks [3]	223	253	275	299
Debtors [4]	250	275	303	333
Cash	–	–	57	143
	483	528	635	775
	R708	R703	R760	R850
Shareholders' Equity	525	574	639	719
Current Liabilities				
Creditors [5]	83	92	101	111
Receiver of Revenue	–	15	20	20
Bank Overdraft	100	22	–	–
	183	129	121	131
	708	703	760	850

SUPPLEMENTARY BUDGET STATEMENT TAKING INTO ACCOUNT THE EFFECTS OF INFLATION

	1977	1978	1979
Profit before interest per budget	155	192	234
Add Depreciation	50	50	50
	205	242	284
x Cumulative inflation factor	217	286	371
Less Depreciation reinvestment	58	66	76
Interest	15	25	36
Profit before tax	144	195	259
Less tax at 43%	62	84	111
Profit after tax	82	111	148
Less Dividend	33	44	59
∴ Retained	49	67	89
Less Retained per budget	49	65	80
∴ Additional profit retained	-	2	9
Cumulative additional funds available	-	2	11
Stocks and debtors per budget	528	578	632
Less Creditors	92	101	111
Working Capital	436	477	521
x Cumulative inflation factor	488	593	712
∴ Additional working capital	52	116	191
Less Cumulative profit	-	2	11
Credit from Receiver of Revenue	1	3	10
∴ Additional funds required	R51	R111	R170

Although the constant price budgets project a healthy and liquid state of affairs, with the overdraft being repaid and cash accumulating over the period, it ignores the effects of inflation. The effects of inflation present a somewhat different picture - indicating that in fact additional funds will be required.

True budgetary control involves the planning in advance of the various functions of business so that the company as a whole can be controlled. Therefore, any future forecast must take into account the effects of inflation. The proposed method is very amenable to sensitivity analysis, which should be undertaken in order to take into account varying expected rates of inflation. For example, if management was of the opinion that the rates of inflation were going to be:

1977 - 14%
1978 - 12,5%
1979 - 10%

then the cumulative rates to be used will be:

<u>For profits</u>
1977 - 107%
1978 - 121,13%
1979 - 134,66%

<u>For working capital</u>
1977 - 114%
1978 - 128,25%
1979 - 141%

In such circumstances the following would occur:-

SUPPLEMENTARY BUDGET STATEMENT TAKING INTO ACCOUNT THE EFFECTS OF INFLATION

	1977	1978	1979
Profit before interest per budget	155	192	234
Add Depreciation	50	50	50
	205	242	284
x Cumulative inflation	219	293	382
Less Depreciation reinvestment	58	66	76
Interest	16	27	38
Profit before tax	145	200	268
Less Tax at 43%	62	86	115
Profit after tax	83	114	153
Less Dividend	33	46	61
∴ Retained	50	68	92
Less Retained per budget	49	65	80
∴ Additional profit retained	1	3	12
Cumulative additional funds	1	4	16
Stocks and debtors per budget	528	578	632
Less Creditors	92	101	111
Working Capital	436	477	521
x Cumulative inflation	497	612	735
∴ Additional working capital	61	135	214
Less Cumulative profit	1	4	16
Credit from Receiver of Revenue	1	5	14
∴ Additional funds required	R59	R126	R184

Thus the proposed method easily permits sensitivity analysis to be undertaken by merely preparing an additional supplementary budget statement and so not having to reconstruct the actual budget. By such method it is possible to isolate and study the effects that various rates of future inflation will have on a company's anticipated future profitability and funding requirements.

There are two ways to prepare a flexible budget:-

1) to ignore the effects of inflation - the implicit dangers of this are illustrated above;

2) to build inflation into the figures. The problems here are, what rate of inflation to use and how to isolate the effects of inflation so as not to lose sight of cost, price, volume relationships.

The proposed method, however, allows management at the end of a budget period to prepare a detailed supplementary budget statement which will subject the flexible budget, prepared at the begining of the budget period, at the then prevailing constant prices to the actual rate of inflation, during the period, as it affected the company. This will ensure that the supplementary budget statement and the actual year's results are truly comparable as they will be for the same level of activity and furthermore, will be expressed in rands of the same unit of measurement.

If the above were not done and the constant price budgets not subjected to inflation, then management would be comparing a budget for the year ended 31/12/77, prepared at prices prevailing at 1/1/77 (assuming that this was the date of preparation) with actual figures for the year which would not be expressed in the same rand unit of measurement as such include a year's inflation.

Thus the proposed method will ensure that like is being compared with like and that the all important cost, price, volume relationships are not distorted. The supplementary

budget statement provides management with a tool that can be used for control - thus fulfilling the assumed objective of a budget.

Only in this manner can a budget assume its proper role and act as a management tool for control and thereby provide an acceptable standard against which the actual achievements of people, departments, firms and projects can be measured.

Proper cash flow forecasting is of paramount importance in an inflationary environment and the proposed method takes into account the actual effects inflation has on a particular company, is easily understood and acceptably accurate.

CONCLUSION

Chapter I showed the effect inflation has on a company's annual financial statements, using Stewarts & Lloyds as an eample, and hence the necessity for preparing inflation adjusted accounts. The various methods of accounting for inflation were discussed and it became obvious that the Sandilands Report, together with F.D.18, must be regarded as a milestone in publications on this subject. One can expect that the professional bodies in the Anglo-Saxon countries and South Africa, will give it the acknowledgement it deserves by introducing CCA with the least possible delay.

CCA will provide management and the users of published accounts, with more realistic information on costs, profits, the value of assets, and the returns on capital and on assets. CCA also provides a distinction between the profit earned from the operations of the business and the money gains resulting from changes in the price of a company's assets.

This more realistic information will enable a clearer picture to be obtained of the relative performances of:

a) managers and products within a company;
b) different companies and,
c) different industries

and will lead to better decisions being taken in such areas as pricing, cost reduction, remuneration, resource allocation, dividends and gearing.

Chapter II ilustrated the drain that inflation causes on the funding of companies which have high levels of working capital in relation to sales and hence the need for strict controls over stocks and debtors.

It is essential that inflation adjusted accounts be prepared, but this is not sufficient to ensure that a company will not experience the type of cash drain illustrated in Chapter II.

Proper cash flow forecasting is of paramount importance in an inflationary environment. Chapter III proposes a method of inflation adjustments to constant price budgets which allows management to take into account the effects of varying rates of future inflation on their budget projections, without losing the feel for cost, price and volume relationships.

It is suggested that only by following the above procedures can management truly take into account the effects of inflation on their day-to-day decisions.

ANNEXURE A

Increase in Consumer Price Index.

1946	=	1,4%	1961	=	1,9%
47	=	4,2%	62	=	1,5%
48	=	5,7%	63	=	1,2%
49	=	3,7%	64	=	2,6%
50	=	4,0%	65	=	4,0%
51	=	7,4%	66	=	3,7%
52	=	8,7%	67	=	3,4%
53	=	3,4%	68	=	2,0%
54	=	1,8%	69	=	3,2%
55	=	3,1%	70	=	4,1%
56	=	1,9%	71	=	5,7%
57	=	3,1%	72	=	6,5%
58	=	3,4%	73	=	9,7%
59	=	1,2%	74	=	14,6%
60	=	1,4%			

Source: S.A. Reserve Bank
- A statistical presentation of selected economic indications of S.A.

ANNEXURE B

Stewarts & Lloyds of South Africa Limited.
Statement of Group results and financial position adjusted for the effect of inflation.

Basis of Adjustment

The historical figures in respect of fixed assets, investments and stocks and the results have been adjusted to CPP figures by applying factors based on the changes in the Consumer Price Index between the date of the originating transactions and 30 September 1976. Although the adjusted figures are shown in rand in terms of CPP these are not necessarily replacement costs or current values.

Some of the Consumer Price Indices from which the abovementioned factors have been derived, are:-

	South Africa
Base date - April 1970	100,0
30 September 1973	126,1
30 September 1974	143,5
30 September 1975	161,0
30 September 1976	179,3

INCOME STATEMENT FOR THE YEAR TO:	30/9/76 Historical Basis R 000	30/9/76 CPP Basis R 000	30/9/75 Historical Basis R 000	30/9/75 CPP Basis R 000	30/9/74 Historical Basis R 000	30/9/74 CPP Basis R 000
Turnover	207 866	218 813	204 967	215 507	179 265	191 203
Income before tax - Note 1	18 081	11 071	21 441	15 967	17 873	12 376
Taxation	7 191	7 357	8 524	8 597	7 765	7 831
Income after tax	10 890	3 714	12 917	7 364	10 108	4 545
Less Applicable to outside shareholders	732	415	519	207	839	638
Preference Dividends	36	37	36	37	36	37
Earnings for ordinary shareholders	10 122	3 262	12 362	7 120	9 233	3 870
Capital surplus (loss) on disposal of:						
Land and buildings	13	–	166	65	50	34
Listed investments	–	–	–	–	–	–
	10 135	3 262	12 528	7 185	9 283	3 904
Ordinary Dividend	3 827	3 827	3 827	3 827	2 926	2 926
Retained income	6 308	(565)	8 701	3 358	6 357	978
Required to maintain the purchasing power of ordinary shareholders' investment		6 873		5 343		5 379
Historical income retained	6 308	6 308	8 701	8 701	6 357	6 357

BALANCE SHEET AT:	30/9/76		30/9/75		30/9/74	
	Hstorical Basis R 000	CPP Basis R 000	Historical Basis R 000	CPP Basis R 000	Historical Basis R 000	CPP Basis R 000
Fixed Assets less depreciation	24 993	39 707	24 211	36 418	23 123	32 858
Investments less amount written off	99	219	99	197	99	175
Loan portion of taxation	1 925	1 925	1 073	1 073	731	731
Net current assets	83 276	84 071	75 634	76 633	55 489	56 293
	110 293	125 922	101 017	114 321	79 442	90 057
Less Preference Capital	600	600	600	600	600	600
Long term borrowings	30 581	30 581	28 204	28 204	16 435	16 435
Deferred tax	538	538	291	291	152	152
	78 574	94 203	71 922	85 226	62 255	72 870
Less Outside shareholders' interest	4 819	5 738	4 515	5 194	3 959	4 427
Ordinary shareholders' investment	73 755	88 465	67 407	80 032	58 296	68 443
Salient Comparisons						
% Return on total assets	9,87	2,95	12,79	6,44	12,72	5,05
% Equity to total assets	66,87	70,25	66,73	70,01	73,38	76,00
% Net profit to sales	8,70	5,06	10,46	7,41	9,97	6,47
Ordinary dividend cover	2,64	0,85	3,23	1,86	3,15	1,32
Net Asset value per share (cents)	328	393	299	356	259	304
E.P.S. (cents)	45	14,5	54,91	31,63	41,02	17,20

SHAREHOLDERS' INVESTMENT

A summary of the historical & CPP build up of the shareholders' investment as at:

	30/9/76		30/9/75	
	Historical R 000	CPP R 000	Historical R 000	CPP R 000
Historical at begining of the financial year	67 407	67 407	58 296	58 296
Add Amount arising from restatement of assets at year end to CPPrand at year end.		15 506		14 047
Less Outside shareholders' portion		-919		-679
		14 587		13 368
	67 407	81 994	58 296	71 664
Add Amount required from current income to maintain CPP of shareholders' funds		6 873		5 343
	67 407	88 867	58 296	77 007
Prior year CPP updated to current CPP	40	163	410	(333)
Adjustment for extraneous items				
	67 447	89 030	58 706	76 674
Add Amount retained for the year	6 308	(565)	8 701	3 358
Shareholders' Investment	73 755	88 465	67 407	80 032

NOTES

1. Income before tax for the year.

The difference between the income before tax on the historical basis and the adjusted basis, is made up as follows:-

	1976 R 000	1975 R 000	1974 R 000
Historical income before tax for the year	18 081	21 441	17 873
Adjustments to convert to CPP rand			
Stock	(6092)	(5109)	(4492)
Net additional charge which arises from restating cost of stock at the begining and end of the year in CPP rand - note 2.			
Depreciation	(1474)	(1081)	(827)
Additional depreciation based on the higher cost of fixed assets when adjusted to CPP rand.			
Net Monetary Items	556	710	(178)
Gain/(loss) in purchasing power resulting from the effects of inflation:			
a) Preference capital and long-term borrowings	3 274	2 078	2 113
b) Other items	(2718)	(1368)	(2291)
CPP Operating Surplus for the year	11 071	15 961	12 376

2. Stock

This charge arises due to the additional funds required to replace the same level of stock held at the begining of the year in terms of the value of the rand at the end of the year. It is offset to a small extent by revaluing closing stock in CPP terms.

ANNEXURE C

Example showing the application of the CPP technique to adjust financial statements for inflation.

Assuming:

1) Sales and expenses are even throughout the year.
2) The average date of purchases of stock at 31/12/x2 was 30/9/x2.
3) Taxation and dividends require only 1 payment in respect of each year.
4) The consumer price index was:
   at 31/12/x1 - 100
   at 31/12/x2 - 110

A Ltd.

INCOME STATEMENT FOR THE YEAR ENDED 31.12.x2

	Historical	Conversion Factor	CPP
Sales	30 000	x 110/105	31 429
Less Cost of Sales			
Stock 1/1/x2	8 000	x 110/100	8 800
Add Purchases	23 600	x 110/105	24 724
	31 600		33 524
Less stock 31/12/x2	10 000	x 110/107,5	10 233
	21 600		23 291
Gross Profit	8 400		8 138
Less Expenses	5 000	x 110/105	5 238
Depreciation	400	x 110/100	440
	5 400		5 678
Net income for year before tax	3 000		2 460
Less Tax at 40%	1 200	x 110/110	1 200
Net Income for year after tax	1 800		1 260
Less Dividend	800	x 110/110	800
Retained income for the year	1 000		460
Add Retained income at 1/1/x2	3 000	x 110/100	3 300
	4 000		3 760
Less Price level loss			167
Retained Income at 31/12/x2	R4 000		R3 593

A Ltd

STATEMENT SHOWING CHANGES IN MONETARY ASSETS FOR THE YEAR ENDED 31/12/x2

Net monetary assets at 31/1/x2			
Cash & Debtors - Creditors	1000 x $\frac{110}{100}$	=	1 100
Increase from sales	30000 x $\frac{110}{105}$	=	31 429
			32 529
Decrease from expenses			
Purchases & expenses	28600 x $\frac{110}{105}$	=	29 962
Taxation			1 200
Dividends			800
			31 962
			567
Net monetary assets at 31/12/x2			400
Price Level Loss			R167

Summary

Gain	460
Loss	167
Net Gain	R293

A Ltd

BALANCE SHEETS AS AT:	31/12/x1	Historical 31/12/x2	31/12/x2
Share Capital	10 000	10 000	11 000
Retained Income	3 000	4 000	3 593
	R13 000	R14 000	R14 593
Represented by			
Fixed Assets	4 000	3 600	3 960
Current assets			
Stock	8 000	10 000	10 233
Debtors	2 000	3 000	3 000
Cash	1 000	3 900	3 900
	11 000	16 900	17 133
Less current liabilities			
Creditors	2 000	4 500	4 500
Receiver of Revenue	-	1 200	1 200
Shareholders for dividend	-	800	800
	2 000	6 500	6 500
Net current assets	9 000	10 400	10 633
	R13 000	R14 000	R14 593

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