CHAPTER 2
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6 SUMMARY
1 INTRODUCTION

It was mentioned in the previous chapter that we have enough research evidence to show the limitations of HCA model in reporting financial effects of changing prices and to show that some sort of inflation accounting is necessary. This chapter aims through a survey of literature, at establishing the need for inflation accounting. Another objective is to provide a literary support to the review of inflation accounting developments in various countries of the world, as made in the first chapter. The third but very important objective of this chapter is to create a background to put the present study in its proper perspective. It is in this context that some observations on existing literature have been made and some research gaps have been identified towards the end of the chapter. Lastly, it is also expected to serve as a detailed study of the history of inflation accounting thought and techniques.

2 LITERATURE SURVEY-I (LITERATURE ABROAD)

By its very nature, inflation accounting is closely connected with aspects like concepts of capital and profit, asset valuation and depreciation, disclosure requirements of published annual financial statements, taxation, management accounting, and managerial decision-making systems and processes. The result has been that many "non-accounting researchers" have also contributed to the development of inflation accounting thought and techniques. Secondly, even professional accountants and researchers in accounting have used certain concepts and
techniques developed by non-accounting researchers. For example, economists have developed methods to measure the effect of inflation on national product, national income and its distribution by factors of production, private and public consumption, and capital formation. The most familiar of these methods are the "Cost of Living Indexes" which measure the impact of inflation on the average wage earner.

Similarly engineers, architects and other technologists have developed certain techniques of determining replacement costs and measuring the degrees of technological changes and changes in company productivity which are important in the development of systems of replacement cost accounting.

It was Henry Sweeny (1936) who gave "first complete and realistic treatment, in any language" to the gains and losses from changes in the value of money. Sweeny had also written about this subject around 1925 during the course of his studies for Ph.D. in asset valuation. In his pioneering work he pointed out that "Ordinary Accounting Procedures" are irrelevant, mathematically unsound and incomplete. He showed with illustrations from the accounting data of a waterworks, a woolen mill and a factoring company, how "Stabilized Accounting Corrects ordinary accounting. His ideas raised some controversies and in 1937 Mr. Victor Stamph, in the annual general


meeting of American Accounting Association referred to Sweeny as the "man 50 years ahead of time". Today when we see the development of thought and techniques of inflation accounting in different countries of the world, we feel that Stemph was right. Particularly after 1950, inflation accounting has attracted more and more thinking and research on the subject. After 1960 and particularly during 70s, the rate of inflation started going up and problems of financing industrial plant replacement, the brain of working capital resources and rising, levels of corporate taxation provided fuel to the process of thinking and research on inflation accounting.

We can, for the purpose of better presentation, classify the literature in following five parts.

(A) Related Basic Concepts
(B) Controversy on Need For Inflation Accounting
(C) Techniques of Inflation Accounting and Various Committees on Them
(D) Literature Regarding Inflation Accounting For Managerial Use
(E) Text-book Type Publications.

(A) RELATED BASIC CONCEPTS

In the entire debate on inflation accounting, understanding of some basic concepts is crucial. Many researchers feel by that lack of agreement on some basic issues is largely responsible for the present controversy. Shearer feels that "during the debate on how to account for changing price levels, many accountants have apparently lost sight of some of the basic concepts which underlie the preparation of accounts for shareholders".  

One of the foundations of accounting for changing price levels is the argument that conventional accounting fails to bring to the notice of the users of accounting information, the erosion of capital, if any. During the times of changing price levels, "it is possible for the distribution of money profits earned by a business to involve a distribution of real capital." But this raises a fundamental question. What do we mean by "Capital"?

In the opinion of the Institute of Cost & Works Accountants, UK the concept of capital has three aspects: (a) the economic aspect, (b) the accountancy aspect and (c) the accounting aspect. As per the economic aspect, "to maintain what may be described as the economic integrity of a business, the proceeds of sale of goods or services by a business should be sufficient to replace the goods consumed during production, satisfy the claims of taxation authorities and (c) remunerate adequately the providers of capital to the business." This aspect focuses on adequate depreciation, payment of taxes and return to investors. The maintenance of real capital is of considerable importance, both socially and individually because if it is not maintained, "(a) purchasing power, whose purpose is to replace capital goods, is distributed for personal consumption; (b) taxation intended to fall on revenue is, in fact, raised partly in the form of a capital levy; (c) contributors of business capital, who have a right to expect a business to continue, unaided by additional capital, to replace to consumable goods, find that their contributions of capital are unwarrantably dissipated." 


So if we accept that it is necessary to base the claims of taxation authorities and the recipients of interest and dividends upon real instead of monetary profits, it is obvious that the calculation and disclosure of these real profits fall within the sphere of accountancy.

It is conceded that it is the responsibility of the accountant to measure and disclose the effect on real profits of changing price levels.

Tony Shearer, while discussing various capital maintenance concepts says that accountants give less attention to the theoretical aspects of the problem and owing to that reason we have a number of concepts of capital maintenance given by various groups involved in the controversy. As pointed out by him, there are four approaches to the meaning of 'Capital'. According to the historical cost-concept, 'maintaining capital' means to maintain the monetary amount of shareholders' equity. Under CPP method, maintaining capital is to maintain the general purchasing power of the shareholders' equity. As per Sandiland's report, maintenance of capital is "to maintain the value of the physical assets (e.g. Plant, machinery and stock)". Although it reflects the effect that specific price changes have on these physical assets, it does not reflect the effect that inflation has on the monetary items. (e.g. debtors, cash, creditors). ED-18 did not make any effort to define capital maintenance concept and suggested that companies should prepare an appropriation account within which management will have discretion to determine their own capital maintenance concept.

7 Shearer; op. cit.
exceed the amount that is needed to maintain the capital of a company. Even the term capital also has different meanings. He has explained four approaches to the concept of capital. viz. HCA Convention Concept, CPP Concept, Sandilands's concept and ED-18 approach.

As Gupta says, "In measuring profit, we are trying to determine if firm has been able to maintain its capital, so that the firm may retain its 'wellbeing' as it existed at the beginning of the period. Under historical cost-accounting, profit is what is left over after maintaining the money value of capital. This is the 'legal' view embodied in conventional accounting practice. Under CPP method, profit is what is left over after maintaining the purchasing power of capital. It maintains the 'exchangeability' of the capital committed to the accounting entity by its shareholders. Under Sandilands's CCA, the emphasis is on maintaining the actual physical material capital. The profits are calculated after charging against revenue the current value of the physical assets consumed during the year. The ED-18 accepts this view in calculating "Current Cost Profits" in the profit and loss account". 10

(b) CONTROVERSY ON NEED FOR INFLATION ACCOUNTING

(a) Literature Criticising Inflation Accounting

Though the need for inflation accounting is fairly established through empirical research, it will be worth while to begin the review with arguments against inflation accounting as reflected in the literature.

Accounting Research Study No.6 of AICPA mentions five types of objections to inflation accounting.

(1) Objections that deny that a problem exists.
(2) Objections that admit the problem but deny that accounting can handle it.
(3) Objections which admit the problem but fear that the proposed adjustments will have undesirable consequences.
(4) Objections which stress the fact that the proposed adjustments are not yet perfected.
(5) Objections which in effect require the adoption of the proposed adjustments for tax purposes before they are introduced to financial reports.

The arguments put forward by critics of inflation accounting can be summarized as below.

(1) Committee on Accounting Procedure notes, "Should inflation proceed so far that original dollar costs lose their practical significance, it might become necessary to restate all assets in terms of the depreciated currency, as has been done in some countries. But it does not seem to the Committee that such action should be recommended now if financial statements are to have maximum usefulness to the greatest number of users." 12

11 American Institute of Certified Public Accountants, "Reporting The Financial Effects of Price Level Changes"; Accounting Research Study No.6, Chapter 4.

(2) Risk of variation in monetary values is simply one of the risks in business. Accounting cannot eliminate this risk.

(3) Inflation accounting is likely to introduce inequities into the tax structure; because business units will be permitted to use "adjusted costs" for tax purposes while individuals whose income consist mainly of salaries, wages, dividends and interest will not get any "relief".

(4) It is likely that presentation of adjusted data will reflect unfavourably on the financial statements conventionally presented. It will also reflect unfavourably on the accountants who will express the opinion that those statements fairly present the financial conditions and results of operations of the companies involved. Forester feels that "Instead of adding to the load of accountants' work and distracting them from essential and reputable functions, we should show the way whereby inflation is neither reflected upon or reflected in accounts - but stopped." 13

(5) Inflation accounting will create confusion among investors and other public in the matters like income determination and comparison because some companies will make price level adjustments while others will continue to report in conventional way only.

(6) Conceptually speaking, an income statement is a species of funds statement. Revenues are identified closely with receipts and expenses with cash out-flows, except for the so-called non-cash items. In such a situation, price level adjustments are unnecessary.

Anthony, while favouring HCA, has taken the stand that the unanimous objective of financial statements is to "report the economic events and the economic status of an enterprise as realistically as possible". According to him, the present controversy is largely due to disagreement on what actually constitute economic reality. He feels that if a company's selling price is such that it covers its historical costs plus its cost of capital, then the company can continue to operate indefinitely. Such a company's annual profit can be best measured by the difference between revenues and historical costs. But if a company's selling price is such that it recovers its replacement costs plus its cost of capital, then the company can also continue to operate indefinitely, but in this case its annual profit is best measured by the difference between revenues and replacement costs.

But, he says, "There is no objective way of classifying a given company into one of these two categories. We must therefore act on the basis of general tendencies, and the general tendency seems to be that prices are based on historical costs.

"Unless replacement cost advocates can furnish evidence that this is not so, we should continue to use historical-cost accounting. And this evidence must be especially strong enough to counteract the fact that replacement cost accounting would be extremely difficult to implement and would increase the subjectivity of reported net income. We should not get into this morass unless there is persuasive evidence that this is the way the economy actually works".  

16 Ibid.
Some of the critics have argued that inflation accounting, like aspirin, treats the symptom and not the cause of the problem. 17 Forester while emphasizing the need to stop inflation says, "Inflation accounting has a history marked not by new theories or techniques, but by popularity only during the periods of hyper-inflation ... The control and cure of inflation lies not least in the hands of accountants and their institutes". 18

(b) Literature advocating Inflation Accounting

The basic issue is of true understanding of the role of and expectations from inflation accounting. The fact that inflation accounting is not expected to solve the problem of inflation is brought out by Moonitz in following words: "Market prices change because of the effects of two kinds of forces. The relative change in the price of A as compared with B and the change in the exchange value of money itself. The second kind of change leads to a change in the size of unit of measurement used in accounting. The related problem in accounting is to devise ways to measure this kind of change and to report its effects in such a way as not to observe the true gains or losses in the accounting entity". 19

Alexander 20 while establishing need for inflation accounting points out that few people really understand the effects of inflation on

business, mostly because the effects of inflation were usually not reflected in financial information prepared for shareholders and management. He feels that both GPL and CV accounting can make important contributions towards more useful accounting information.

The disparity in conventional financial reporting is cited as an important reason for price level adjustments. "In reporting profits today, the cost of material and labour is reflected in terms of 'inflated' dollars while the cost of productive facilities in which capital was invested at a lower price level is reflected in terms of dollars whose purchasing power was much greater."21

The next question is, are we facing that high a rate of inflation when inflation accounting becomes necessary? The answer is, 'Yes'. See the table given below, which gives index numbers of consumer prices in selected countries for a period of eight years.

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It can be seen that two countries in South America, i.e. Argentina and Brazil provide illustrations of really extreme inflation. In Western Europe, Spain has probably experienced the worst inflation in the period covered under the table.

In India, the index number has increased from 113 to 202 in a period of eight years.

**TABLE 2.1**

INDEX NUMBERS OF CONSUMER PRICES IN SELECTED COUNTRIES

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<td>108.2</td>
<td>112.5</td>
<td>115.3</td>
<td>120.7</td>
<td>127.2</td>
<td>135.3</td>
<td>148.1</td>
<td>153.6</td>
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<td>France</td>
<td>106.7</td>
<td>112.1</td>
<td>115.4</td>
<td>119.0</td>
<td>124.7</td>
<td>133.9</td>
<td>145.0</td>
<td>157.9</td>
<td>171.6</td>
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<tr>
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<td>106.0</td>
<td>108.9</td>
<td>111.9</td>
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<td>124.4</td>
<td>130.9</td>
<td>138.1</td>
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<td>116.1</td>
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<td>121.2</td>
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<td>U S A</td>
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<td>121.8</td>
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<td>335.0</td>
<td>380.0</td>
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<td>Australia</td>
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<td>106.4</td>
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<tr>
<td>Argentina</td>
<td>122.0</td>
<td>157.0</td>
<td>207.0</td>
<td>268.0</td>
<td>311.0</td>
<td>335.0</td>
<td>380.0</td>
<td>512.0</td>
<td>811.0</td>
</tr>
<tr>
<td>Spain</td>
<td>107.0</td>
<td>121.1</td>
<td>128.6</td>
<td>136.9</td>
<td>143.6</td>
<td>146.8</td>
<td>155.1</td>
<td>167.9</td>
<td>191.8</td>
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** UK figures are based on the index of retail prices, and not on the index of consumer prices.
Wilcox, as early as in late forties, noted; "It has been estimated that almost half of the reported profits of American industry in 1947, a year of unprecedented high prices following World War-II, were the result of inflation rather than operations". 22

Early in 1979, 'Business Week' claimed that "fully one-third of the earnings that companies reported for 1978 were an illusion—gains, created by inflation and out-of-date accounting methods". 23

Copans, who was President of Canadian Institute of Chartered Accountants and Chairman of Financial Executives Institute, while evaluating the need for inflation accounting says that "At present rate of inflation, accounting principles based on historical cost necessarily produce seriously misleading financial information". 24

Wancil took an informal poll of 150 US executives in 1975 and the consensus was that rampant inflation was there to stay. They expected inflation to average about 7% per year for the next five years more. Referring to the aspect of inflation and government policy, in support of his findings, Wancil says, "When the rate hits double digits, the government will act to reduce it ... When the inflationary pressure drops below 5%, political pressures to stimulate the economy will become overwhelming and the rate of inflation will climb again". 25


Jones believes that price level adjustments is not a departure from the cost basis of accounting. In his opinion inflation accounting is rather a recognition of the fact that the basic unit of measurement has changed.\(^\text{26}\)

(C) **TECHNIQUES OF INFLATION ACCOUNTING AND VARIOUS COMMITTEES ON THEM**

Considerable amount of empirical research has taken place on this subject during last sixty years, particularly during last twenty. The major emphasis of research has been on testing various techniques of inflation accounting as proposed by various committees and groups from time to time. In a way, this review also provides to us a detailed account of the history of inflation accounting. Let us have an overview of literature on this aspect.

Sweeny's statement that "Accounting figures are expressed in rubber units of measurement ... The truthfulness of accounting depends largely upon the truthfulness of the dollar and the dollar is a liar!"\(^\text{27}\) triggered off the controversy on inflation accounting. His suggestion for general price level adjustments encouraged many researchers to test his suggestion.

R.C. Jones\(^\text{28}\) has analysed, converted and studied the actual records of four companies, one public utility and three manufacturing companies. One of his objectives was to present qualitative data which would give business managements etc. some basis for judging the need for and utility of adjusted figures. For the purpose of restatement of


historical cost figures, he had used consumer price index. Jones concludes that "major discrepancy in two types of net incomes arises from the depreciation on original cost in historical dollars and depreciation measured in terms of current value dollars." Secondly, the limitation of depreciation deductions from income tax purposes to original cost in historical dollars raises real rates of taxation well above statutory rates during and after periods of inflation and thereby discriminates against industries having heavy plant investments.

In 1961, Hendriksen also made a study of two public utility concerns. He has presented a discussion of the concepts and use of various price indexes for GPLA purpose. He has taken financial statements of two public utility firms for 1937-1957, viz., Washington Water Supply Co. and Portland General Electric Co.; and has restated them using six different price indexes. Then he has compared the results with the unadjusted statement wherein he has given particular emphasis on an evaluation of net income, the investment in plant and equipment, the ROI and the effect of holding monetary assets and liabilities during periods of changing prices. Hendriksen concludes saying, "The issues involved in the choice of a proper method to against for price changes, however, are far from settled. This study was undertaken in the hope that some major issues could be clarified and that experience in the application of adjustment techniques would aid in an evaluation of their usefulness and their theoretical propriety... In fact, the author was quite surprised with some of the conclusions suggested by data.


31 Ibid.
Paul Rasenfield's Study in 1969 was in reaction to APB's asking 18 companies to restate their financial statements for GPL, in accordance with the guidelines recommended in Accounting Research Study No.6 of AICPA. He wanted to obtain more knowledge of the practical effects of restatements before the APB moved ahead on the subject. Rasenfield recommends that companies should present supplementary financial statements in which all elements are restated for changes in the GPL. He also maintains that the GPLA financial statements should "provide a basis for a more intelligent, better informed allocation of resources".  

Three studies conducted by Davidson and Weil provide to us a very good insight into various aspects of general price level accounting. In their study published in February 1975, they have shown that published financial statements do not recognise the economic facts of life. They selected 30 Dow-Jones Companies and 30 other companies selected from Fortune-500, and restated their reported net income using GPLA and measured adjusted net incomes before monetary gain and adjusted net income as in terms of percentage of net income reported on conventional-basis. The study shows that "all firms are affected relatively equally by inflation" is a wrong belief. Similarly, to believe that "a single overall adjustment factor applied to the reported profits of all firms will yield satisfactory results" is also wrong.

34 Ibid.
35 Ibid.
The study confirms through adjusted income before monetary gains that conventionally reported earnings have a substantial inflation component. It has been surprisingly observed that when monetary gains were included, the resulting net income was a very high per cent of conventional incomes. This study has also brought out the fact that inflation tends to affect rapidly growing companies less than slowly growing companies.

In their study published in May, 1975, Davidson and Weil have examined the combined effect of GPLA before and after adjustment of monetary items on a sample of 24 U.S. companies. They have established that when one adjusts the published financial data of an electric utility for GPL changes, an income reduction usually results from the adjustment on depreciation. On the other hand, because of the large amount of debt in the capital structure of a typical utility, a substantial gain usually results from adjustments on monetary items.

The third study of Davidson and Weil has been published in October, 1975. In this study, they have tried general price level adjustments on 1974 income statements of 30 Dow Jones Companies, 44 other large corporations and the 24 public utilities in Dow Jones and Standard and Poor's Public Utilities indexes. In addition to four adjustments mentioned in their early study, they have given two new adjustments, viz., adjusting equity methods revenues and gain or loss.


on foreign monetary items. The study has showed that effects of general price level adjustments on income differs substantially among firms. It has also been observed that adjusted income before monetary gains was again reduced for almost all firms but when monetary gains from net borrowings were included, the resulting GPLA income was a surprisingly high per cent of conventional net income.

Harmelink and Kintz (1975) have studied sixty six electric utilities and applied GPLA with a view to measure the degree of distortion of picture under HCA model.

Flink, Birati and Unger (1979) have tried to study the impact of inflation on the profits of listed firms in Israel. They selected 19 industrial firms listed on Tel Aviv Stock Exchange and restated 1968-74 published annual reports when the curve of inflation was 2.5%, 13.3% and 56.2%. Procedure used for restatement was as recommended by ICPA in Israel, SSAP-7, AICPA's APB Statement No.3. The data were analysed from three financial aspects: (1) Reported profit after tax (PAT) (2) The incidence of corporate income tax (3) Dividend cover. The authors have concluded that (i) adjusted incomes tend to be less than nominal earnings, even if monetary gains are included and that a substantial portion of adjusted profits in an inflationary period is the result of monetary holding gains, (ii) Tax charges and dividend appropriations are sometimes not covered by adjusted profits, even when monetary gains are included.

Studies that have been mentioned earlier were made with a view to bringing out the difference in reporting under HCA and GPLA (or CPP). The focus has been on measurement of income and its impact in terms of depreciation, taxes, dividends, monetary assets and liabilities etc. But this is only one aspect of GPLA. It is interesting to note that many researchers have looked into the likely impact of GPLA Statements on share prices and on investors' decision making. Some of them are even behavioural studies, conducted as laboratory experiments.

Cutler and Westwick (1973) have tried to examine the effects of ED-8 as a potential SSAP on share prices. They selected 137 largest companies and attempted to give as wide a range as possible. Using CPP, they have made following important observations.

(1) While 104 Companies showed lower CPP earnings, 33 companies showed higher CPP earnings than historic earnings. (2) For 34 companies, depreciation was the most important item. For 48 companies, stock was the most important item. It might have been anticipated that depreciation would have come first, more often than any other item. However, the two items which did come first more often were stock and gain from long money! This result supported the statement in ED-8 that "The practice sometimes adopted by adjusting some items only can be misleading". Trying to answer the question, "Does the market take inflation into account?", they have prepared a scatter diagram with the


41 Ibid.
price/forecast earnings ratio on one axis and the percentage difference between historical and CPP earnings on the other. The diagram has shown that although there was a relationship between two variables, it was only a slight one. (Correction coefficient was +0.3). In the opinion of researchers, "This implies that, in general the market does not appear to be taking the effects of inflation into account in arriving at share prices". They have also observed that "If markets react to CPP figures, then the most likely outcome is that equity prices as a whole will not drop, but that of some individual shares will rise in prices whilst other fall. Companies where decrease in earnings is less than average or whose earnings tend to increase will tend to go up in price; Companies whose decrease in earnings is greater than average will tend to go down in price".

As early as in 1969, Dyckman conducted a behavioural study and attempted to measure the impact of GPLA on investment decisions of individual investors.

James Heintz has tried to examine the effects of price level restated financial statements on investment decision making. He conducted a laboratory experiment wherein investors were consistently provided with either conventional, restated or both conventional and restated financial statements for three different companies as well as a limited amount of other information. Subjects

42 Ibid.
43 Ibid.
who were graduate and post-graduate senior students, were required to make a series of common stock evaluation and purchase decisions. The study concludes that: (i) investors who used only price level restated or both price level restated and conventional financial statements did not make forecasts different from those made by investors who used only conventional information. (ii) Neither the users of the restated statements nor the users of combined statements made decisions different from those made by the users of conventional ones. Implication of findings, as mentioned by Heintz, is that price level restated information does not lead to different investment forecasts or decisions. But one should also try to investigate as to why no differences occurred? Two possible reasons can be cited (1) Price level changes were not large enough. (2) Subjects did not know enough about how to use price level restated information to greatest advantage.

The second reason is more likely to have influenced the results because subjects were students of graduate and post-graduate levels. Another thing is that this was a laboratory experiment and the situation was not suitable for investment environment. Lastly, only three companies were included in the experiment for a limited period of time.

Edward McIntyre has conducted a behavioural study with a view to testing the usefulness of an alternative accounting model to one group of users viz. investors in common stock. He selected a sample of 33 upper division-students with Accounting major, 37 undergraduate students of a business school and 5 executives who were

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Edward McIntyre has conducted a behavioural study with a view to testing the usefulness of an alternative accounting model to one group of users viz. investors in common stock. He selected a sample of 33 upper division-students with Accounting major, 37 undergraduate students of a business school and 5 executives who were
participants in an executive development programme. Subjects were given financial statements of companies, without giving names of the companies. They were asked to select a firm which they felt would produce the highest rate of return during the 'holding period' selected by them. Results were then analysed considering both the company and holding period selected to see if subjects using current cost statements made different and better decisions. For this purpose, four companies (two pairs) from one industry were selected and both current cost statements, with GPLA and traditional HC statements were prepared for 3 years' period. Three classes of financial information viz. Replacement Cost Information, Current Cost Information and Combination of both RCA & CCA; for each company were given to subjects in such a way that each subject received only one class of informations on one pair of company. This experiment has failed to show any advantage of users of CC financial statements.

Professional accounting bodies and governments in many countries; particularly in the UK, the USA and Brazil; have shown admirable awareness towards need for measuring and reporting financial effects of price level changes. Publications of such bodies, reports of various committees/groups and articles/commentaries published on such reports form an extremely important set of literature on inflation accounting. Let us, now, have an overview of literature of this nature.
In 1952, Institute of Cost & Works Accountants of the U.K. published the first introducing book by any professional body. Though it is not to be regarded as an official expression of the views of the Council of the Institute, it is a complete work on principles and techniques of general price level adjustments. Similarly in 1956, American Accounting Association published Perry Mason’s introductory text on basic concepts and methods along with an illustration of general price level adjustments. In 1963, AICPA published its Accounting Research Study No. 6. This publication, in addition to a discussion on various aspects of the subject, contains real life illustrations of price level adjusted financial statements. As an extension and improvement to this study, the Accounting Principles Board (APB) issued its Statement No. 3. Commenting on this statement, Coopers and Lybrand say that "the extent to which short-cut or estimation techniques are permitted by any standards ultimately set could have a significant impact on the amount of work required for many business to generate this information. Some accounting practices, such as composite depreciation, might preclude a company from specific identification of the components of an account by vintage years. In that case, the use of estimation techniques would be essential."

49 American Institute of Certified Public Accountants; Op. Cit.
In 1973, the Accounting Standards Steering Board (ASSB) of ICAEW issued ED-8 entitled "Accounting for Changes In Purchasing Power of Money". It proposed adoption of a method of adjusting published Company accounts by reference to an appropriate index. The ICAEW also, at the request of ASSB, issued its working guide to the accounting procedures. Finally in May 1974, it issued SSAP-7 which advocated CPP and suggested that CPP information should be given as supplementary to HCA Statements. But at the time the discussion period of ED-8 was going on, the Government of the UK announced the appointment of Sandilands Committee. This Committee recommended Current Cost Accounting (CCA) method and opposed the CPP method, which was recommended under ED-8 and SSAP-7. This gave birth to one of the biggest controversy in the history of accounting.

The ICAEW had made and published a survey of published annual accounts of 1975. When SSAP-7 was issued by ASSB and Sandilands report was not published, companies were expected to go by SSAP-7 which recommended CPP. The survey observed that as compared to 1973–74, there was considerable increase in the number of companies presenting or referring to CPP Statement in 1974–75. See the table given below.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>1974-75</th>
<th>1973-74</th>
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</thead>
<tbody>
<tr>
<td>Supplementary Statements, presented according to SSAP-7 or slight modification, by</td>
<td>48</td>
<td>9</td>
</tr>
<tr>
<td>Of the above reports, those covered by Auditors' reports were</td>
<td>44</td>
<td>5</td>
</tr>
<tr>
<td>CPP Calculations referred to, but only abbreviated statements or selected figures published by</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

None of the companies included in the survey prepared its accounts by CCA method, but a number of companies moved, towards a CC base for fixed assets. Seven companies calculated depreciation on the current replacement cost of existing assets, and the "Supplementary depreciation" over and above the depreciation based on the book amount was credited to a reserve.

Sandilands Committee on Inflation Accounting has laid down five criteria which a unit of measurement underlaying an accounting system should satisfy. 53

(1) The unit should be equally useful to all users of accounts.
(2) The unit should not change from year to year.
(3) The unit should be the same for all enterprises presenting financial statements.
(4) The unit should preferably be a physical object which could be exchanged by the users of accounts.
(5) The unit should represent a constant 'value' through time.

The Committee has also attempted to show that the monetary unit satisfies first four out of five criteria whereas the purchasing power unit satisfies only one (not satisfied by the monetary unit). So the Committee has recommended that the monetary unit should be retained as the unit of measurement for financial accounts purposes.

The Committee has taken the stand that "Accounts should continue to be drawn up in terms of the monetary unit (pound). Despite the disadvantage that the purchasing power of money changes when the price of goods and services on which it is spent change, we do not think there is any advantage to be gained from using a unit of measurement other than money as the basis of accounts".\(^{54}\)

In contrast to CPP approach, Sandiland's CCA system adopts the concept of revaluing physical assets such as building, plant and machinery at their "Value to the business". This principle has been enshrined in the ED-18 prepared by Mr. Douglas Morpeth.

Jack Clayton has described Sandiland's Report as "an immense progressive development of accounting theory and practice".\(^{55}\)

Sale and Scapens\(^{56}\) have tried to explore the validity of the current cost profit measure proposed by Sandiland's Committee (and endorsed in ED-18 and Hyde Guidelines) as an indicator of dividend paying ability of a company. Authors have developed a mathematical model of Sandiland's Committee recommendations and compared it with a criterion DOF (Distributable Operating Flows) model. They also developed a GPLA model and compared it with DOF model. Authors have made the following important observations.

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54 Ibid.


when one person looks at a balance sheet to show him the effect of past events, while another thinks that it should tell him how much his shares are worth. This is where a further need for strict application of the principles of classification arises. 57

The CCAB, in its initial response to Sandilands as published in November 6, 1975 issue of "The Accountant", has to "aspects of inflation which CCA does not deal with at all ... or not adequately; erosion of cash assets and liabilities; holding gain which reflects decrease in value of money rather than increase in wealth; effect on proprietors' interest; and comparative figures in real terms".

Replies to CCAB's response, Clayton says, "first criticism is based on a misunderstanding of Sandilands Committee's intent clearly indicated in the abbreviated terms of reference stated on the circular inviting evidence. 'This Committee has been appointed to consider whether, and if so how, company accounts should allow for changes (including relative changes) in costs and prices'. By revaluing tangibles, CCA automatically discloses the relative erosion of cash assets and liabilities. Second Criticism was inevitable. It reflects the lopsided nature of GPP: enhanced depreciation was charged against profits and 'stock appreciation' deducted; but the credit side - enhancement of tangibles - ignored. Third and fourth criticism are more serious: they represent a political demand for the indexation of company profits for tax purposes; propaganda supporting the 'cut company-tax' lobby". 58

Prof. David Flint, President of Institute of Chartered Accountants, Scotland, while commenting on Sandilands report has expressed the fear that "CCA embodied a different philosophy of profit measurement and asset valuation which would displace historical cost conventions whether there was inflation or not". He has felt that since Sandilands system was not sufficient, establishment of Monpeth-Steiring Group was a welcome measure.

Risk, while criticising Sandilands, says, "Sandilands report, useful though the exercise may have been in some respects, represents a side tracking in the development of accountancy. Its adoption would lead us to barren and sterile lands, in which much effort would be needed both to service and to escape from its illusions".  

Criticising Sandilands’ view that pound satisfies conditions of acceptance, similarity and physicality, say that "it is difficult to accept that all the advantages so attained are not achieved when the monetary unit is replaced by the purchasing power unit. Since the use of purchasing power unit removes the distortions from the financial accounts prepared in monetary unit, all users of accounts are better informed ... Apart from this, it is improbable that a unit of measurement is more useful to one and less useful to another".

While reacting to Sandilands Report, Oenza has said, "CCA is not a form of accounting for inflation, inflation being basically a decline in the value of money". He added, "... one is forced to the bitter conclusion that we are proposing to increase the burden and expense of the change, to substitute for relative simplicity extreme complication and most emphatically not to get it right - and for virtually no reason at all." In his memorandum to ASSC, he sounded them against the problems likely to arise at the time of implementation. Welcoming the adjustment for net monetary assets and liabilities he has said that unlike CCA, it constituted a recognition of inflation and to some extent an accounting for it.

Criticising Sandilands report, Wilson has suggested a compromise in the form of a modified SSAP-7. He has said, "Sandilands report is a major rebuff for the accountancy profession". He emphasised need to intensify research to establish a concept of accounting for inflation which is effective and acceptable. He has suggested the following framework as a compromise between SSAP-7 and Sandiland report.

(1) Presentation of CPP accounts only. Historical data should be used as primary data only.

(2) Further away from the narrow

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63 Ibid.

64 Wilson J.P., "Inflation Accounting - What kind of Compromise?", Management Accounting, November 1975.

65 Ibid.
concept of accounting only for changes in the purchasing power of the pound as represented by a single index and to account for changes in purchasing power of different items, such as property, material and services, by the use of special indices.

Peasnell has carried out an important study on CCA valuations. He has felt that Sandilands Committee had given scant attention to the allocation problem in financial accounting. Quoting Prof. Arthur Thomas's (monographs published in Studies in Accounting Research No. 3 and No. 9 by American Accounting Associations) argument that depreciation allocations are arbitrary and lacking in real world, Peasnell has observed that determination of the "value to the business" of an enterprise's assets in CCA system, even of its non-deprecating assets, is also arbitrary. Using mathematics, he has explored the impact of uncertainty in detail. He has showed that value to the business of individual asset is, to a certain extent at least, indeterminate. There are interactions arising from the presence of uncertainty which can cause CCA valuations to be arbitrary/indeterminate. According to Peasnell, these difficulties with CCA apply to deprecating as well as non-deprecating assets.

Two major conclusions emerged from the Sandilands experience. (1) Major changes in accounting procedures could not be effected so quickly. (2) No acceptable system of inflation accounting could ignore, as Sandilands had ignored, the impact of inflation upon monetary assets and liabilities.

Peasnell, in his paper on CCA valuations, has emphasised need for "a major and urgent programme of research into the accounting treatment of interventions such as goodwill and intangibles." He has said, "The main point of this paper concerns the failure in the Sandilands Report to recognise that intangibles and goodwill cannot be dealt with as an after thought. Unlike under the extant historical cost system, intangibles and goodwill under CCA are caught up in the set of 'Value to Business' rules put forward for valuing the tangible assets. Unless some proximate criteria which can go to a large extent eliminate the role of 'Present-Value' in the valuation process are submitted for the Committee's value to Business rules, accountants will constantly be required to make difficult allocation decisions regarding what we have called "interactions ... What is needed is a major and urgent programme of research into the accounting treatment of interactions such as goodwill and intangibles."  

In November, 1975, CCAB issued its initial unfavourable reaction to Sandilands Report but the Government decided to proceed towards implementation of Sandilands' recommendations and set up Morpeth Group for preparing a draft proposal. The Group, in its preliminary report, concluded that not just fixed assets and inventories but all monetary assets and liabilities in prior-year balance sheet should be restated at least as supplementary information in pounds of end-of-year purchasing power by application of a general price index. Morpeth Group submitted its final proposals on November 30, 1976. Later, it was published by ASC as ED-13, Implementation of these proposals was to be phased over a three year period, beginning with financial statements of largest companies.

67 Ibid.
68 Ibid.
About 750 submissions were received in response to the Draft and 72% of respondents were in favour of some form of CCA on mandatory basis, though they did not agree with all provisions of the Draft.

Comparing Sandilands and Morpeth, Buckley has favoured Sandilands. He has said "ED-18 has taken Sandilands suggestions to the next stage towards implementation. But there are few reasons for elation at its recommendations. Its concentration upon excessive exactitude (without reference to whether amounts are material or not) is at the expenses of practicability, simplicity and verifiability. I believe this is too high a price to pay for spurious precision".\(^69\)

He has also observed, "My preference is for Sandilands method, but with some minor improvement. This involves the requirement for updating where land and buildings represent a material proportion of assets. The updating might be based on an index with the provision that where this gave materially incorrect figures, some other method, such as consulting professional valuers, might be used".\(^70\)

Criticising Morpeth Group as against Sandilands, Clayton has observed "Morpeth Committee completely reverses the Sandiland's batting order for valuation purposes. Suppliers' lists and catalogues become the first source of reference; failing this the

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\(^69\) Buckley Adrian, "Back To Sandilands", *The Accountant*, April 21, 1977, p.444.

\(^70\) Ibid.
Company's own estimate of replacement cost is recommended; then indices compiled by the Company; and finally official indices. This is not proper.71

He adds "The Sandilands Report carefully avoided mixing money and purchasing power as the unit of account. Furthermore, the Sandilands Committee found that some aspects of accounting in terms of CPP caused confusion. Thus, some 61% of companies responding to Committee's postal questionnaire on inflation accounting answered that they considered that the gain on long-term borrowing, as required to be disclosed in the provisional SSAP-7 might 'mislead shareholders as to the size of distributable profits'.72

Criticising ED-18, Ramesh Gupta says "It can be seen that ED-18 will make life much more difficult for auditors and will greatly increase the subjectivity of accounting measurement and scope for errors therein. And then there are conceptual problems with regard to concept of profit and capital. It is evident that more we blur the distinction between profit and capital, and between capital charges and revenue charges, the more scope we shall be giving to management to indulge in what Americans have stigmatised as 'Imaginative accounting'.73

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72 Ibid.
73 Ramesh Gupta, "Inflation Accounting - Report Developments"
After opposing ED-18, Consultative Committee of Accounting Bodies (CCAB) asked Mr. Williams Hyde, the Chief Accountant of Oxford University, to produce first-aid measures quickly. Hyde Committee issued its report on November 4, 1977 known as "Interim Recommendation". Hyde has recommended that the published financial statements of companies listed on the Stock Exchange should include a prominent, separate statement showing the financial results as amended by the adjustment described in its "Interim Recommendation". This includes three adjustments, viz., depreciation, cost of sales and gearing. Chandlok has felt that Hyde's report is both brief and simple to understand. He has also explained the steps involved in making adjustments for CQSA, depreciation and gearing.

ED-24 which was issued after Hyde's guidelines, provided for current cost information to be included in annual financial statements in addition to HCA Statements. The proposed CCA system was based upon a concept of capital which was represented by the net operating assets of a business i.e. fixed assets, stock and monetary working capital. The overall purpose was to show the effect of price level changes on funds required to maintain the operating capability of business.

In the USA, Financial Accounting Standards Board (FASB) of AICPA had announced its statement as "Financial Reporting In Units of General Purchasing Power". Later on, in March, 1976, the Security Exchange Commission issued its ASR-190 which required companies with

physical assets of more than $100 million and they being more than 10% of their total assets, to measure and report the current replacement cost of certain assets as a part of 10-K filings. This requirement, like Sandilands Report in the UK, generated a lot of discussion and triggered off many research studies. Such studies and articles are reviewed below.

October, 1977 issue of The Journal of Accountancy published results of a survey of 14 firms, conducted with a view to know the costs of generating replacement cost data as required by the ASR-190 of American SEC. The average cost was $2,00,000. Since about 1,000 companies were required to comply to ASR-190, it involved a lot of costs. SEC had said that they had weighed costs of implementation of replacement costs against need of investors. It was this statement of SEC which encouraged Hackers and Bates to conduct their study.

Responding to SEC's ASR-190, General Motors in its published annual report expressed its doubt about reliability of replacement cost data in following words.

"Although the replacement cost data herein disclosed has, in the corporation's view, been estimated in a reasonable manner, it is the opinion of management that these data are of no value because of the subjectivity necessarily involved in making these estimates, and because the concept is based on an unrealistic premise, i.e. the total replacement of all productive capacity at one time".  

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A review of the reports filed by 100 largest US companies indicated, as shown below, that the companies had a great deal to say about the unreliability and lack of usefulness of the replacement cost data required by the SEC under its ASR-190.

(i) 91% described replacement cost data as hypothetical.
(ii) 90% described replacement cost data as imprecise, subjective, not comparable.
(iii) 75% felt that this data should not be used alone to adjust net income.
(iv) 74% felt that data was not truly, representative of current values.

Reckers and Bates have tried to examine utility of ASR-190 of American SEC from the view point of investors. They designed a sample of 175 firms in 13 industries, on random basis. They took up items which were required to be disclosed on replacement basis, as a part of 10-K filings, viz. inventories, accumulated depreciation, gross plant depreciation, cost of goods sold and depreciation expense. The authors also took out 4 financial ratios, viz., current ratio, inventory turnover ratio, margin on sales and debt to asset ratio.

The authors' conclusion is as follows.

"On the basis of comparisons of differences of firm rankings of a number of accounting measures under historic and replacement cost models, this examination finds a very high degree of correlation and thus of 'information redundancy'. Comparability indices further

(1) Both GPLA incomes and CV incomes were consistently lower than historical cost for the period tested. (2) GPLA and CV incomes were empirically different. (3) The pattern of differences varied according to industry. GPLA income exceeded CV income for every company in cement and yarn spinning industries. In speciality cleaning industry, the case was reverse.

Favouring "CCA plus CPP", Jack Clayton has said, "CPP is, of course, a lopsided mode of inflation accounting which ignores the enhancement by inflation of the tangible assets... where the CPP constant purchasing power technique can serve a useful purpose, however, is by using it to express "in real terms the profits and net assets determined on a CCA basis". 81

(D) LITERATURE REGARDING MANAGERIAL IMPLICATIONS

The other aspect of inflation accounting is related to use of inflation adjusted data for managerial purposes. Unfortunately, very little empirical research has taken place on this aspect. Those researchers who have done work on techniques of inflation accounting and reporting in financial statements have often referred to managerial implications aspect. An overview of such literature is given below.

Discussing managerial implications of effects of inflation, Robert Kwock says that in good old days when rate of inflation was insignificant, management did not have to concern itself with the preservation of capital provided that profits were adequate enough to leave surplus after dividends were paid and tax was provided for. Today inflation has forced management to direct its efforts at trying to ensure the survival of business. According to Kwock, capital conservation and cash conservation have become the central issues facing managers today. Referring to impact of inflation on working capital, Kwock says "In general, revenue which is accumulating over a period of time, will rise by the average rate of inflation in a period. But working capital needs in a going concern will rise by accumulated rate of inflation, that is, the rate at the end of the period".

Vancil has given the following analysis for policy implications of FIFO/LIFO and a method of accounting during inflation.

<table>
<thead>
<tr>
<th>ACCOUNTING METHOD</th>
<th>INVENTORY VALUATION METHOD</th>
<th>EFFECTS DURING INFLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) GAAP</td>
<td>FIFO</td>
<td>i) Gives low CGS and so inflated profit.</td>
</tr>
<tr>
<td></td>
<td>LIFO</td>
<td>ii) Inventory is shown in Balance Sheet at Current Value</td>
</tr>
<tr>
<td>(ii) GPLA</td>
<td>FIFO</td>
<td>Same effects as in the case of GAAP.</td>
</tr>
<tr>
<td></td>
<td>LIFO</td>
<td>Same effects as in the case of GAAP.</td>
</tr>
</tbody>
</table>

83 Ibid.
ACCOUNTING INVENTORY EFFECTS DURING INFLATION

(iii) CRVA  
FIFO  
LIFO  
Becomes irrelevant because CRVA already gives current value.

(iv) SPLA  
FIFO  
LIFO  
Same as in case of CRVA.

GAAP shows funds flow which gives lower flow by unrealised holding gains. This observation is important because for knowing EPS, Profit & Loss Account is useful, while for dividend purpose, funds flow is important. It can show 'flow per share' which is an important information for knowing dividend paying ability of the company.

Vancil, while discussing management's stake with reference to inflation accounting, said that managing a business during periods of inflation required a different set of decisions as compared to monetarily stable situation. In case of large companies, top executives could try to weave the effects of inflation into their strategic resource allocations. They could even exhort their operating subordinates to adopt them as well. But decentralisation is mandatory in large organisations and many decisions are made below corporate head quarters. Lower level decision makers may keep the exhortations in mind but they should also remember that the results of their actions will be reflected in the next report on their performance.
Measurement influences managerial behaviour and changing the measurement system can be a powerful tool for a chief executive. Thus corporate management has a vital stake in the controversy over HCA. According to Vancil, "One proposal-to adopt constant dollar reporting on the basis of replacement values - seems more useful for managerial purposes than the others".  

Vancil has, with the help of one illustration, shown working under all the four approaches to accounting and tried to prove that SPLA is the best measure of net income and it is best from managerial viewpoint also.

The problem of incorporating inflation into capital budgeting decisions has been very well put by F.M. Wilkes. He states that,

"Inflation can increase the difficulty of the problem of the assessment or comparisons of investment projects in several ways. First by adding one more factor to the problem, uncertainty is increased. Second, data difficulties are added to, in that future costs and revenues have to be calculated in terms of future technical processes and ambient economic conditions. Third, conceptual difficulties are increased in respect of any effects of inflation on the validity of decision rules formerly employed".

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85 Ibid.

While discussing impact of inflation on project analysis, Wills has given the illustration of building a factory. The analyst must project each element of cash flow at the expected rate of inflation for that element. In Wills's opinion assuming average rate of inflation for all costs and revenues will be gross and unwarranted over simplification, as the composition of cash flows in each period is likely to be substantially different.

Wills has also pointed out problems that emerge even after net cash flows are forecast. According to him these problems are - (1) What discount rate should one apply to one's cash flows in order to determine the net present value? (2) Reliability of inflation forecasts. (3) Difficulty in explaining results to management. (4) What if none of the projects meet the criteria set for ROI?

He has recommended average rate of return expected by all subscribers to capital to an enterprise, employment of risk analysis and educating of management, for first three issues. For the last issue the quarter feels that a company has to decide and see that cut-off criterion is not too high.

Wills also recommends payback method for selection of a project. He says, "As long as cash flows in the later years of a project are likely to be positive, a short pay back period is conceptually and technically a simple confirmation that a project is good one. This does not mean that DCF technique is not useful. One should be aware of its limitations and complications in use".

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88 Ibid.
89 Ibid.
Flink, Birati and Unger\textsuperscript{90} conducted a study of 19 Israeli companies. One of the objectives of the study was to understand the effect of inflation on the incidence of corporate income tax. They found that in 1968, 15 out of 19 companies reported profits and changed tax in their incomes; but when measured against adjusted incomes, 9 out of 15 were suffering effective tax rates of more than 50\%. In 1971, 16 firms charged tax in their accounts, yet 4 of these were reporting 'operating' losses on adjusted basis. With monetary gains included, one of these companies was still reporting a loss. In 1974, of 18 companies charging tax, 10 showed negative 'operating' income on an adjusted basis. With monetary gains included, two companies still showed losses, and 4 others were suffering a high effective rate of tax on their adjusted profits than on their reported income.

Regarding the effect of inflation on dividend pay-out ratio, the authors have observed that in 1968, 14 out of 19 companies declared dividends; and out of those 14, 5 declared dividends in excess of their adjusted incomes. When monetary gains were included, picture improved slightly.

In 1971, 11 firms paid dividends and in 3 cases pay-out ratio was reduced. In 5 cases, dividends were declared but on adjusted basis, companies were suffering losses! In 1974, 11 firms declared dividends but 9 of them paid dividend which was higher than adjusted income.

Buckmaster and Brooks\textsuperscript{91} (1974), in their comparative study of 42 companies in four industries have brought out that GPLA and CV incomes were empirically different and that pattern of differences varied according to industry. Regarding its managerial implications,

\textsuperscript{90} Flink, Birati, Unger, \textit{Op. Cit.}

they have observed as follows. "Note that numbers occurred in a period of rising prices. Obviously, the pattern of differences between income models will differ in periods of constant or decreasing prices. In such a situation, management will alter their behaviour to meet the needs of the new economic environment. This different management behaviour makes it difficult to predict the relationship among three sets of income numbers when price levels are not increasing."  

Davidson and Weil\textsuperscript{93} (1975) have for the first time suggested a "GPLA Statement of changes in financial position" which gave meaningful insights into current liquidity. In fact, they prepared one such statement on the basis of published data of General Electric Company.

\textbf{(E) TEXT-BOOK TYPE PUBLICATIONS}

This section of literature, though less important from the viewpoint of empirical research, covers some publications in the form of text book type presentation. Books written by Wilk\textsuperscript{94} (1960),

\begin{itemize}
  \item \textsuperscript{92} \textit{Ibid}.
  \item \textsuperscript{93} Davidson and Weil, \textit{op. cit}.
  \item \textsuperscript{94} Wilk Lionel A., "Accounting For Inflation" (1960, Sweet Maxwell Ltd. London).
\end{itemize}
Gynther (1966), Kirkman (1975), Kirkman (1976), Grimsley (1976), Cox and Hawgill (1974), Largey and Livingstone (1976), Stickler & Hutchins (1974) fall in this category. In India, no such publication has been made so far.

3 LITERATURE SURVEY-II (INDIAN LITERATURE)

While commenting on the Indian scene on inflation accounting, Gupta writes, "No detailed study has been done in India. A few scattered attempts to study the effect of inflation on profits of a single firm or a couple of firms-at-a time have been reported in the


98 Grimsley Bob, "Practical Accounting For Inflation" (1976), Gower Press.


101 Stickler and Hutchins, "General Price Level Accounting - Described and Illustrated", The Canadian Institute of Chartered Accountants, 1974.
articles published in 'The Chartered Accountant' and the book "Inflation Accounting : Tools and Techniques" published by ICAI.

No systematic study has been undertaken to gauge the impact of inflation on corporate earnings and their profitability." 102

Regarding the role played by professional accounting bodies, Gupta observes, "Accounting profession in India seems to be watching the debate with all curiosity and excitement. I wonder whether the professional accounting bodies here are just playing the role of spectators or sitting on the fence watching the developments in other countries before adopting any particular method for correcting inflationary effects on our financial statements. Nevertheless, we cannot remain inactive too long. It is high time for our accounting bodies to begin providing a platform to thrash out the problem and for our corporations to experiment with suggested methods". 103

R.A. Singh discussed some aspects of price level adjustments in 1969. He took up various questions that arise with reference to price level changes in India.

With reference to various approaches to price level adjustments, Singh 104 has given the following alternatives as suggested by various groups.


103 Ibid.

(1) The National Industrial Conference Board of the USA was of the view that price level adjustments in depreciation figures alone would serve the purpose.

(2) In 1949, George may had expressed his view that price level adjustments should be applied to depreciation and cost of inventories—(George D. May, Monograph on Business Income and Price Levels, AICPA, New York, 1949).

(3) Henry Sweeney, Ralph Jones etc. were in favour of "All Inclusive Approach" which implied restatement of historical cost accounting data on general price level adjustment basis.

Singh has also discussed some problems of conceptual and practical nature which should be considered by one who wants to think of Indian situation.

Referring to shareholders' interest, Patnaik feels that the whole purpose of price level adjustments was to keep intact the number of purchasing power units subscribed by the shareholders throughout the period of changing prices. Then only the shareholders would be placed exactly in the same position with regard to purchasing power if funds were returned to them. He says, "Since shareholders are the most immediate readers of the financial statements, it will be of most general usefulness if the invested capital is maintained in terms of purchasing power by a single general price level index".

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106 Ibid.
In 1975, Institute of Cost & Works Accountants of India published two studies, one by Mr. Bahadur Murao and the other by Mr. P. Chattopadyaya. School of Accountancy and Mathematics, Calcutta also published one book by Mr. Sengupta in 1976. In addition to these books, a few articles have appeared in some journals of Commerce and Accounting.

While writing about his own book, Murao says, "This study is directed towards a reorientation of concepts, thought processes and behaviour pattern by managers, administrators, executives and operatives in all walks of life, more particularly, in the matter of accounting in the environment of rising and high price levels". The book which is divided into 3 parts and 25 chapters, contains case studies of TELCO, Hindustan Steel Ltd., HMT and DPM. He has reviewed the subject from micro as well as macro level, but in general only. Commenting on this book, Gupta writes, "I find very little in it to comment about, except that it was the first study of its kind in India. The problem has been left undefined and the approach is stated. In fact, the book is nothing but a digest of previous works and articles listed in the bibliography".

107 Murao Bahadur, "Inflation Accounting As A Tool To Fight Inflation", ICWAI, July 1975.
Chattopadhyay's publication has been described as a "Short term research project of the ICWAI". According to the author, "This study aims at surveying the strands of thought on the subject emanating from different quarters and at showing the stage by stage calculations involved in the process of conversion of historical cost into current costs".

Chattopadhyay has given four cases illustrating the process of conversion of HCA data. He has used 3 indices, viz., GNP implicit deflator, WPI and CPI for Madras Fertiliser Ltd. and Coromondal Fertiliser Ltd., with a view to demonstrating that "there occurs differences in the impacts of inflation adjustment according to these index series".

Mr. V. Kalyanraman, President of ICWAI at that time, says in the Foreward to Chattopadhyay's publication that, "one distinct feature of this study is the juxta position of different price indices that bring into sharp focus the variations implied as between them. These indices suggest, apart from other things, that there is a problem of choice inherent in inflation accounting. This choice relates to the methods and techniques to be adopted, the base year for the purpose of price level adjustments and the degree of comparison desired by management".

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112 Chattopadhyay; Op. Cit.
113 Ibid. - Preface.
114 Ibid. - Preface.
115 Ibid. - Foreward.
Referring to Chattopadhyay's book, Gupta writes, "The book presents a couple of case studies to illustrate the effects of inflation on financial statements. A detailed analysis and step by step approach in making adjustments have been demonstrated. The study also reproduces extracts from annual reports of Carborundum Universal Ltd. (1973-74) and Ashok Leyland Ltd. (1973-74) in which they have shown the effects of inflation on their financial position".  

Referring to Sengupta's book, Gupta writes, "About one fourth of the book is devoted to explain what we mean by price index and how are they constructed, and the various indices available in India and so on. Later on he goes through the alternative methods of inflation accounting in a cursory manner. Nowhere one gets a glimpse of conceptual depth or discussion".

Mrs. Sivram and R.K. Gupta have made an overview of the deficiency in conventional accounting system and compared CPP and CCA as approaches to solve the problem. They feel that, "CCA method gives a more meaningful profit figure and balance sheet figures. There is a general agreement among accountancy bodies, that the CCA method proposed by the Sandilands Committee would be a major step towards the objective of more relevant and informative reporting".


117 Gupta Ramesh, "Inflation Accounting in India - A Case Study of BHEL", Chartered Accountant.

Gupta seems to have started empirical research on inflation accounting in India. He restated the earnings of 57 companies covering 9 industries for a period of 7 years (1970-76). He followed, the then proposed, SSAP-7 and used Consumers Price Index for the purpose of restatement. An analysis of the percentage change in earnings showed that 50 companies had lower restated earnings, 7 had higher restated earnings. The average loss in PBT was 32.5%. Another important finding was that, if profits were adjusted for price level changes, the number of companies distributing dividend more than the earnings available to shareholders would have been 28. (Before price level adjustment, this number was 3). It was noticed that, during the period 1970-76, 14 companies paid dividends even though the restated earnings available for distribution were negative! Gupta says, "If our concept of maintenance of capital is that of maintaining the purchasing power of capital rather than just maintaining the nominal capital, then these companies (28 in number) have been paying dividends out of their capital". 119

Gupta concludes saying, "No broad generalisation about the impact of inflation on business profitability is possible, yet it cannot be ignored. The GPLA puts all companies on a comparable basis in unit-of-account terms and thus, helps the interested parties to evaluate the Corporate Profits and its growth in comparable units and in real terms". 120

120 Ibid.
Studying BHEL's effort towards inflation accounting, Gupta has presented the BHEL CCA as required by the provisions of "An Interim Recommendation" made by Hyde Committee. He has also evaluated the BHEL performance in terms of its profitability to its shareholders in nominal and in real terms accounting for purchasing power loss of their equity investment. He has pointed out many mistakes in calculations for adjustments as per ED-18 and mistakes of conceptual nature. For example, calculations on COSA, additional depreciation, surplus from revaluation of fixed assets, balances of reserve account and revaluation reserve. Gupta has also made one observation which is important for companies desirous of introducing inflation accounting. He says, "... once the company has begun keeping CCA accounts, it should try to link one year's accounts with those of subsequent year. From the BHEL presentation, the CCA of the two years look separate set of accounts, the later year accounts unrelated to the previous year's". 121

S.K. Mitra 122 while discussing distortion of cost data in times of inflation, refers to impact of inflation on the determination of the rate of return on capital employed. Capital employed (CE) is used by managements of industries for appraisal and by government agencies in allowing costs for fixation of selling prices of controlled commodities. CE based on historical figures would be less than what it should be if the fixed assets are taken at a current rate. After making adjustment for reducing the inflated profit on account of

121 Gupta Ramesh, op. cit.

depreciation on original cost, the ratio of adjusted profit on the revalued CE would be lower than what is normally allowed under the existing rules by government. The allowable price would thus considerably be enhanced at the existing per cent of return if adjustments on fixed assets as well as on profit are made for causes due to inflation.

Mitra has shown that returns in real values on investment over a period of time fall with the increase in the annual rate of inflation. His calculations have shown that "an investment in fixed assets which shows a rate of over a 20 year life if the inflation is 3% per annum. If the rate of inflation goes up to 6% per annum the return in real values over 20 years is only 7%. This situation will have serious consequences upon the quality of the decisions made by the management for the future financial stability of business and its long term viability and for the effects of taxation".123

Beheda has given thought to impact of inflation with reference to cost control. He says, "Man rather than analysis or reports control operations. Results should flow by responsibilities. Accounting system must promote alertness and stimulate initiative at all levels to operating personnel. Actual costs play a role in measuring performance to obtain clues for cost control actions. But past costs are not best yardstick for measuring current performance. Cost reports provide the basis for action such as praise, criticism or suggestions for change, all designed to improved future performance".124

Dutta\textsuperscript{125} has observed that inflation has significant impact on liquidity. Emphasising proper financial planning for meeting increasing demand for working capital during inflation, he makes following suggestions.

(1) Restriction or curtailment of some activities temporarily.
(2) Improvement in operating cycle. (3) Selection of appropriate sales mix. (4) Change in objective. (5) Temporary shutdown of some manufacturing plant.

Gupta\textsuperscript{126} in his unpublished work on data collected by students, has made a case study of a company manufacturing dry battery cells. The company which was financed by development institutions like GIIC has its total cost made up of 70% raw material cost, mainly zink, whose prices had then gone up drastically. The researchers collected revenue and expenditure data for the last 5 years (1973-74 to 1977-78) and computed set cash flow for each year. The collected data on costs and revenues was adjusted to specific price level changes and cash flow was recomputed. It was found that, had there been no price changes, we would have earned a rate of return of 71%. But the effect of price level changes (both specific as well as general) reduced the rate of return to - 24.16%!

Referring to IRR technique of evaluating the investment projects, Gupta says, "Basic to the traditional use of this technique


there is an assumption of stable monetary unit throughout the life of the project. ... In recent years due to general inflationary trends in the economy, the soundness of this assumption has been under serious question. Changes in prices affect the cash flow estimates, and thereby affect the rate of return.  

Gupta, in his study of Depreciation and Replacement Cost, has examined the relationship between WDV and "Straight Line Inflation Adjusted" (SLIA) methods. In SLIA, historical cost of asset is restated in each year, using the specific price index applicable to that asset and then depreciation is provided on a straight line basis. He tried to find out the point where WDV and SLIA cumulative deprecia-
tions are equal and for that purpose, he employed simulation technique using depreciation models. He has observed that "the time period at which WDV cumulative depreciation would be equal to SLIA cumulative depreciation depends upon the WDV rate, the rate of price changes in the cost of asset and the life of the asset over which cost has been depreciated."  

"With the life of machine being 10 years and a WDV rate of 20 per cent, for a price change of 6 per cent per annum the shortfall is about 50%, but if price change increases to 12%, such shortfall increased to 71% of the replacement cost. Gupta has concluded that, "the shorter the life of the machine the better is WDV as an approximation to SLIA depreciation."  

127 Ibid.  
129 Ibid.  
130 Ibid.
however, will be smaller than it would be in the absence of a corporate income tax. This is because interest, as well as depreciation, is tax deductible expense which does not increase in proportion to the inflation, and the same kind of analysis applies to interest costs as to depreciation charges. 133

4 SOME OBSERVATIONS ON LITERATURE

The subject of inflation accounting is of relatively recent origin. Literature on it has developed during last sixty years, however the real controversy and most of the empirical research have taken place during last twenty years only.

In early part of the history of development, the need for inflation accounting was questioned; but it seems that most of the arguments against inflation accounting were due to misunderstanding and only partial understanding of the nature of and expectations from inflation accounting. It should be clear that inflation accounting is not meant to eliminate the risk of variation in monetary values but for measuring and reporting the financial effects of such variations. Developing various techniques of inflation accounting is effort in this direction and since it is a matter of evolving new techniques and procedures, some experiments will have to be conducted. Imperfections regarding index etc. are bound to be there during the transition period. So far as the apprehensions about effect on accounting and accountants and taxes etc. are concerned, inflation

133 Ibid.
accounting is a challenge to the profession and to the field of accounting. "A willingness to experiment with new techniques and to test their usefulness will demonstrate that the profession is making progress in the improvement of reporting practices."  

Finally, it is wrong to believe that an income statement is a type of funds statement. Provision for depreciation is still in vogue, as though it were a matter of discretion, a setting aside of something from a disposable pool. In fact, we should refer to depreciation 'Cost' or 'expense' in order to describe more accurately the nature of calculation.

The most important thing is that not a single empirical study has shown that the HCA model provides better information during the times of changing prices. On the contrary, a number of studies like those conducted by R.C. Jones, Hendriksen, Rosenfield, Davidson & Weil, Harmelink & Kintzle; Flink, Birati and Unger and Ramash Gupta have proved that HCA model provides misleading information. Thus, the need for inflation accounting is beyond doubt; the only question is how to do it.

Yes, some behavioural studies regarding impact of price-level-adjusted information on investors' decision making and their possible effect on share prices have shown that such information is of no special use. But these results are questionable on the grounds of research method adopted and certain limitations of studies. Secondly, inflation accounting is not needed for investors only. Many other groups make

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use of published financial statements for their purposes. Further more, we need price-level-adjusted information for internal, managerial use also.

Sweeny started the process by drawing attention to the problem and by suggesting general price level adjustments. After that, efforts were made in two directions (1) Testing Sweeny's proposed by restating published annual accounts. (2) Explaining the basic concepts and procedures of adjustments with the help of illustrations, hypothetical or real life. Till Sandilands Report was published, the experiments and researches used to be on general price level adjustments or current purchasing power accounting. Earlier, the controversy was between HCA and CPP. With Sandilands' report the controversy between CPP and CCA started. This opened a new branch of literature on inflation accounting. In the UK, with SSAP-16, the controversy seems to have settled in favour of CCA.

On the basis of this survey of literature, a careful reader can make the following observations.

(1) Most of the literature revolves around these four issues:

   (i) what should be the proper unit of measurement? Historical cost Accounting (HCA) model is based on actual monetary units and it does not recognise changes in the value of money in terms of its purchasing power. In contrast to this, many expert individuals and groups advocate need to measure monetary units in terms of constant purchasing power.
(ii) **What should be the appropriate base for Valuation of assets and liabilities?** HCA model accepts historical cost at actual monetary unit as the base for valuation. Other alternative bases include net replacement value, net realisable value, value to the business or to the owner, value at constant purchasing power and price level adjusted replacement cost.

(iii) **The Concept of Capital** The term 'Capital' takes different meanings depending upon the context in which it is used e.g. Gross Capital Employed, Shareholders' Equity, Issued Share Capital. The question whether the capital should be expressed in actual monetary units or constant-value units is also raised frequently.

(iv) **Concept of Income or Profit** Like capital, the term 'profit' is also used in different contexts. For example, Gross Profit, Net Profit, Divisible Profit. The Conventional expression of profit in actual monetary units is objected to. In its place determining real profit is proposed. Often it is asked, should income be measured as the change in shareholders' equity or on some other basis?

(2) Even in such a short span, researches have taken place in a variety of aspects of the subject. The list given below confirms this observation.

Even this controversy seems to have settled in favour of partial presentation of CCA accounts as a supplement to HCA accounts. The UK and the USA provide a good example of awareness shown by accounting bodies and government agencies.

In this regard, India is not in a happy position. Quantity and quality of work done so far leave much scope for further thinking and research. Accounting bodies and government have shown no sign of awareness towards the problem. It is in this context that the present study should be viewed.