PART - I

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CHAPTER 1

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INTRODUCTION

Accounting for Changing Prices is concerned with recording and reporting of the financial effects of changing prices on a business enterprise. Since almost all countries have been facing price level changes of inflationary nature for the last many years, this field has popularly become known as "Inflation Accounting". In this thesis, now onwards, the term inflation accounting will be used to indicate both the directions of price level changes viz. upward change and downward change.

There are two broad but inter-related aspects of inflation accounting: (A) Development of appropriate techniques of recording and reporting financial effects of changing prices. (B) Development of appropriate micro level as well as macro level framework for use of these techniques in better decision-making by users of accounting/financial information. Since the present study aims at the second aspect of inflation accounting with reference to India, it is desirable that adequate conceptual background of this new and controversial field is created. This chapter has been designed with this objective.

In the beginning, an effort will be made to establish that accounting is one of the extremely important bases for information system needed for decision-making by management of a business enterprise or by any other end-user of accounting/financial information. Then the conventional model i.e. Historical Cost Accounting (HCA) model of accounting will be explained with a view to highlighting its limitations and to establishing need for price level adjustments in conventionally prepared accounting/financial statements and other information. At a later stage, various theories and techniques of inflation accounting
will be explained and their development in various countries will be reviewed on factual basis rather than on critical basis. Critical appraisal and comparative studies of various approaches to inflation accounting will be covered as a part of the process of literature survey in the next chapter and at the time of discussing the suggested model of inflation accounting in India.

2 ACCOUNTING THE MAJOR INFORMATION SYSTEM FOR DECISION MAKING

Accounting is often referred to as the "language of business". Like any other language, it has its own grammar. A person who wishes to speak, read and interpret this language has to learn the grammar of it. It is through accounting that a business enterprise communicates its financial performance and financial condition. A person who can speak and understand this language can take appropriate decisions using the information as communicated by accounting. In fact, "accounting is the process of identifying, measuring and communicating economic information to facilitate informed judgements and decisions by users of the information".\(^1\)

What is said above is particularly true in respect of management accounting and managerial decision making. Peter Drucker describes management accounting as the 'use of analysis and information as the foundation for managerial decision making'\(^2\) and includes it among the

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seven conceptual foundations to the management boom. Today management accounting is considered to be the foundation of management information system for any business enterprise. Let us examine this in some more detail.

Manager of any organisation needs to know two crucial things for his better performance; (a) an overall perspective of the goal and objectives of the organisation and (b) the goal and objectives of his own department. It is on these bases that he prepares the plan for attaining departmental goal and objectives, executes the plan, evaluates his own as well as departmental performance and takes necessary action. All this essentially is a set of situations calling for effective and efficient decision making on the part of the manager. In other words, this is the process of management, particularly the process of planning and controlling. Accounting helps management in planning and control by way of (a) providing necessary information and technical base in the form of objectives, resource availability and past experience which can be used in preparing plans and budgets; (b) facilitating control through keeping records of actual actions, their appropriate classification, communicating them to the manager in the form of performance reports and helping him in evaluation and necessary follow-up in the form of reward or punishment and other remedial action. The figure given below helps us in understanding the accounting framework for planning and control.
ACCOUNTING FRAMEWORK FOR PLANNING AND CONTROL

LINE MANAGEMENT

INTERNAL ACCOUNTING SYSTEM

PLANNING

BUDGETS

Source Documents e.g. Invoices

General and Subsidiary Ledgers

Preference Reports

Records of action

Classification of action

Report of action

Corrections and revisions of plans

EVALUATION

H.A. Simon and his associates\(^4\) made an effort to classify the information supplied by accounting. They studied seven large companies with geographically dispersed operations and found that three types of information, each serving a different purpose, often at various management levels, raise and help to answer three basic questions:

1. **Scorecard questions**: Am I doing well or badly?
2. **Problem-solving questions**: Of the several ways of doing the job, which is the best?
3. **Attention-directing questions**: What problems should I look into?

This brings out that accounting has to perform three distinctive roles in any organisation viz. (a) scorekeeping, (b) attention directing and (c) problem solving. Scorekeeping function of accounting is essentially the work of collection, classification and reporting of data. It helps internal and external end-users of data in evaluating organisational performance and position. The attention-directing role of accounting is mainly concerned with helping managers in identifying problem-areas. This is mainly associated with tactical and operational planning and control. The problem-solving role of accounting becomes very important in special, non-recurring situations, e.g. whether to replace a machine, to make or buy, to drop a product line or not, to process a product further or not. This aspect involves detailed analysis of the situation, identification of alternatives and their interpretation for managerial use.

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All the three roles mentioned above are performed by accounting, not in the distinctive manner as explained here. Depending upon the situation, some overlapping might also occur, e.g., scorekeeping and attention-directing roles are closely interrelated. A record or a report prepared by a Salesman may be a scorekeeping activity for him but the same document will serve as an attention directing report for the sales manager. Secondly, both these roles are important for day-to-day planning and control while problem-solving role of accounting has long term implications and thus it is more useful in long range planning and in developing organisational strategies.

What is discussed here should not lead us to conclude that accounting is the only information system in an organisation. In fact, a business information system consists of all the activities, forms and procedures that regulate the systematic flow of information within an organisation; and accounting is only a sub-system of the overall business information system. Charles Woefel shows accounting as an information system with the help of following figure.

**FIGURE 1.2**

ACCOUNTING AS AN INFORMATION SYSTEM

<table>
<thead>
<tr>
<th>ENVIRONMENT: Economic, Social, Political etc.</th>
<th>INPUTS: (Data Collected)</th>
<th>PROCESSING: (Data Manipulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USERS: Direct</td>
<td></td>
<td>OUTPUTS: (Processed Data Communicated)</td>
</tr>
<tr>
<td>USERS: Indirect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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As shown in the diagram, raw data are collected from environment. It is processed as per the reporting requirements and the outputs are communicated to the executives concerned as well as to other users of reports. Some of the environmental data are also directly used by executives in their decision-making. Designing of such a system implies identification of information needed to meet an objective and identification of appropriate sources of data.

What we have seen so far in this section only gives us a view of accounting as an information system for managerial use. But this is not all. The Independent Committee of Inquiry In Inflation Accounting in the U.K. (also known as Sandilands Committee) identified nine main groups of users of accounts: (i) Shareholders, (ii) Investment Analysts, (iii) The City Stock Exchanges, (iv) Creditors and Lenders, (v) Other Companies, (vi) Employees, (vii) Management, (viii) The Government and Official Bodies, and (ix) The General Public. Wosel divides users of accounting information into two groups viz. Managerial Users and Non-managerial Users. The later group consists of government officials, actual and potential lenders of money, customers, suppliers, employees and owners. They employ accounting reports to draw conclusions and make decisions about their future relationships with the company. For example, suppliers may use these reports in deciding whether to supply goods or services on credit to the Company, owners (shareholders) may like to use accounting report in deciding whether to increase investment in that Company's shares or to decrease the investment. Governmental agencies, as users of accounting information, are becoming increasingly

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important. In addition to taxing and regulating business activity, government agencies serve as information collectors. The information is used in macro-level economic policy formulation and review. It is also an important base for economic statistics and indices published by the government.

Thus accounting is a major information system in a business organisation and it is used by management for better decision-making in planning and control and by other end-users for their own better performance and decision-making.

3 HISTORICAL COST ACCOUNTING MODEL

Historical Cost Accounting (HCA) model of maintaining and presenting accounting records and information is the conventional accounting model which is based on Generally Accepted Accounting Principles (GAAP). Under this model, accountant records all the transactions at the face value of revenues or costs actually received or paid at the time of a transaction. While preparing financial statements, these revenues and costs are summarised and classified with a view to measuring the profit/loss and to know the financial position (assets and liabilities) of the business. Thus raw material purchases which might have taken place at different points of time during the year are recorded at the nominal value of rupees paid or agreed to be paid at the time of the transaction. Expenses like wages etc. and revenues like sales etc. are also shown at the
nominal value of rupees paid or received or agreed to be paid or to be received. Assets are recorded at the acquisition cost and at the nominal value; and depreciation is also determined on the basis of cost shown in the accounting records.

Assume that a company purchased machinery as follows:

<table>
<thead>
<tr>
<th>Year of Acquisition</th>
<th>Cost of Machinery Purchased</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952</td>
<td>Rs. 5,00,000</td>
</tr>
<tr>
<td>1960</td>
<td>7,20,000</td>
</tr>
<tr>
<td>1972</td>
<td>4,00,000</td>
</tr>
<tr>
<td>1979</td>
<td>9,00,000</td>
</tr>
</tbody>
</table>

Under conventional historical cost accounting system, the accountant will show machinery at the end of the year at the gross value as follows:

<table>
<thead>
<tr>
<th>Date of Showing</th>
<th>Gross Value Shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>At the end of</td>
<td></td>
</tr>
<tr>
<td>1952</td>
<td>Rs. 5,00,000</td>
</tr>
<tr>
<td>1960</td>
<td>12,20,000</td>
</tr>
<tr>
<td>1972</td>
<td>16,20,000</td>
</tr>
<tr>
<td>1979</td>
<td>25,20,000</td>
</tr>
</tbody>
</table>

Depreciation expense of each year will also be determined on the basis of the gross value of machinery as shown above. Items like share capital, borrowings and other liabilities will also be shown using the same accounting convention.

Thus under HCA model, nominal value of currency is used for the purpose of measurement of revenues, expenses and profits; and for expressing valuation of assets and liabilities.
LIMITATIONS OF HCA MODEL

As we will examine in some more detail in literature survey in the next chapter, we have enough research evidence to show that, "In the face of widely fluctuating prices, financial statements based on historical dollar values lose much of their significance." The case for inflation accounting is largely based on certain limitations of HCA model, particularly its failure in reporting true information for decision making by internal as well as external users of information.

Most of the limitations of HCA model arise from its fundamental assumption of stability of the monetary unit; while the reality is that the price level changes, mostly of inflationary nature, is the common feature of all economies of the world. Accountant recording transactions at the nominal value of rupees is adding up apples and oranges and then matches the two, because each transaction considered for accounting purpose represents monetary units of varying constant values e.g. Machinery acquired at different points of time in a company's life, when totalled up at acquisition cost is a misrepresentation because at the time of each acquisition, money paid to vendor represented varying constant values. Moreover depreciation calculated on acquisition cost is also not the true depreciation expense. The situation's like, "trying to measure the width of a room with a ruler that is getting constantly smaller."

The above mentioned limitation of HCA model results into effects which can be classified into three groups; (a) effects on reporting of profits, (b) effects on reporting of financial position and (c) effects on managerial effectiveness.

(A) EFFECTS ON PROFIT REPORTING

Profit & Loss Account is an attempt to match revenues of a specific accounting period with expenses incurred during the same accounting period, thereby reporting profit or loss of the said period. In the times of price level changes, this reporting misguides the user of profit & loss account in the following ways:

(i) Revenues and costs as shown in the profit & loss account do not represent monetary units at their constant values. Profit or loss reported through such an exercise is certainly unreliable.

(ii) Depreciation expense as shown in profit & loss account is an understatement in the times of inflation, because it is based on acquisition cost which was lower than the current cost of the asset. This shows inflated profit and inadequate provision for replacement purpose.

(iii) In the times of inflation, gains arising from holding inventory get lumped with operating gains. This also produces misleading information. Let us try to understand this with the help of an illustration.

Gujarat Office Equipments Corporation is dealing in purchase and sale of office equipments. At the end of 1979, it had an inventory of 20 typewriters which were purchased during 1979 for Rs.20,000. At the end of the year purchase price of typewriters was Rs.22,000. These typewriters were sold during 1980 for a selling price of Rs.25,000. According to HCA model, inventory of Rs.20,000 will be shown at the end of 1979 and a gross profit of Rs.5,000 (Rs.25,000 - Rs.20,000) will be shown for the year 1980. Considering the price rise, this profit is a
misstatement because the reported profit of Rs.5,000 includes a gain of Rs.2,000 which has arisen purely due to holding of inventory. True operating profit in 1980 should be Rs.3,000 (Rs.25,000 - Rs.22,000). Conventional accounting system fails to report holding gain and operating gain separately.

(B) EFFECTS ON REPORTING OF FINANCIAL POSITION

Balance Sheet of a business enterprise gives to the user information about fixed assets and net current assets that the enterprise owns on the date of balance sheet. It also provides information on what the enterprise owes to shareholders and others in the form of shareholders' equity and long term liabilities as on that date. Thus a balance sheet is a report on financial position of an organisation at a given point of time. Following are the effects of HCA based information, as presented in a balance sheet.

(i) Gains and losses on monetary assets and liabilities arising due to fluctuations in value of money are not reported in balance sheet and to that extent, a balance sheet fails to report true value of monetary assets and liabilities.

Monetary items are those assets and liabilities which have fixed monetary values, regardless of changes in prices e.g. cash on hand, balance with bank, accounts receivable, accounts payable, uncollected dividends borrowings. These assets and liabilities have fixed monetary values and a person holding such an asset can claim the fixed monetary value only. Similarly a person having such liabilities is liable to pay the fixed monetary value only. These types of claims have nothing to do
with price level changes. But is it a true presentation of assets and liabilities? No. During a period of inflation, purchasing power of money declines and a given quantity of money buys less and less over time. This implies that during inflation, a borrower parts with less purchasing power at the time of repayment of debt, as compared to the purchasing power he acquired at the time of borrowing. Similarly an enterprise holding monetary assets is at a loss of purchasing power during inflation. It is possible to know net monetary items and measure loss or gain of purchasing power. Conventional accounting models fail to report monetary assets and liabilities after taking into consideration such losses and gains.

(ii) Physical assets like plant & machinery and furniture & equipments are shown at outdated values. This happens in two ways. (A) Assets are recorded at the acquisition cost at nominal value of money at the time of acquisition. Thus the gross value of fixed assets as shown in balance sheet and used for depreciation expense determination is not the true value. (B) Since depreciation expense is based on unreliable value of gross assets, the net value of fixed assets as shown in balance sheet also is a misstatement! In the period of inflation, physical assets as shown by conventional balance sheet are much lower than their true value.

(iii) HCA model reports unrealistic and misleading picture of owners' equity. Share Capital under traditional accounting system represents sum total of capital subscribed by shareholders at different points of time and representing different degrees of purchasing power. Similarly reserves and other forms of accumulated profits also are a mixture of monetary units of different values. During period of inflation, the true value of owners equity declines every year and the amount shown in balance sheet is much higher than the true value.
(C) EFFECTS ON MANAGERIAL EFFECTIVENESS

Managerial effectiveness is much influenced by the reliability of information available for decision making. HCA based accounting information has many deficiencies from the viewpoint of utility for management and it adversely affects managerial effectiveness in the following ways.

(i) **Working Capital Management**: Due to declining purchasing power during inflation, more and more working capital at nominal value is needed for SUSTAINING EXISTING LEVEL of business operations, e.g. for buying same quantity of raw material and for manufacturing same quantity of finished goods, more working capital becomes necessary. Since entire field of working capital management is based on nominal value based accounting/financial information, forecasting of working capital requirement becomes a misleading exercise and, as a result, accounts payable increase and/or expensive, short term borrowing becomes necessary.

(ii) **Costing for Profit Planning**: Under HCA model, costs of material, labour and overheads are recorded at the actual nominal price paid for them at the time of transaction. This information is used for managerial decisions related to pricing, sales budgeting, and profit planning. This total exercise is based on misleading information; because during inflation, management decisions are based on costs which are lower than the real costs at the time the decision is taken. This leads to fixation of prices which are lower than what they should have been for achieving given sales target or profit goal.
(iii) **Fixed Assets Management**: During the times of rising prices, a company's replacement needs increase due to decline in purchasing power of money. HCA based accounting information leads to inadequate provision for replacement purpose because the provision is based on historical cost which is lower than replacement cost.

(iv) **Tax Planning**: Since conventionally reported profits are higher than the true profits during inflation, company has to pay tax at a higher effective rate than the nominal rate. e.g. suppose rate of tax is 60%. A company has reported a profit of Rs.10,00,000 before tax. Company will make a provision of Rs.6,00,000 for income tax purpose. Suppose the inflation-adjusted profit before tax is Rs.8,00,000. Thus on a constant money value profit of Rs.8,00,000; Company has provided Rs.6,00,000 for tax purpose which gives the effective tax rate of 75%.

(v) **Dividend Policy**: HCA based information gives false impression about a company's dividend paying ability. During inflationary periods, effective dividend pay-out ratio is lower than apparent dividend pay-out ratio.

(vi) **Capital Erosion**: It is the responsibility of management to maintain the capital of shareholders intact. This is a very difficult task during inflation because the conventional accounting system does not report any fall in the true value of shareholders' capital. Many research studies have also shown that companies who paid dividends to their shareholders on the basis of conventionally reported profits did so from capital only, because, considering the effects of inflation,
those companies had incurred losses and dividend was paid out of capital.

It is strange that the management remains totally in dark about such
capital evasions and takes decisions it would not take, had it been
knowing the true profits and true rate of return on capital.

Today we talk about return on investment (ROI) and about
setting of challenging profit goals. But we do not know that the
conventional data we use for generating information for managerial
decision making is unrealistic and misleading; be it a cost sheet, a
budget, a performance report or a set of financial statements. Meaning-
ful goal-setting and ROI are needed for judicious performance measure-
ment. And this calls for price-level-adjusted information for users
of accounting/financial information.

5 PRICE LEVEL CHANGES - THEIR EFFECTS ON BUSINESS

What we have seen in the previous section are the effects
emerging from the 'Stable Currency Value' assumption upon which the
conventional accounting system is based. This is only a part of the
total picture, for price level changes have multifold and far reaching
effects on business. An overview of these effects is desirable because
they influence the thinking of a researcher who is concerned with
macro level use of external financial reporting by companies and other
organisations.

Since inflation results in reduced purchasing power, every
human being as well as organisations is affected by it. Consumer finds
it difficult to maintain his standard of living and needs more and more
monetary units for that purpose. Employees' demand for increased wages,
salaries and other allowances is also based on this effect of inflation.
Investors who keep their savings in the form of fixed deposits, loans and securities realise that they are the losers when the rate of return on their savings is lower than the rate of inflation. Government is also adversely hit by inflation and needs more and more monetary units for fulfilling its commitments in the form of public programmes and projects. This makes macro level planning a difficult exercise.

Like an individual, a business enterprise also is an investor as well as a consumer. Its capital is employed in various business operations and in some external investments. It is also a consumer of industrial raw material, physical assets and various finished/semi-finished goods. And so it is affected by inflation in multifarious ways. Let us try to understand these effects in some more detail.

In the opinion of Institute of Cost & Works Accountants, UK, "Changes in money values affect the results, in terms of money, of both the financial and the manufacturing and trading operations of a business. They affect the results of:

(a) the financial operations of:
   (i) financing the business;
   (ii) employing the finances raised;

(b) the revenue or cost accounting operations of:
   (i) consuming revenue goods;
   (ii) employing labour;
   (iii) hiring outside services;
   (iv) consuming capital goods;
   (v) absorbing overheads;
   (vi) creating stocks of revenue goods;
A business enterprise receives finances from persons who invest money in or lend money to a business for long or for short periods on any terms of security or repayment. This group includes shareholders, debentureholders and money lending institutions. Suppliers of raw and other materials and capital goods and suppliers of services are also, in a way, financing business operations by way of allowing credit to the enterprise and thus postponing their claim for money. "By lending money at a given rate of interest in conditions of rising prices, the longer the period for which the money is lent, the greater is the loss, in terms of real capital, to the investor." Similarly, "by allowing progressively longer periods of credit in conditions of rising prices, a supplier, in terms of real capital, suffers a progressively greater loss."

As we know, finances provided to a business are employed in (a) acquiring tangible stocks of raw and other material and capital goods; and in acquiring intangible rights such as goodwill, patents, trademarks etc.; (b) disposing money by way of investment in shares, loans and other securities, prepayment of future expenditure and retention in the form of cash or bank balance and (c) granting credit by way of supplying goods and/or services to customers and establishing claims to contingent rights, such as interest or dividends receivable, insurance claims etc. During rising prices, the amount shown as invested on the purchase of capital

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11 Ibid, p.20.
goods is higher than its real value. Similarly, the real value of revenue goods (raw and other material) is less than the amount invested in them, during inflation. These two observations are not strictly true where a period of rising prices is followed by a period of falling price levels or vice-versa because in times of falling prices, it is possible for the amount invested to be higher than the amount invested in an identical item at the beginning of the preceding period of rising prices. Further, in times of rising price levels, the finance applied to the purchase of goodwill or patents tends to increase as a result of which, the amounts, at any point of time, of the finance locked up in the goodwill of a number of businesses calculated at previous different points in time, are not comparable.

So far as disposal of money in the form of investment, and prepayments are concerned, the same effects as well noted in connection with tangible goods are produced and as a result, the amount of money invested or prepaid at any time does not represent their real value in the time of changing price levels. Value of money retained in business in the form of cash or deposit with bank also varies in terms of its real value.

So far as revenue operations of business are concerned, "in conditions of changing price levels, the value of revenue goods shown as consumed is affected by (a) the change in price level; (b) the length of interval between the dates of purchase and consumption of goods and (c) the basis upon which the price at which the goods are valued is calculated". 12 As regards employment of labour, in general, in periods...

12 Ibid., p.29
of rising price levels, the current money rate of labour is less than the current 'earnable' rate. But the price paid for outside services is sensitive to increases in price levels, except in case of service contracts, and so the price current at any time for a particular service may be taken as a true index of price changes.

As noted earlier, the immediate effect of changing price levels on the value of capital goods is to increase progressively the money cost of an investment in a constant quantity of capital goods. This effect is transmitted to the value of capital goods consumed by means of the depreciation rate used to evaluate this consumption and it depends upon the change in price level, the length of interval between purchase and consumption, the basis upon which consumption is calculated and the volume of output produced.

In conditions of changing price levels, "the value of overhead recovered is affected:

(a) directly, by:

(i) changes in the price levels of:

a. the constituents of the overheads incurred
b. the base (if a value) of overhead recovery

(ii) the accuracy with which estimates are made of:

a. real values of overheads; and the base
b. changing in price levels of overheads; and the base
c. money value of overheads; and the base;

(iii) the length of the period of recovery;
(b) indirectly, where the value of revenue goods consumed and/or labour employed are used as a base by:

(i) changes in the price levels of the value of the base;
(ii) the method used to calculate the value of the base;
(iii) the length of the interval between the purchase and use of the goods whose value is used as a base.\(^{13}\)

It is clear that revenue and capital goods, labour and outside services combine to produce for re-sale other revenue goods. The finished product represents the combination of certain physical units of material and the hours for which labour, capital goods and outside services are employed in its production. The only common measure of units and hours is their evaluation in terms of money which, as we have seen before, is deficient as a standard of value. Thus cost of goods manufactured does not remain to be a reliable figure.

Lastly, assuming that it is possible to assign an accurate current money value to the goods sold, a comparison of the selling prices obtained for the goods over a period does not reflect accurately the real changes in the money value of the goods.

It can be concluded from what is discussed that, "in terms of profit or loss expressed in the form of current money values, the net result of these various manufacturing and trading operations fails to indicate the results of these operations in terms of a stable standard of money values, to the extent that the evaluation of these operations is influenced not only by changes in the value of money itself, but also by the conditions in which these operations are undertaken and by the methods by which their evaluation is carried out".\(^{14}\)

\(^{13}\) Ibid., p.35.
\(^{14}\) Ibid., p.37.
ACCOUNTING FOR CHANGING PRICES - A POSSIBLE ANSWER TO LIMITATIONS OF HCA MODEL

The field of accounting for changing prices has developed out of the efforts to find an answer to the limitations of HCA model. This implies that we, in our efforts, are not concerned with the causes of price level changes and control over them. We are interested in measurement of the effects of these changes and their incorporation in the accounting system and in reports used by internal and external users of accounting and financial information. This entire field calls for development of appropriate techniques of measurement of the financial effects of price level changes and development of micro as well as macro level framework of structures and systems for measurement, incorporation and reporting of the said effects.

Sometimes the basic issue is raised, is HCA model really outdated? Do we really need accounting for changing prices? Robert Anthony\(^\text{15}\) says that the present controversy on historical costs is largely due to disagreement on what actually constitutes economic reality, because the unanimous objective of financial statements is to report the economic events and the economic status of an enterprise as realistically as possible. He argues that in modern world the tendency is to price the products on the basis of historical costs and so historical costs are not outdated. Green and Stickney\(^\text{16}\) have observed that the problem is far more pervasive. Furthermore a change in general price level is only one variable to be considered by a firm in making decisions and evaluating


\(^{16}\) Green David and Stickney Clyde; "No Price Level Adjusted Statements Please", The CPA Journal, January 1974, p.25.
performance. Finally, substantial uncertainty regarding the accuracy and reliability of price indices seems warranted.

But the alarming degree of inflation has called for a number of researches on measurement of the financial effects of inflation and many studies have shown that in times of rapidly rising prices, reported profits tend to be to the nature of the business of the company, the degree of inflation in the inputs used by the company and the prices of its outputs. Research studies made by Jones R.C., Davidson & Weil and Ramesh Gupta have proved this amply.

Thus, though the controversy exists over relevance of HCA based accounting reports, we have enough research evidence to show that there is need for some adjustments in the conventionally prepared accounting records. Upto what extent we should accept HCA based accounting information, what adjustments should be made, how these adjustments should be made, what will be the framework for reporting under such adjustments are the issues that remain to be settled. Answers to these issues depend upon our purpose in using accounting report; and since we have varied expectations from traditional accounting system, various approaches to price level adjustments have been developed under the broad banner of "Inflation Accounting". In the next section, we shall examine these approaches as possible "answers" to limitations of HCA model.

19 Ramesh Gupta, "Accounting for Inflation - An Empirical Study", Chartered Accountant
 Though economists were discussing financial effects of inflation much before accountants began, the field of accounting for changes in price levels has nearly sixty-year old history. During 1920s this field of study came into existence along with the effects of the First World War. This period and the Great Depression were followed by inflation. Around 1925 Henry Sweeny published a few articles on this subject. Later the first complete book on this subject was written by Sweeny. During this period, researchers were experimenting with the concept of general price level adjustments. Under these adjustments, the measurement unit is restated in terms of adjusted purchasing power. During 1950s thinking on it as a practical proposition started but since the inflation rate was not too high, not much interest was evoked. Some of the important studies and publications were made by Institute of Cost & Works Accountants, U.K.  

Perry Mason  

and R.C. Jones.  

Real interest in the field of inflation accounting started developing after 1960 when the rate of inflation started going up. This was the time when industries in war-affected countries were facing...
problems of plant replacement, drain on working capital resources and rising levels of corporate taxation. Since then this field is studied from various aspects by researchers in economics, accounting, and management. The decade of 1970s was marked by rapidly increasing price levels. This was the period when new dimensions of the problem came into focus and even governments and professional bodies of accountants and managements of companies started taking interest. In countries like the U.K., the U.S.A., Canada, and Australia, accounting bodies sponsored researches and issued their formal opinions and statements on accounting practices. In the U.K., government appointed committees to study the problem and to bring out a workable solution to the problem. In the U.S.A., Stock Exchange came forward with a view to helping meaningful reporting in financial statements. In Brazil, government introduced a new system of adjustments in certain transactions made by individuals, business enterprises and government. Even private firms of share brokers sponsored seminars on this topic.

Today, the field of inflation accounting has made sufficient progress and a number of alternative techniques have been developed and proposed. Though the discussion has not reached its final stage, we are in a position to take an overview of various techniques related to inflation accounting.

What is inflation accounting? "It is a set of those accounting systems which make some allowance for the effects of changing prices on the historical cost of business assets." The accounting techniques can

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be divided into two broad categories: (a) techniques of restatement of HCA based financial statements; (b) techniques made up of partial adjustment in accounting statement, designed for the specific purpose of segregating and tackling the effects of inflation on a particular segment of business activities. Let us try to understand each technique in adequate details, so as to create adequate background for literature survey in the next chapter.

(A) RESTATEMENT TECHNIQUES OF INFLATION ACCOUNTING

As we already know, generally accepted accounting principles recognise HCA model of accounting. Under this model, acquisition cost is used for the purpose of asset and liability valuation. Secondly, profit is reported each period in nominal currency units. Since this model is based on false assumption of stable value of money, there arises need to restate conventional financial statements.

Three approaches have been suggested for restatement.

1. General Price Level Accounting (GPLA) or Current Purchasing Power (CPP) Accounting.
2. Current Replacement - Value Accounting (CRVA) or Current Cost Accounting (CCA).
3. Specific Price Level Accounting (SPLA).

(1) General Price Level Accounting (GPLA or CPP)

This method continues to use acquisition cost as the base for valuation of assets and liabilities. The monetary unit is stated in terms of constant currency value at a specific date. This date could either be some past date or the current date e.g. Financial Statements for the year ending on December 31, 1979 can be restated in terms of
constant rupee value on December 31, 1971 or on December 31, 1979.
The former demands 'rolling backward' of nominal monetary units to
their real values on December 31, 1971; while the other alternative
is the exercise of 'rolling forward' of nominal monetary units.

The process of such restatement is described below.

1. Identify monetary items as shown in financial statements. Since
these items are already expressed in their fixed values, no price-
level adjustment will be necessary.

2. Decide whether the non-monetary items will be rolled forward or
backward.

3. Restate each non-monetary item using a price index expressing
changes in general purchasing power. This step can be further sub-
divided into following steps.

   (a) Selection of the appropriate price index.

   (b) Finding out of the dates of origin of each non-monetary items
       and its components e.g. Machinery which is appearing at a
       historical cost of Rs.10,00,000 on December 31, 1979 must
       be a total of machinery purchased at different dates in
       past. These dates of purchase should be found out. This
       exercise is required in the first year of restatement only.
       Thereafter only the annual analysis for the current year is
       needed for updating the data.

   (c) Constructing of the general purchasing power factors for
       all the periods which are involved in above analysis.
(c) Restate each non-monetary item into monetary units of current (or past) general purchasing power by applying the appropriate factor to the date of origin of the item.

4. Computing of gain or loss on monetary items.

A simplified illustration covering all essential aspects of general price level adjustment accounting is given in Appendix I at the end of the thesis.

(2) **Current Replacement Value Accounting (CRVA)**

This technique of inflation accounting is also known as Current Cost Accounting (CCA) or Replacement Cost Accounting (RCA). It deals with movements in the **specific** prices of individual items. CRVA, RCA, or CCA; with slight modifications in approaches, make an effort for such an accounting.

Basically, this method follows replacement cost as the base for valuation. Income is determined on the basis of replacement cost; so current costs which are determined by replacement cost of the resources used, are matched with current revenues. Further, two components of income, viz. operating income and holding gains, are separately disclosed. Under RCA, profit on selling and goods is the difference between the selling price and the current cost of replacement. Difference between current cost and original (historical) cost is aggregated from difference between selling price and selling cost. Farmer which is holding gain is a reserve against inflation. Later is operating profit which is the surplus left after keeping the original capital intact.
Since RCA involves accounting of all non-monetary assets at current value, definite criteria are needed for selection of appropriate current value. Some of the criteria are (i) present value of expected future earnings from an asset, (ii) opportunity cost (Value an asset would have in its best alternative use) and deprival value (loss the company would suffer if it were deprived of the asset) or value to the business. An illustration of replacement cost accounting is shown in Appendix II at the end of the thesis. As it will be seen, this method does not report entirely in units of standardized purchasing power but rather in the actual currency values existing in the goods and capital markets during the period under review.

(3) Specific Price Level Adjustment (SPLA) Accounting

As we have noted earlier, general price level adjustment accounting converts all historical currency balances into units of standardized purchasing power. Thus this method resolves measurement problem of conventional accounting. Replacement Cost Accounting does not report entirely in units of standardized purchasing power but rather in actual currency values existing during the period under review. This method resolves valuation problem.

Specific Price Level Adjustment (SPLA) Accounting is the integration of both the methods discussed earlier. Advocates of this method suggest that a sound financial reporting should reflect both a constant unit of measurement and valuations based on current conditions in the goods and capital markets. And so, SPLA incorporates both specific replacement values on physical assets and adjustments for charges in the general price level. It involves a change in the unit of measurement as well as a change in the method of valuation.
SPLA Accounting Procedure

1. We should first of all know how the price level has changed during the year. This implies that we must select an appropriate general price level index and collect data on price level changes.

2. To compute fictional realisable gains (holding gains). This step allows us to measure the extent to which asset and liability values SHOULD HAVE CHANGED to keep pace with the change in general purchasing power.

3. Compute fictional realised gains during the year. These gains include not only those which became realisable during the current period but also the realisation of any prior period realisable gains. For this purpose, we start with historical cost realised gains or losses should have changed just to keep up with the change in general purchasing power.

4. Calculate real gains. Using the fictional realisable and realised gains calculated during last two steps and the data on money realisable and realised gains available in the replacement cost financial statements, REAL realisable and REAL realised gains are computed during this step. Following relationship among these various 'types' of gains is used for these computations.

   Real Gains = Money Gains - Fictional Gains.

5. Compute the change in real unrealised gains and closing currency value. Following formula is used for these calculations.

   Change in Unrealised Gains = Realisable Gains - Realised Gains.
6. Preparation of the statement of real income reflecting real gains. For this, we have to begin with replacement cost income statement which is supposed to reflect average current costs. The proposed statement of real income will be a restatement of replacement cost statement with a view to expressing it in end-of-period currency value.

7. Preparation of replacement cost balance sheet as adjusted for several price level changes. This will be the period-ending balance sheet, adjusted for changes in the general price level after adjusting the equity section in the beginning balance sheet. This should reflect the cumulative impact of price changes since inception.

Appendix III, given at the end of the thesis, contains an illustration of integrated general price level adjusted replacement cost statements (i.e. Specific Price Level Adjusted Statements).

(B) PARTIAL ADJUSTMENT TECHNIQUES

These are the techniques in the form of certain accounting/financial provisions and/or policies which are formulated with a view to taking care of the effect of price level changes. The question of restating conventional financial statements does not arise and so such provisions or policies accept historical cost accounting for all purposes.

(1) Special Reserve : Many accountants and researchers advocate this technique under which a special reserve for the purpose of recording inflation losses and gains is created. During a particular period, when there is a loss of purchasing power to the company, the
conventionally reported profit equivalent to such loss is allowed to be set aside under the name of Inflation Reserve. In periods of depression, this Reserve is shown to be reduced. As a result, less profits become available for distribution and more funds are retained for the purpose of future replacements. Companies like British-American Tobacco Company Ltd. and Unilever Ltd. create such reserve and call them "Replacement Reserve."

(2) **Current Value Depreciation**: This is a technique wherein companies provide for depreciation on the basis of the replacement value or current value of the fixed asset. During inflation, when conventional depreciation expense is likely to be an understatement, current value depreciation helps recording of the reliable depreciation figure as well as the reported profits.

Many people also advocate the rate of depreciation which will keep on moving with the price level. e.g. In times of inflation, depreciation provision will be allowed at an accelerated rate with increasing prices. Companies like Guest-Keen & Nettlefolds, Pilkington Bros. are some of the illustrations.

(3) **LIFO Method of Inventory Valuation**: Many American writers are some of the strong advocates of this proposal. Since LIFO values ending inventories according to the price of units purchased at the beginning of the year and material purchased last is presumed to have been used for production, it gives higher cost of goods sold and reduced profits during inflation.


26 Ibid., p.141.
(4) **Showing Fixed Assets at Revalued Price**: This technique is a part of the technique of current value depreciation. Assets appear in the balance sheet at their revalued price. In Japan, this is compulsory and companies are required to use prescribed revaluation technique and analysis of assets.

(5) **Inflation Adjustment In Working Capital**: Under this technique, additional working capital needs are estimated using appropriate index. This helps in proper estimation of working capital requirements. In New Zealand such adjustments are allowed.

8 **INFLATION ACCOUNTING IN DIFFERENT COUNTRIES** (*

A careful study of inflation accounting in various countries reveals that the degree of awareness towards the problem and the growth and direction of discussions are highly influenced by the rate of inflation in a particular country, pressures from professional accountants' bodies and governments' attitude towards it. In countries like Brazil, the government came forward with a full programme to reduce and correct the effects of inflation and took a very broad view of the whole problem. In countries like the U.K. and the U.S.A., professional bodies of accountants took initiative and they were followed by governments and/or stock exchanges of respective countries. On the other hand, there are countries who have closely followed developments in countries like the U.K. and countries where practically no developments have taken place.

Another observation is that accountants agree that some type of adjustment is necessary but they are not in agreement as to how the adjustment should be made. This difference of opinion is reflected in

(*) This section makes only a factual review of development of inflation accounting thought and practices. Opinions and researches related to them are discussed as a part of literature survey in the next chapter.
development of inflation accounting in various countries. As observed by Fray, countries like France and The Netherlands have been emphasizing use of specific price level adjustments, while some South American countries have made use of general price level adjustments. Combination of the adjustments of general and specific price level changes is usually not favoured by any country.

Let us examine the development and present status of inflation accounting in different countries of the world.

**The U.K.**

In 1952, Institute of Cost & Works Accountants of the U.K. published "The Accountancy of Changing Price Levels". The objective of the work was "to set out principles and techniques which would enable a business to assess the profit which should be retained to finance replacement of its assets, to show whether real capital had been maintained, and to indicate the general financial position of the business in terms of current values". Barring a few studies, not much development took place till the beginning of 70s. In 1973, Institute of Chartered Accountants of England & Wales published "Accounting For Inflation - A Working Guide To The Accounting Procedures". Accounting Standards Steering Committee (ASSC) also brought out its Exposure Draft-8 (ED-8) entitled, "Accounting For Changes In Purchasing Power of Money" and invited comments from various interested groups and individuals, and

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28 The Institute of Cost & Works of India, UK; op.cit., p.7.
members of general public. Finally in May, 1974 it was announced as the Statement of Standard Accounting Practice (SSAP) No.7. It advocated Current Purchasing Power (CPP) and suggested that CPP information should be given as supplementary to HCA Statements. But before this, when the discussion period of ED-8 was going on, the Government of U.K. announced in January, 1974 the appointment of "Independent Committee on Inquiry In Inflation Accounting" under the Chairmanship of Mr. Francis Sandilands. This Committee, in its report which was submitted in September, 1977; recommended Current Cost Accounting (CCA) method and opposed CPP method. Though this was also against the SSAP-7, the government accepted Sandilands Report in principle and set up Inflation Accounting Steering Group under the Chairmanship of Mr. Doughlass Morpeth. At this time, the Consultative Committee of Accounting Bodies (CCAB), a representative body of six U.K. accounting bodies, had also issued its "initial reaction" to Sandilands Report. Morpeth Group, which was requested to prepare a draft proposed for implementing Sandilands recommendations, submitted its report in September, 1976. Later on in November, 1976; it was published as ED-16. On November 30, 1976 when ED-18 was formally announced, the Financial Times in London published the following "obituary".

"The U.K. funeral rites for HC will be conducted at Chartered Accountants' Hall at 11.30 this morning".

But contents of ED-18 proved to be highly controversial. Ultimately on July 6, 1977; to the surprise of the most, a majority of British Chartered Accountants voted for a motion "that the members of the Institute do not wish any system of CCA to be made Compulsory". Thus ED-18 was effectively killed.
In July, 1977, ASSC set up a group under the Chairmanship of Mr. Hyde, Chief Accountant of Oxford University and requested the Group to provide "Interim Recommendation". The Group recommended that the published financial statements of companies listed on the stock exchange should include a separate statement showing the financial results as amended by three adjustments viz. depreciation, cost of sales and gearing. These Hyde Guidelines were published in November, 1977 and, by replacing ED-18, came into effect for all listed and other large companies publishing accounts for periods ending on or after December 31, 1977. Comments on Hyde Guidelines were also invited by the ASSC.

ED-24 which was issued after Hyde's interim recommendations, 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 operating capability of business.

Statement on Standard Accounting Practice No.16 (SSAP-16)

After years of controversy and lively debate, a standard on inflation accounting has been issued in the U.K. The accounting practices set out in this standard are to be regarded as standard for annual financial statements relating to accounting periods starting on or after 1st January, 1980. It applies to all entities which have a class of share or loan capital listed on the stock exchange; and to non-listed companies which meet at least two of the three size criteria: turnover of 5 million pounds or greater, an opening balance sheet total of 2.5 million pounds or greater, 250 employees or more.
As per the standard, annual financial statements of entities coming within the scope of the standard should include, in addition to historical cost accounts/information, current cost accounts prepared in accordance with this standard. Such CCAS will include the following -

(1) Current Cost Profit & Loss Account which should show,

(i) the current cost operating profit or loss,
(ii) interest/income relating to the net borrowing on which the gearing adjustment has been based,
(iii) the gearing adjusted,
(iv) taxation,
(v) extraordinary items and
(vi) current cost profit or loss (after tax) attributable to shareholders.

(2) A reconciliation should be provided between the current cost operating profit and the profit or loss before charging interest and taxation calculated on the historical cost basis giving the respective amounts of depreciation adjustment, cost of sales adjustment, monetary working capital adjustment and other material adjustments made to profits calculated on the historical basis.

(3) The current cost balance sheet should show the assets and liabilities of the entity on the basis of required standard. Notes to the balance sheet should disclose the totals of net operating assets and net borrowing and their main elements. The balance sheet should be supported by summaries of the fixed asset accounts and the movement on reserves.
As per the standard, assets and liabilities should be included in the balance sheet, as far as practicable, on the following basis:

(a) Land and building, plant & machinery and stocks subject to a cost of sales adjustment — at their value to the business.

(b) Investments in associated companies — either at the applicable proportion of the associated companies' net assets stated under this standard or, where such information is not readily available, at directors' best estimate thereof. Allowance for premium or discount on acquisition should be made on the basis of SSAP-14.

(c) Other investments — at directors' valuation.

(d) Intangible assets (excluding goodwill) — at the best estimate of their value to the business.

(e) Goodwill arising on consolidation — on the basis set out in SSAP-14.

(f) Current assets, other than those subject to a cost of sales of adjustment — on the basis of historical costs.

(g) All liabilities — on historical cost basis.

Reserves in the current cost balance sheet should include revaluation surpluses or deficits and adjustments made to allow for the impact of price changes in arriving at current cost profit attributable to shareholders. Amounts to reduce assets from net current replacement cost to recoverable amount should be charged to the profit and loss account.
(4) The notes attached to the current cost accounts should describe the bases and methods adopted in preparing the accounts particularly in relation to:

(a) the value to the business of fixed assets and the depreciation thereon,
(b) the value to the business of stock and work in progress and the cost of sales adjustment,
(c) the monetary working capital adjustment,
(d) the gearing adjustment,
(e) the basis of translating foreign currencies and dealing with translation differences arising,
(f) other material adjustments to the historical cost information, and
(g) the corresponding amounts.

(5) Listed companies should show the current cost earnings per share based on the current cost profit attributable to equity shareholders before extraordinary items.

(6) In case of current cost group accounts, whenever required, it should be in accordance with the principles set out in this standard; but the parent company need not produce current cost accounts for itself as a single company.

According to the Standard, the essence of current cost accounting is to charge stocks consumed and fixed assets used against income in arriving at profit, on the basis of their value to the business and not out-of-date and irrelevant historical costs. Similarly the balance sheet is expected to show up-to-date values in place of historical costs.

This "Value to the business" (or deprival value) attempts to measure the loss that the business would suffer if it were deprived of the asset. As per the standard "the value to the business is (a) net current replacement cost; or (b) a permanent diminution to below net
current replacement cost has been recognised, (b) recoverable amount.

"The recoverable amount is the greater of the net realisable value of an asset and, where applicable, the amount recoverable from its further use. Any difference between the value to the business and the historical cost will, in the simplest case, represent a holding gain or loss.

Mr. David Richards, President of ICAEW, in his speech at the annual dinner of the Nottingham Society of Chartered Accountants on March 14, 1980, said, "SSAP-16 is a new standard but the basic ideas it incorporates have been widely discussed for many years. They are ideas, not ideals. We do not believe that it would have been practicable to produce an ideal solution — even if there was one — to the problems of accounting for inflation."

The USA.

The USA is the second country where accounting bodies and governmental agencies have taken active part in the development of inflation accounting thought and techniques. In 1956 American Accounting Association published "Price Level Changes and Financial Statements — Basic Concepts and Methods" by Perry Mason. Like ICWAs publication in the U.K., this also was an introductory text on the subject. In addition to fundamental concepts like price level, purchasing power, indices etc., the book dealt with effects of price level changes and explained the technique of price level adjustments. In 1963, American Institute of Certified Public Accountants published its Accounting Research Study No. 6 titled as "Reporting The Financial Effects of Price Level Changes". This
publication gave a fair treatment to the subject and contained real life illustrations of price level adjusted financial statements. In 1969, this study was followed by Accounting Principles Board's Statement No.3 entitled as "Financial Statements Restated For General Price Level Changes" as an extension to and improvement over Study No.6.

Later on in 1974, AICPA's Financial Accounting Standards Board (FASB) announced its statement on "Financial Reporting In Units of General Purchasing Power. In August 1975, the U.S. Securities and Exchange Commission asked for comments on proposed disclosure requirements which required corporations to measure and report the current replacement cost of certain assets. In March, 1976 these requirements were made mandatory for approximately 1,000 of the largest U.S. manufacturing corporations having physical assets of at least a historical cost of $100 million and they being more than 10% of total assets.

In December, 1978; in response to public sentiment in favour of current financial reporting, FASB issued an exposure draft entitled "Financial Reporting and Changing Prices". It stated that certain enterprises would be required to present supplementary information on income from continuing operations either on a historical cost/constant dollar basis. Later on in March, 1979, FASB published another exposure draft viz. "Constant Dollar Accounting", in supplement to the 1974 proposed statement on general purchasing power adjustments. All these exposure drafts were of general nature and so six special industry task groups were formed covering banking and thrift institutions, forest products, insurance, mining, oil & gas and real estate. All these resulted in FASB's Statement No.33, "Financial Reporting and Changing Price, in September, 1979."
FASB's Statement No. 33

The Statement applies to certain public enterprises whose primary financial statements at the beginning of the fiscal year for which financial statements show either (1) Inventories and gross fixed assets exceeding $125 million; or (2) Total assets (after deducting accumulated depreciation) exceeding $1 billion.

The Statement is applicable to U.S. and foreign public companies whose equity securities or debt are traded on a U.S. Stock exchange or in the U.S. over-the-counter market; or that are required to file financial statements with SEC.

The Statement requires "partial restatement" based information. It does not require a statement of financial position. Statement of earnings on either the historical cost/constant dollar basis or the current cost basis. Disclosure requirements are limited to supplementary information on income from continuing operations for the current fiscal year, a five year information summary and certain other supplementary data for the latest year and the five most recent years. Restatement is required only for inventory, fixed assets, cost of goods sold, and depreciation, depletion and amortization expenses. The Statement, however, encourages enterprises, if they wish, to present financial information based on comprehensive restatement.

(A) Information required for current fiscal year -

(i) The HC/Constant Dollar basis - income from continuing operations - purchasing power gain or loss on net monetary items

(ii) The Current Cost Basis - income from continuing operations - increases or decreases in the current cost amounts of inventory and fixed assets - year-end inventory and fixed assets.
(B) Information required for five most recent years

(i) The HC/Constant Dollar Basis -

a) Net Sales and other operating revenues
b) Income from continuing operations
c) Income per common share from continuing operations
d) Net Assets Year-end.
e) Purchasing Power gain or loss on net monetary items.

(ii) The current Cost/current Dollar Basis -

- Income from continuing operations
- Income per common share from continuing operations
- Net Assets Year-end
- Increases on decreases in current cost associates of preventing the FA, net of inflation.

(iii) Other Information

- Cash dividends declared per common share/constant dollar basis.
- Market price per common share at fiscal year-end/constant dollar basis.
- The consumer price used, in a note to the five year summary.

For the purpose of five year summaries, current cost measurements are to be presented in constant dollars in the same way as all HC Statements.

Specific notes to make following disclosures:

(1) The principal type of information used to calculate the current cost inventory, fixed assets, cost of goods sold and depreciation, depletion and amortization. (2) Any differences between (a) the depreciation methods, estimates of useful lives and salvage values of assets used for calculation of historical cost/constant dollar depreciation and
current cost depreciation and (b) the methods and estimates used for
calculation of depreciation in the primary financial statements.

(3) The fact that no adjustments have been made to income tax expenses
for any timing differences that might arise as a result of the statement's
requirements and the fact that income tax expense has not been allocated
between income from continuing operations and increases or decreases in
current cost amounts of inventory and fixed assets.

BRAZIL

Brazil is a glaring example of successfully use of CPP for
reducing and correcting effects of inflation at macro level as well as
at micro level. During late 1950s and early 1960s Brazil suffered a high
and increasing rate of inflation. In 1964, the rate of inflation was
92% . Accepting worldwide inflation as a fact of life, the new Brazilian
government introduced a comprehensive programme in order "to reduce and
correct the effects of inflation, as well as to stimulate economic growth". 29
Most of the measures were in the form of adjustment of amounts in Brazilian
cruzeiros to reflect the fall in the purchasing power of cruzeiro.
Following are subject to such monetary correction.

(i) Wages. Wages are corrected at least once in a year. However,
many companies make this adjustment more frequently.

(ii) Pensions.

(iii) Income tax brackets and tax retained at source on salaries
and investment income.

(iv) Exchange rate. The cruzeiro is devalued once or twice monthly,
to reflect its differential inflation against a basket of international

29 Stidger and Stidger, "Inflation Management", New York: John Wiley &
Sons, p.31.
(v) Savings account balances are corrected quarterly, based on the average balance for the preceding quarter.

(vi) A new government, the ORTN (Obrigacao Reajustavel do Tesouro Nacional) was introduced. The cruzeiro value of the ORTN is declared monthly to reflect inflation.

The increase in the cruzeiro value of savings accounts, ORTNs and similar bonds due to monetary correction does not create a tax liability for the holder. He is taxed only on the interest or dividends paid.\textsuperscript{30}

As per the present company law and associated income tax law, Brazilian accounting requirements have significantly changed. The Law requires that the financial and physical resources of the company have their values adjusted for inflation. Following monetary corrections are a must.

(a) Fixed assets and their associated depreciation.
(b) Investments.
(c) Deferred assets.

Shareholders' equity as shown on the balance sheet must also be corrected. All adjustments are to be made on the basis of ORTN. Since the contracts for long-term loan financing always include provision for the adjustment of their value (using ORTN or any other index), no monetary correction is required for them. Long term loans in foreign currencies are adjusted to reflect the exchange rate at balance sheet date. Such an adjustment is called 'monetary variation' with a view to distinguishing it from the automatic process of monetary correction.

Amounts of monetary correction and monetary variation are posted to the accounts from which they arose and the counter entry is made to the Profit & Loss Account. In case of issued share capital, the correction amount is posted to a capital reserve account and the counter entry is made to the Profit & Loss Account. The net of the monetary correction and monetary variation entries (called inflationary profit or loss) is included in the profit or loss for the year and is taxable. There are a number of detailed provisions which control the calculation of the inflationary profit or loss.

Another noteworthy feature of Brazilian inflation accounting is that no attempt is made to adjust the profit or loss for the effects of holding gains on inventory. As per Brazilian law, raw material stock should be valued at weighted average of FIFO cost. Thus the value of inventory tends to follow inflation, provided that there is reasonable turnover.

Further, the laws allow for revaluation of specific items to be carried out. Such revaluations are posted directly to the specific asset account involved and the counter entry is made to a reserve account. The revaluation reserve has to be amortized over the remaining life of the asset. In the case of an asset which is depreciated, the increase in the depreciation charge arising from the revaluation will be exactly offset by the amortization of the revaluation reserve. Thus the net depreciation charge for tax purposes is always based on original price, with monetary correction based on the ORTN.
Investments are entered in the books at cost or as a proportion of the net worth of the company whose shares are purchased. In either case, the book value of the investment can be revalued if, after monetary correction, it varies significantly from the market value.

Big companies are required to carry out monetary correction by means of an Auxiliary Ledger in ORTNs. This is a set of books to be maintained by big companies in parallel with the cruzeiro books. Monetary correction can be carried out by comparing the balances in the cruzeiro accounts with those of the corresponding accounts in ORTNs, converted to cruzeiros at the current rates. This is "a simple and effective way of correcting the effects of inflation".31

Brazilian experiment has gone a long way towards achieving its goal of preventing the decapitalization of companies. "In the second decade of the plan the inflationary rate in Brazil was reduced by 80% and the country enjoyed record economic expansion".32 Rate of inflation in 1972 and 1973 was 20% and 15% respectively.33

31 Ibid., p.23.
32 Stidger and Stidger; op. cit., p.31.
NEW ZEALAND

The accounting profession of this country has been closely following the developments in the U.K. New Zealand Society of Accountants issued Exposure Draft-14 in March, 1975. This draft proposed a comprehensive system of accounting to replace historical cost, showing assets in the balance sheet at their "value to the business" and profit as the result of matching costs with revenues, both expressed in current terms.

In December, 1975 New Zealand Government set up a committee of inquiry under the chairmanship of Dr. I. L. Richardson, with a view "to assess the merits of alternative accounting standards and methods that might be adopted in New Zealand" and to consider broader implications of any proposed changes, particularly in relation to taxation and pricing policies. The Committee recommended "CCA System similar to that advocated by Sandilands" but it made distinction between "profit of the enterprise" and "profit attributable to shareholders". It also recommended recognising the effect of inflation on monetary items in the income statements before arriving at the current cost operating profit of the company. New Zealand Society of Accountants has welcomed the recommendations, although with reservations. Society's Board of Research and Publication was studying ED-14 with a view to turning it into an accounting standards. Board, while submitting its preliminary views on the Richardson Committee's recommendations to Minister of Finance in March 1977, emphasized significant implementation problems for many firms.

Many large companies have also experimented with various techniques of inflation accounting. e.g. Effects of inflation on working capital, revaluation or fixed assets and restatement of depreciation have been reported by many companies on voluntary basis.
AUSTRALIA

Australian accounting and external reporting practices are quite flexible. However companies are required to disclose the principles adopted in preparing published accounts, they are free to revalue fixed assets on the basis of specific price indices. The Australian Accounting Standards Committee issued two exposure drafts in December, 1974 and in June, 1975 respectively. The later draft outlined a method of "current value accounting" but no firm recommendations were made. In October 1976, Institute of Chartered Accountants in Australian and Australian Society of Accountants issued a provisional accounting standard on CCA. They recommended that financial statements prepared on CCA basis should be presented as a supplement to historical cost accounts for periods commencing after July 1, 1977. The government in 1976 had announced plans for indexing depreciation rates over three years and to adjust stock values to account for inflation. The two professional accounting bodies have formed a CCA steering group to review and co-ordinate all aspects of the development of CCA and its implementation. The Group has also worked on Working Guides for CCA implementation.

FRANCE

During the five years of World War II, the consumer price index in France tripled from 149 in 1940 to 436 in 1945. Though the government had enacted various laws permitting the revaluation of assets, in 1945 it passed a law which permitted restatement of most non-current assets and receivables and payables in foreign currencies.
Though such revaluations were not mandatory, they were widely accepted because for the most part, the revaluation reserves created were tax exempt. Government used to publish coefficients on the basis of wholesale price indices for construction materials, timber and steel products which were felt to constitute the major cost elements of most fixed assets. Depreciation expense for the remaining years of useful life was computed on the basis of restated book values and was deductible for tax purposes. Inventories were not required to be adjusted to price level changes because they were always being stated at the "lower of cost and market". It is interesting to note that for tax purposes, various revaluation methods were permitted from 1948 to 1959. In 1959 such revaluation was discontinued with the introduction of new frame and a somewhat more stable price level.

REPUBLIC OF CHINA

In 1949 government promulgated regulations governing adjustment of capital through revaluation of assets of government-owned enterprises. In 1960 one statute was passed wherein it was provided that the appreciated value of assets resulting from revaluation shall not be taxed as income. Revaluation is done on the basis of price indices and excess of the appraisal value over the original cost is carried under the account "reserve for compensation for assets appreciation". This reserve cannot be used for payment of cash dividends.

JAPAN

At present there are no special laws or practices concerned with accounting for changes in price level. Corporate external reporting in Japan is highly influenced by tax legislations and companies are compulsorily required to revalue their assets using prescribed indices.
By and large, this country has been following the developments in the U.K. Canadian accounting bodies and other interested groups have been discussing and investigating into this field of accounting. Accounting Research Committee of CICA produced a discussion paper in August, 1976 entitled "Current Value Accounting". The intention was to provide a basis for discussion to Canadian business and to provide a better understanding various approaches to CV Accounting. ARC wanted to plan its course of action on the basis of comments received on the paper.

In November, 1976 Ontario Government's Committee on Inflation Accounting was set up. The Committee, in its report in June 1977, proposed introduction of a new statement designed to reflect the "Effects of Inflation on Funds Available for Distribution or Expansion". Many Canadian companies have, in past, used periodic revaluations and have shown additional depreciation.

Inflation accounting in Sweden is concerned with only one aspect viz. decrease in the real value of inventory due to obsolescence. Swedish companies are authorised to set aside generous reserves against obsolescence. Tax regulations also allow companies to deduct from taxable income, an amount up to 60% of the value of most inventories which is then set aside in a special inventory reserve.
THE NETHERLANDS

The Dutch approach towards accounting rests on the premise that accounting has strictly a service function to perform and derives its practical validity from a close relationship with the economics of the firm rather than from prevailing accounting practices. So, application of replacement value theory has been widely accepted and used; though it is not accepted by the tax authorities of the country.

Replacement values of fixed assets and inventories are determined on the basis of specific price levels rather than general price level. In many cases, companies themselves develop indices for their own use. Phillips company has provided a very good example of replacement cost accounting.

PHILIPPINES

The Institute of Certified Public Accountants of Philippines has taken lead in the matter of accounting for changing prices. The Institute recommended a fairly flexible approach using general price level indices or specific indices. It also recommended that fixed assets revaluations may be reported as supplementary information as incorporated in the accounts.

HONG KONG

In Hong Kong, the pressures from accounting bodies, law agencies or government have been minimal. "There are valid reasons for this. Firstly, the corporate tax rate is extremely low. Secondly, the rate of inflation in Hong Kong has over the years been at comparatively low levels". 34

INTERNATIONAL ACCOUNTING STANDARDS BOARD (IASB)

This Board issued an exposure draft on "The Accounting Treatment To Changing Prices" in January, 1976. In March, 1977 a discussion paper on "Treatment of Changing Prices in Financial Statements: A Summary of Proposals" was published. The International Accounting Standard (IAS) -6 was published in June, 1977 and it was to become effective from January 1, 1978. But there has been a lot of disagreement among countries and it was feared by many that IAS-6 will not have any significant impact. However, moves in the direction of harmonizing ofCVA proposals have taken place in various countries. As an effort in this direction, representatives of 8 countries (Australia, Canada, Germany, Netherlands, South Africa, New Zealand, U.K. and U.S.A.) met in London to review international developments in accounting for inflation.

9 SUMMARY

This chapter aimed at creating a conceptual background of accounting for changing prices. We saw that accounting is an important base for the information system in any business enterprise. In addition to managements of enterprises, many other groups also use accounting/financial information in their decision making.

Conventionally accounting/financial information is generated on the basis of HCA model. It has been observed by many that; HCA model, because of its assumption of stable money value; fails to report financial effects of changing prices on the financial performance and financial position of an enterprise. This requires some techniques of incorporating and reporting such effects. Though limitations of HCA model are widely
accepted, there exists a controversy over how to make price level adjustments. Many alternatives, from specific adjustments in existing HCA data to complete restatement of HCA financial statements, have been suggested and followed. An overview of developments in various countries of the world shows that countries like the U.K., the U.S.A. and Brazil have taken lead in this matter. Accounting bodies, governmental agencies, company managements and researchers have played active role in development of inflation accounting thought and techniques in these countries.