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THE EVOLUTION OF ACCOUNTING FOR INFLATION IN GERMANY 1920 - 1923

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NIDHAM MOHAMMED ALI HUSSAEN

B.A. University of Al-Mustansiriyah

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ABSTRACT

Currently suggested systems of accounting for inflation are not the product of the 1970's but date back to the 1920's in Germany and the severe inflationary period witnessed there between 1920 and 1923. It was especially this German experience that aroused an interest in the accounting problems posed the heavily depreciated Mark, and believed to be approachable by striking at the very foundations of traditional accounting that are embedded in the stability of the unit of measurement.

In the literature in English there are scattered references to the German accounting literature of the day, and this thesis attempts to provide in one volume a historical account of the long-neglected ideas of the German academic accountants whose work marked the beginning of the evolution of inflation accounting.

In this thesis it is argued that the basic ideas of inflation accounting, which attempted to reflect the consequences of both general and specific price changes, were developed systematically and thoroughly by Schmalenbach, Mahlberg and Schmidt in 1921 in Germany, from where these ideas travelled to other countries, initially France and the U.S.A.

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Dedicated to the memory of my father, to my wife and children, and to all my family, for the loving support they have given me.

ABBREVIATIONS

A.A.A	American Accounting Association
A.A.S.C	Australian Accounting Standards Committee
A.G	Aktiengesellschaft (Joint Stock Company)
A.I.C.P.A	American Institute of Certified Public Accountants
A.S.C	Accounting Standards Committee
A.S.S.C	Accounting Standards Steering Committee (became the A.S.C. in 1975)
C.C.A.	Current Cost Accounting
C.O.S.A	Cost of Sales Adjustment
C.P.P	Current Purchasing Power
C.V.A.	Current Value Accounting
E.D.	Exposure Draft
E.V.	Economic Value
F.A.S	Financial Accounting Standard (issued by the F.A.S.B)
F.A.S.B	Financial Accounting Standards Board (in the U.S.A.)
F.I.F.O	First in First Out system of inventory valuation
G.m.b.H.	Gesellschaft mit beschraenkter Haftung (a private company with limited liability)
H.C.	Historical Cost
H.G.	Holding Gains
H.L.	Holding Losses
I.A.S.G	Inflation Accounting Steering Group (set up by the A.S.C. in the U.K.)

I.C.A.E.W.	Institute of Chartered Accountants in England and Wales
I.D.W.	Institute der Wirtschaftspruefer (the private sector body which sets accounting standards in Germany)
L.I.F.O	Last in First Out system of inventory valuation
M.W.C.A	Monetary Working Capital Adjustment
N.R.V.	Net Realisable Value
P.S.S.A.P	Provisional Statement of Standard Accounting Practice (issued by A.S.S.C.)
P.V.	Present Value
R.C.	Replacement Cost
R.P.I.	Retail Price Index
R.W.R.	Reichswirtschaftsrat
S.A.P.	Statement of Accounting Practice
S.E.C	Securities and Exchange Commission (the public sector standard-setting body in the U.S.A.)
S.S.A.P.	Statement of Standard Accounting Practice (issued by A.S.C.)
U.K.	United Kingdom
U.S.A.	United States of America
Z.f.h.F.	Zeitschrift fuer handelwissenschaftliche Forschung (an accounting journal)

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CHAPTER ONE

INTRODUCTION

Until World War I the majority of academic and practising accountants had always advocated the presentation of conventional accounting statements which were based on a number of assumptions, one of which was the stability of the monetary unit, the accountant's yardstick.

In the light of the post-World War I inflation that swept the developed countries, the shortcomings of the conventional statements began to be recognised, and several accountants who until now had adhered to the realisation principle began to break with it and to propose alternative accounting methods aimed at providing meaningful and realistic information by reflecting changes in the prices of specific assets and of general price levels, both of which conventional accounting had failed to recognise.

In fact, it was Germany that witnessed a period of unprecedented increasing prices accompanied by a rapidly depreciating currency which rendered the Mark useless as a unit of measurement, particularly from 1918 to 1923, during which period a considerable amount of literature on inflation accounting was published, giving birth to the two methods now well-known as current value accounting and the current purchasing power system.

1.1 Scope of the Study

Unfortunately the accounting literature in English, when referring to the history of accounting methods for inflation, lacks accurate information on the German contribution even to the extent of being misleading in certain instances. And even accurate information is presented in ways which minimize its importance and fail to attract to it the attention it deserves.

Take, for example, the literature's treatment of the CPP accounting system. It generally recognizes that the first systematic method using the system in the U.S.A. is attributable to Henry W. Sweeney (1), but ignores the work of its true originators, Professors W. Mahlberg and E. Schmalenbach (Germany 1922). Forrester (2), Mattessich (3) and Tweedie and Whittington (4), while recognizing the original work of the German writers, do so only in a general and casual way. Moreover, the discussion in English ignores the Gold Mark Balance Sheet method, although it is the origin of the CPP method. The former method was hotly debated and finally recommended by leading accounting authorities as the legal substitute for the traditional method, in 1922, although it was not implemented in practice.

There is considerable inaccuracy also on the subject of current value accounting. Much of the literature (e.g. Lewis, Pendrill and Simon) (5)

regards the recognition of holding gains and losses as an original suggestion by Edwards and Bell (1961). Recent writers (Mattessich, Tweedie and Whittington) have more accurately given the credit to Schmidt (Germany 1921) or Limperg (Holland) but make no mention of the Finn Kovero (1912; see Chapter 8) whose work was developed systematically and thoroughly by Schmidt. In fact the subject of current value was hotly debated as early as the 1880s in the German literature, when the German Commercial Codes required certain companies to publish a current value (Zeitwert) balance sheet without recognising holding gains and losses.

The main object of this thesis is to restate the historical facts of the various accounting methods for inflation which were developed in Germany during the post-World War I inflation, which facts have gone largely unrecognized in the literature in English; and by describing in detail the German work, using the original texts and their examples, to show the relationship between this work and the various methods currently suggested in the U.K. By this means it is hoped to provide an original compilation to fill many of the information gaps which have existed up to the present.

1.2 Methodology

My first step in this study was to investigate the literature on accounting in English concerning the post-World War I period. This gave a general insight into the two inflation accounting methods suggested by German academics and now known as current cost accounting and the current purchasing power.

At the same time I consulted Mr David Forrester of the University of Strathclyde, who kindly assisted me with reference materials, and suggested the subject of my second chapter.

In order to investigate the subject thoroughly I found it necessary to consult the original German texts which are held in archives established by Professor Schmalenbach in the University of Cologne in 1906. At Cologne I was given much help by Professor G. Sieben, Dr. H. Lutz and Dr. G. Stoltze, who assisted me generously in the use of the Library of the School of Accountancy and its archives, and with whom I had several useful discussions. During one of my three visits to Cologne I had a helpful discussion also with Professor T. Schildbach. I was allowed to copy original materials freely so as to study them carefully when back in Britain.

The texts used are the original writings, in books and journals, of the theorists whose ideas are discussed

in this thesis. The translations are my own. In making them I have attempted to ascertain the meanings of an individual writer's terminology by studying several of his works. But the whole task of translation has been problematic because the terminology of the writers of the early 1920s was not uniform, and of course these academics are not now able to be consulted direct.

For the same reason, finding equivalent English terms for the German has been difficult, and other German words in the literature are now archaic and do not appear in the available dictionaries of Accounting.

1.3 Outline of Contents

The thesis is presented in 9 chapters. At the end of this first chapter there will be an outline of the evolution of inflation accounting in the U.K. and, more briefly, that of the other English-speaking countries which have followed the U.K. example, concentrating on the differences in their approach, particularly with regard to the treatment of monetary items. This will facilitate the understanding of the German approach which is the main subject of this thesis, and serve to show just how systematically certain German accountants dealt with problems in an inflationary environment

over sixty years ago.

Chapter 2 consists of two parts. The purpose of the first is to illustrate the earliest attempts made by economists to devise a statistical technique for measuring changes in the general price level or its reciprocal, the purchasing power of money, and how different formulae give different single-figure results, upon which accountants rely heavily. The purpose of the second part is to give a historical glance at the movement of prices in some developed countries, including the U.K., in order to show the extent to which prices fluctuated before World War I.

Chapter 3 illustrates the role of the factors, which did most to shape accounting practices in Germany just before the new accounting literature began to appear in 1920. This background should help to demonstrate how radical the new ideas were.

Chapter 4 explains the economics of inflation in Germany from 1914-1923 to give an insight into a unique phenomenon in the history of this century which did not, however, pass without challenge from the academic accountants .

Chapter 5 deals with the attempts made by the academics to alter the conventional bases of accounting and reform the legal requirements, which attempts initiated the movement of anti-fictitious profit and the

development of alternative capital maintenance concepts.

Chapter 6 discusses the contribution of Schmalenbach in developing the Current Purchasing Power accounting system or what was called the 'Indexation Method'. Schmalenbach's original examples will be presented in detail and the similarities between his work and Sweeney's will also be shown.

Chapter 7 consists of two parts. The first deals with the Gold Mark Balance Sheet Accounting which was first suggested by Professor Mahlberg in 1920 and further developed by Mahlberg and Schmalenbach, the latter recommending it as a 'plan for new law'. The second part deals with the Gold Franc Balance Sheet Accounting which was suggested by French accountants during the inflation that swept France from 1926-1927.

Chapter eight is shown in two parts and deals with Current Value Accounting. The first part deals with replacement cost accounting, outlining the work of Kovero and Schmidt. The second deals with realisable value accounting and the work of Sewering will be presented.

The final Chapter comprises the summary and conclusion. In this chapter the similarities and differences between Schmalenbach and the PSSAP 7, and Schmidt and the Sandilands recommendations will be shown.

1.4 The Evolution of Accounting for Inflation in the U.K

In the United Kingdom the shortcomings of traditional financial statements were recognised by academics earlier than by professional accounting bodies. Professor Ronald Edwards of the London School of Economics wrote a series of articles in 'The Accountant', July-October 1938, entitled 'The Nature and Measurement of Income', and these seem to be among the earliest references which clearly outlined many of the problems inherent in conventional accounting (6). He wrote:

> Accounting at present lacks an income concept. It is useless to say that income is the figure we arrive at after applying our valuation rules, when the rules themselves are not agreed ..... Our view of accounting practices suggests that they are, from the standpoint of income measurement, inadequate and confused (7).

Professor Edwards himself was of the idea that 'published accounts should have as their object the provision of information for a judgement of net worth,' by which he meant the worth of the business to the investors (8).

It was not until 1945 that the Institute of Chartered Accountants in England and Wales (I.C.A.E.W.) issued Recommendations Number 9 and Number 10, which dealt with the effect of changing prices on stock valuation and how additional amounts provided from profits were to be treated to replace fixed assets. Another Recommendation, Number 12 entitled 'Rising

Prices in Relation to Accounts' (1949) advised that where companies felt it wise to establish a reserve to finance the cost of replacing assets this reserve should be treated as an appropriation of profit and not as a charge against profit (9), adding that the value of assets should not be adjusted in the balance sheet, so that historical cost values would be kept intact. Recommendation Number 15, entitled 'Accounting in Relation to Changes in the Purchasing Purchasing Power of Money' (1952) referred to the current purchasing power method as the 'Index Method' but while recognizing the limitations of the traditional method, still regarded the latter as preferable. In 1954 the Institute of Chartered Accountants of Scotland made a similar recommendation to its members.

However, these Recommendations made almost no impression on the business sector, and the interest that was aroused soon disappeared when the inflation rate fell below 4% per annum during the 1950s and 1960s (10). When the rate of inflation began to rise again in the late 1960s, the Research Foundation of the I.C.A.E.W. in 1968 published a paper entitled 'Accounting for Stewardship in a Period of Inflation'. It described in detail the practical procedures required to adjust accounts for changes in the purchasing power of money. These methods were not original, having been described

by Sweeney in 1936. In 1969 the Accounting Standards Steering Committee (ASSC) set up by the I.C.A.E.W. authorised the publication of a paper entitled 'Inflation and Accounts - Discussion Paper and Fact Sheet'. This suggested that a supplementary paper should be presented based on converting the result of conventional accounting from historical pounds into pounds at the balance sheet date, using for this procedure a general index of prices. The papers of 1968 and 1971 were the same in dealing with the method of conversion.

1.4.1 ED 8 and PSSAP 7

The real turning point in the development of inflation accounting came in January 1973, when the Accounting Standards Steering Committee (ASSC) published its first Exposure Draft 8 (ED 8) on inflation accounting, entitled 'Accounting for Changes in the Purchasing Power of Money', in which was proposed the adoption of the current purchasing power (CPP) system of accounting for inflation which was to be published as a supplementary statement. The capital maintenance concept underpinning ED 8 was that of maintaining intact the purchasing power of the capital invested. Not surprisingly, the response to ED 8 was divided. According to Tweedie and Whittington (11), the support

came mainly from accountancy bodies, practising firms of accountants and the technical advisory committee of the ICAEW, whilst the opposition came mainly from companies, corporations and private individuals, many among these groups advocating current value methods for accounting.

With minor modifications (e.g. the consumer price index was changed to the retail price index), ED 8 was published as the provisional 'Statement of Standard Accounting Practice 7 (PSSAP 7) in May 1974. The statement was only provisional because in January 1974 a committee of enquiry into inflation accounting had been set up by the U.K. Government to 'consider whether, and if so how ,company accounts should allow for changes (including relative changes) in cost and prices.

The main features of the Standard were described in paragraph 12 as follows:

a- Companies will continue to keep their records and present their basic annual accounts in historical pounds i.e. in terms of the value of the pound at the time of each transaction or revaluation;

b- In addition, all listed companies should present to their shareholders a supplementary statement in terms of the value of the pound at the end of the period to which the accounts relate;

c- The conversion of the figures in the basic accounts into the figures in the supplementary statement should be by means of a general index of the purchasing power of the pound;

d- The standard requires the directors to provide in a note to the

> supplementary statement an explanation of the basis on which it has been prepared and it is desirable that directors should comment on the significance of the figures (12).

As an indicator of changes in the purchasing power of the pound the Standard recommended the general index of retail prices (RPI) mainly because of its monthly availability, and its use in preparing the CPP balance sheet as well as the earnings statement. Conversion, which was defined as the process of translating figures of historical pounds to pounds of current purchasing power, could be carried out using the following factor:

$$\frac{\text{Index at closing balance sheet date}}{\text{Index at transaction date}}$$

As for the preparation of the CPP balance sheet, three stages were necessary:

1) Restatement of the opening balance sheet in terms of the value of the pound at the beginning of the year. This process was to be applied to non-monetary items, including share capital, retained earnings and reserve, merely by multiplying the figures of those items by the CPP factor at the beginning of the year. Monetary items needed no conversion for they were already expressed in terms of CPP values. This stage was only necessary for the first year in which CPP accounting was introduced.

2) Updating the restated opening balance sheet into year-end CPP values by multiplying all items, monetary and the already converted ones, by the movement of RPI

during the year.

3) Converting the balance sheet as at the end of the year into CPP values by multiplying the non-monetary items by the year-end factor. Again, no conversion was required for monetary items.

However, SSAP 7 (Paragraph 21) required that the converted values i.e. CPP values should be tested against their net realizable values and only the lower of the two should be shown on the balance sheet; and where the net realizable value was chosen a provision should be made (13).

The difference between the updated opening balance sheet (stage 2) and the converted closing balance sheet (stage 3) would represent the profit or loss for the year. This profit or loss could be analysed by producing a profit and loss account either in detailed or summarised form and arrived at after four adjustments were made to the historical cost profit: depreciation, stock, revenue and monetary adjustments. While depreciation and stock adjustments would tend to reduce the H.C profit figure, for they would now be computed on CPP values, the revenue adjustment would tend to magnify the H.C figure, for sales purchases and expenses were assumed to occur evenly throughout the year. The monetary adjustment would tend to magnify the H.C profit where a company's borrowings (including loan capital)

during the year had exceeded its holding of monetary assets, and to reduce it in the opposite case.

1.4.2 The Sandilands Report

The Committee of Enquiry announced by the government in July 1973 was appointed by the Chancellor of the Exchequer and the Secretary of State for Trade in January 1974; this Committee was known as the Sandilands Committee. Of the 12 members of the Committee, all were part-time, and three were professional accountants; other members included eminent representatives of industry, commerce, finance, the law, economics, the trade unions and public affairs. After reviewing the literature, sending a questionnaire to 242 listed and large companies, studying practice in Holland and the U.S.A., receiving written submissions and taking oral evidence (14), the Committee published its report, known as the 'Sandilands Report', in September 1975. The Sandilands Report was an elegant piece of work, simple and clear, running to more than 350 pages including appendices. Its conclusions were that existing accounting conventions did not serve adequately in periods of fluctuating prices, and a system based on the principles of current value accounting, known as current cost accounting and reflecting specific price changes, should be adopted.

Sandilands advocated the monetary unit and rejected completely the CPP unit and any accounting system based wholly or partly on it - e.g. PSSAP 7. The reasons given were that the unit of measurement should 1) be equally useful to all users of accounts; 2) not change from year to year; 3) be the same for all enterprises; 4) be preferably a physical object which could be exchanged by the users of accounts; and 5) present a constant value through time (15). The Committee argued that the monetary unit met all the above criteria, except presenting a constant value; while the CPP unit met only this, and only imperfectly, because the general index (e.g. the RPI) and its reciprocal, the purchasing power of money, could not be a measure of the rate of inflation equally appropriate to all individuals and entities.

The Committee rejected the recognition of gains and losses on monetary items, taking the view that both of them were measured, in practice, by reference to the movement in the general price index; and expressing the opinion that it 'did not consider that any useful purpose would be served by combining the CCA with the CPP method' (16). The main reason behind this rejection was that the committee had regarded the maintenance of a company's 'productive capacity', defined as the physical assets possessed by the company, as the most useful concept among the different capital concepts

examined by it; and consequently it regarded profit for an accounting period 'as any gains arising during the year which might be distributed while maintaining the productive capacity of assets held by the company'. Thus, gains on net borrowings if distributed would lead to the erosion of the productive capacity, and in the case where net monetary assets were recognised these would be retained in excess of business needs.

The Committee proposed that if 'U.K. companies' accounts are to show more adequately than at present the effect of changes in prices, it is accounting practices that must change (paragraph 415), and in doing so it recommended that current cost accounts should become the basic published accounts of companies, all of which should adopt the Current Cost Accounting system as soon as practicable (17).

The main features of Sandilands' CCA system are summarised as follows:

1- Money is the unit of measurement.

2- Assets and liabilities are shown in the balance sheet at 'value to business' which is defined as the lower of the replacement cost on the one hand, and the higher of present value and net realizable value on the other. Stock should be shown at historical cost, but calculated on the FIFO basis.

3- 'Operating Profit' is arrived at after charging the

value to the business of assets consumed during the year, thus excluding holding gains from operating profits and showing them separately.

As far as the profit and loss account is concerned, two adjustments were proposed:

1- Cost of sales adjustment. This is the difference between the value to the business and the historical costs of goods sold, i.e. realized holding gains in periods of rising prices or realized holding losses in periods of falling prices. Realized holding gains were to be debited to the historic-cost profit and credited to the stock adjustment reserve, while realized holding losses were to be credited to the historic-cost profit and debited to the stock adjustment reserve.

2- Depreciation adjustment. This is the difference between the depreciation based on the revalued figures of fixed assets, (except land) at the end of the year, and the historic cost depreciation, and represents an additional charge against historical cost profit in periods of rising prices. Backlog depreciation should not be charged against profit but should be effected through the revaluation reserve.

As far as the presentation of the current cost accounts are concerned the Committee recommended that:

a- All realized and unrealized holding gains (revaluation surpluses), together with the cost of sales adjustment, were to be taken to individual revaluation reserves in the balance sheet.

b- The current cost accounts were to include a summary statement of total gains or losses, showing separately operating gains as current cost profit for the year, extraordinary gains as extraordinary items, and other reserve movements.

In November 1975 the government endorsed the recommendation of the Committee of Enquiry that current cost accounting should become the basis for company accounts (18), and consequently the profession was left with no alternative but to compose an exposure draft based on Sandilands' proposal.

1.4.3 ED 18

In response to the Sandilands recommendations, ED 18 was prepared in November 1976 by the Inflation Accounting Steering group (IASG) which had been set up in January 1976 by the Accounting Standards Committee (ASC). Although the basic principles of the Sandilands proposals were retained in ED 18, there were differences between them in the areas of stock valuation, computation of depreciation, and the treatment of revaluation surpluses and deficits i.e. the definition

of distributable profit, etc.

ED 18 did not accept the Sandilands view that historical cost stock figures would be an adequate substitute for current replacement cost and required that it should be shown in the balance sheet at value to the business, being the lower of current replacement cost and net realisable value. ED 18 proposed that the depreciation charge be based on average asset values for the period, but allowing companies to base depreciation on year-end values in certain circumstances. But the major departure of ED 18 from the Sandilands proposals was that while the latter appeared to advocate a physical capital maintenance concept, the former did not propose a clear-cut concept of capital maintenance and hence a clear concept of profit.

Under ED 18 directors could, if they wished, regard any amount of the net surplus for the year on revaluation of assets as distributable, and could appropriate amounts greater than the net surplus on the revaluation of assets.

ED 18 was, however, the most substantial exposure draft ever issued, running to 107 pages, including appendixes and accompanied by a detailed guidance manual running to 278 pages. It was intended for listed companies and other companies having either total assets or turnover exceeding 10,000,000 by July 1978, and by

1980 to all companies having either total assets or turnover exceeding 100,000. Subjectivity, complexity and the disappearance of historical cost accounts involved in the Draft led practising accountants to oppose it as unworkable. As a consequence, it was rejected by a vote at an extraordinary meeting of the I.C.A.E.W in July 1977.

1.4.4 The Hyde Guidelines

In November 1977 the Accounting Standards Committee published an Interim Recommendation, the Hyde Guidelines, which recommended that listed companies should present a supplementary current cost profit and loss account, without a balance sheet, and based on the following adjustments:

a- Cost of sales as for ED 18

b- Depreciation as for ED 18

c- Gearing

The gearing adjustment, which had not been included in the profit statement under either the Sandilands or the ED 18 recommendations, was a major innovation, designed to reflect the effect of holding monetary items. It was suggested as a tool to increase or decrease the reported current cost operating results, depending on the nature of a company's capital gearing structure. Where a company's average monetary

liabilities exceeded its average monetary assets, the gearing adjustment would be a credit to the profit and loss account, representing the proportion of depreciation and cost of sales adjustments which might be financed by creditors and was to be calculated by the formula:

$$\frac{\text{Net monetary liabilities}}{\text{Equity + Net monetary liabilities}} \times (\text{Deprn. adjustment + COSA})$$

And where a company's average monetary assets exceeded its average monetary liabilities, the gearing adjustment would be a debt to the profit and loss account representing the additional amount that would be required to be retained in order to maintain the company's scale of operation. In such a case the gearing adjustment would be computed as follows:

$$\text{Average net monetary assets} \times \frac{\text{(closing - opening) index}}{\text{opening index}}$$

Thus the capital maintenance concept underpinning the Hyde Guidelines was aimed at maintaining the company's physical assets and its net monetary items (i.e. monetary assets less monetary liabilities).

1.4.5 ED 24

As a further development of ED 18 and the Hyde Guidelines, in April 1979 ED 24 was issued, proposing

that listed and other certain large companies with an annual turnover of 5 million or more should be required to present, in addition to historical cost accounts, a CCA balance sheet and profit and loss statement, which were not necessarily to be supplementary.

There were also differences between ED 24 and the previous proposals on CCA relating to the definition of the 'value to the business', the capital maintenance concept, and the treatment of monetary items.

In ED 24 the 'value to the business' of an asset was defined as net replacement cost; or, if a permanent diminution to below net replacement cost had been recognized, the greater of the net realizable value of the asset and, where applicable, the amount recovered from its further use, i.e. expected proceeds from future use but without discounting them to present value, as was the case in both the Sandilands and ED 18 proposals.

The capital maintenance concept underpinning ED 24 was that of maintaining the shareholders' proportion of the operating capability of the business i.e. the amount of goods and services which the business is able to supply with its existing resources, defined in terms of its 'net operating assets', these being fixed assets, stock, and monetary working which in most circumstances is considered to be the difference between debtors and creditors. ED 24, however, proposed that current cost profits for an accounting period should be determined in

two stages. First, the current cost operating profit should be determined after the current cost adjustments required to maintain intact the 'net operating assets' have been deducted from the historical cost profit (in periods of rising prices) or added to it (in periods of falling prices), but without taking into account the way in which the business is financed. These current cost adjustments are:

1- Depreciation adjustment

2- Cost of sale adjustment (COSA),

3- Monetary working capital (MWCA)

Thus the MWCA constituted the only difference between the current cost profit of Sandilands and ED 18 on the one hand, and ED 24's current cost operating profit on the other. This adjustment was not, however, regarded as a realized holding gain but rather as an additional sum which is needed to be retained in the business in order to enable it to operate at the same level despite the increase in prices. To arrive at the MWCA figure the following formula was suggested which could also be used in calculating the COSA by changing the variables only, using the same indices for stock as follows:

$$MWCA = (C - o) - Ia \left[\frac{C}{Ic} - \frac{O}{Io}\right]:$$

where

O = opening MWC
C = closing MWC
Ia = average index number for the period
Io = index number appropriate to opening MWC
Ic = index number appropriate to closing MWC

A negative MWCA figure would be credited to the current cost profit and loss account and debited to the current cost reserve account, while the positive figure would be applied in the opposite way.

Thus the current cost operating profit would be the surplus arising from the ordinary course of business in the period after allowing for the impact of price changes on the fund needed to continue the existing business, and would be regarded 'as the maximum that could be paid out by way of interest on net borrowings, dividends to shareholder and taxation without eroding the net operating assets of the business' (19).

At the second stage, the current cost profit attributable to shareholders would be determined, but account should now be taken of the way the business is financed. In order to arrive at this profit, the current cost adjustments would be abated to the extent that the net operating assets have been financed by net borrowings; this abatement is known as the gearing adjustment. The gearing adjustment, however, was 'intended to reflect the idea that shareholders should not suffer the entire impact of the current cost adjustments and that part of the burden should fall on

lenders (20), and this served to increase (in periods of rising prices) the current cost profit attributable to shareholders.

According to ED 24, the gearing adjustment was the product of the gearing proportion and the sum of the three current cost adjustments, and could be arrived at through the following formula:

$$\frac{L}{L + S} \times (\text{Depreciation adjustment} + \text{COSA} + \text{MWCA})$$

Where

L = average net borrowings, which is all monetary claims and assets except those dealt with in the MWCA

S = average net shareholders' funds from the current cost balance sheet.

However, the gearing adjustment would be credited to the profit and loss account and debited to the 'capital maintenance reserve' in the case where the net borrowings (including loan capital) were positive, whilst no gearing adjustment was required in the case where they were negative.

Although ED 24 was unlike the Hyde Guidelines in attempting to show the MWCA separately and required no adjustment in the case of negative net borrowings, it was similar in assuming that the gearing adjustment should be based on current cost adjustments rather than on the total revaluation surpluses and it sought to maintain only the shareholders' proportion of the

operating capability rather than the full operating capability. Another feature of ED 24 was the absence of a clear-cut definition of distributable profit, though it attempted to define 'profit attributable to shareholders' in a more explicit way than had ED 18. ED 24, however, emphasised that 'attributable' did not mean 'distributable' and that the distribution of profit depends not only on the profitability but also on the availability of funds, since factors such as capital expenditure plans, liquidity, new financial arrangements etc. not reflected in the measurement of profit needed to be taken into account. Nevertheless, profit attributable to shareholders would be regarded as the 'maximum that could be paid out by way of dividends without eroding the net operating assets of the business, on the assumption that additional finance (equal to the gearing adjustment) could be raised' (21).

Not surprisingly, most criticism of ED 24 was centred on its treatment of MWCA and gearing adjustment which determined the two profit measures. Thus calculation of the profit attributable to shareholders which embodied the gearing adjustment was dependent on the calculation of the current cost operating profit, which embodied the MWCA. The exclusion of cash and overdraft from the definition of ED 24's MWC could lead to the manipulation of the two profit measures, if a company wished to do so, merely by switching the

financing of its stocks from trade creditors to cash or overdraft.

The gearing adjustment was also criticised on conceptual grounds, and there were at least three arguments, raised by several accountancy bodies, against its treatment under ED 24. The first argument was that ED 24's gearing adjustment represented a fraction of gains on holding net monetary liabilities, for it was based on current cost adjustments, and thus the current cost profit attributable to shareholders would be understated. The alternative suggestion was that the gearing adjustment should be based on the revaluation surpluses for the period, whether realized or unrealized, if the operating capability was to be maintained intact.

The second argument was that the ED 24 gearing adjustment would overstate the current cost profit attributable to shareholders where a negative net borrowing occurred. An alternative view was that a gearing adjustment should recognize losses on holding a negative net borrowing as well as positive one. The third argument called for the abandonment of the gearing adjustment for the following reason:

> The most disappointing feature of ED 24 is its retention of the gearing adjustment, ... , which has no satisfactory logical basis under real world circumstances and can only be supported under highly restrictive assumption in a perfect world (22).

In spite of these criticisms ED 24 received a great deal of support in accounting circles in the U.K According to Tweedie and Whittington (23), 78% per cent of the 32 companies listed in the first 100 of the Times 1000, and eight of the top ten accounting firms (albeit with some reservations) were supportive, as also were the CBI and the Society of Investment Analysts.

1.4.6 S S A P 16

With minor changes (e.g. its scope) ED 24 was published in March 1980 as the first CCA standard in the U.K and known as SSAP 16. It applied principally to companies listed on the Stock Exchange and to large private companies which satisfied at least two of the following three criteria:

1- Turnover greater than 5,000,000 per annum.

2- Balance sheet total, i.e. sum of the net book value of fixed assets, investments and current assets, greater than 2,500,000 on a historical cost basis.

3- Average number of employees greater than 250.

Compliance with SSAP 16 was to be achieved in one of these three ways:

a- By presenting historical cost accounts as the main accounts, with supplementary current cost accounts which were prominently displayed.

b- By presenting current cost accounts as the main

accounts, with supplementary historical cost accounts.

c- By presenting current cost accounts as the main accounts, accompanied by adequate historical cost information.

SSAP 16 was to be applied to all accounting periods on or after 1 January 1980. The ASC stated that no substantial departure from the standard would be made for at least three years, during which time preparers and users of accounts would be given the opportunity to gain experience in dealing with the practical problems posed by SSAP 16.

1.5. Recent Developments

1.5.1 The Neville Report

A working party, known as the Neville working party, was set up in November 1980 and consulted a wide range of users, preparers and auditors of SSAP 16 accounts . The interim report of the party was published in April 1983 and concluded, inter alia, that:

1- most people believed that pure historical cost accounts were unsatisfactory at a time of significant price changes;

2- although the majority of users would be content to let SSAP 16 stand unchanged for some years without

major amendment, in fact they had made little use of SSAP 16 information;

3- the inclusion of two sets of accounts in the annual report was widely regarded as confusing and was bringing the profession into discredit;

4- the depreciation and cost of sales adjustment were nearest to commanding general support in principle, while the monetary working capital and gearing adjustments had less support (24).

The main recommendations of the Neville Working Party were that any new inflation accounting Standard should apply to all entities, require accounts to show the effects of changing prices when these effects are material, and allow for different methods of calculating changing prices.

1.5.2 Exposure Draft 35 (ED 35)

As a consequence of the Neville Report (The final Report was published in September 1983), the Inflation Accounting Sub-Committee chaired by Stanley Thomson was set up by the ASC in late 1983 for the purpose of drafting a successor to SSAP 16. The Sub-Committee was greatly influenced by the recommendation of the Neville Working Party and began to develop guidelines on the line of the Neville Report.

In May 1984 the ASC issued Exposure Draft 35

(ED 35) entitled "Accounting for the Effect of Changing Prices". ED 35 met widespread opposition from different accounting bodies and it was withdrawn in March 1985. It was based on the same concepts of the SSAP 16, but there were differences between them in their scope and in the way monetary items were treated.

ED 35 advocated in general that only public companies, whether listed or unlisted, should come within the scope of the proposed standard. Thus, large private companies which exceeded the size criteria laid down in SSAP 16 would no longer be required to publish current cost information, while smaller public but unlisted companies would do so. It is clear that the compliance with the proposed standard was based not on the criterion of a company's size but on whether there was a separation between company's ownership and its management (25).

The Draft was flexible in allowing for the effects of changing prices on financing the company, and in giving alternatives for the treatment of monetary working capital and gearing adjustment as 'working capital adjustment' in which were included bank balances and overdrafts, and it gave three alternatives relating to the calculation of gearing adjustments:

a) The first was similar to that of SSAP 16 by applying the gearing ratio to the current cost adjustments

(realized gains).

b) The second applied the gearing ratio to current cost adjustments and the unrealized gains or losses for the year. This was similar to the New Zealand method .

c) The third applied the rate of increase in general prices to the average net borrowing during the year. This was similar to the Australian method.

1.5.3 Withdrawal of the SSAP 16

In June 1985, after the falling compliance with SSAP 16, whereby compliance with SSAP 16 had fallen 'to below 30 per cent, forcing suspension of its compulsory status' (26), the ICAEW approved the ASC's recommendation that mandatory status of SSAP 16 be suspended.

On 30th April 1986 the ASC made a recommendation to its governing bodies that SSAP 16 should be withdrawn (27).

In this regard it is worth noting that in July 1982 the accountants Keymer and Haslam called a special general meeting of the ICAEW at which was put the motion 'that members of ICAEW deplore the introduction of SSAP 16 and call for its immediate withdrawal and on this occasion the motion was narrowly defeated (by 15,745 votes to 14,812)' (28).

1.6. The Evolution in the U.S.A., Australia and New Zealand

As early as 1918 a few American writers began to suggest a partial departure from the well-known historical cost accounting. The literature of the day was preoccupied with revaluation of fixed assets on the basis of replacement cost, and on important corollary interest was depreciation whose main function was believed to be replacement of fixed assets (29). Among the earliest writers were Middleditch whose article "Should Accounts Reflect the Changing Value of the Dollar"? was published in February 1918 in the Journal of Accountancy; and Paton and Stevenson, whose Principles of Accounting was also published as early as 1918. According to Whittington, Middleditch was the first American writer to advocate CPP accounting (30), and Paton the first to advocate replacement cost accounting (31). During the early 1920s several more writers began to show interest in the discussion, including Kester (1923), and Scott (1922). But the most valuable articles on inflation accounting were those of Henry Sweeney. Between 1927 and 1935 several were published by different accounting journals, and in 1936 he finalised his ideas in his famous book entitled Stabilized Accounting, which could be regarded as the first one published in an English-speaking country to

present systematically the CPP accounting system, although Sweeney's idea was not original. Between 1936 and about 1960, Sweeney's book impressed the academics rather than the professional bodies (32). But by the early 1960's the profession was turning to Sweeney's ideas for alternative methods which might provide additional information for users of accounting, and at that times a number of publications issued by the American Accounting association (A.A.A.) began to appear.

There have been great similarities between the evolution of inflation accounting in the U.K. and other English-speaking countries since the 1970s. The professional standard-setting bodies in all these countries followed the U.K. example and began at approximately the same time to issue Exposure Drafts based on adjustments for changes in the general price level. In December 1974 two exposure drafts were issued one by the Australian Accounting Standards committee (AASC) and the other by the Financial Accounting Standards Board (FASB) in the U.S.A. Both proposed the use of the Index Gross National Product (GNP). The New Zealand Exposure Draft was published in May 1975, proposing like the U.K. PSSAP 7 a purchasing power index related to expenditure of individuals the Consumer Price Index.

Government intervention led to the withdrawal of

the Exposure Drafts in the U.K, Australia and New Zealand; and through the S.E.C. the U.S. Exposure Draft was abandoned. For the same reason the government in the U.K. had set up the Sandilands Committee, the governments of Australia and New Zealand set up the Matthews Committee and Richardson Committee respectively, whilst in the U.S.A. no committee of inquiry was set up, for the S.E.C in 1976 had already required large companies to file information on replacement cost of inventories, cost of goods sold, productive capacity, and depreciation expenses. In principle the Matthews and Richardson system in favour of a current cost accounting system, but both reports rejected the Sandilands basis of assets valuation i.e. deprival value and proposed what is called an "essential to the business" basis of assets valuation; (21) i.e. assets which were essential to the business were to be valued at replacement cost, and where the enterprise had made a firm decision to dispose of an asset it would be valued at net realizable value. In other words, the present value was rejected in both reports. The Richardson Report went further and proposed that in addition to depreciation and cost of sale adjustments charge should be made against historic-cost profit for the maintenance of the purchasing power of monetary assets (cash and debtors) which monetary liabilities

were not to be taken into account.

The next events in the development of inflation accounting in the English-speaking countries were the issue of exposure drafts and recommendations taking into account gains and losses on holding monetary items in addition to the proposals made by their governmental agencies. These were followed by Accounting Standards issued by the professional standard-setting bodies for the first time, e.g. the American FAS 33 in September 1979, the British SSAP 16 in March 1980, the Australian 'Proposed Standard' in January 1982, and the New Zealand CCA-1 in April 1982.

There is no substantial agreement among the advocates and within the Standards of Current Cost Accounting in the English-speaking countries concerning the calculation of depreciation and cost of sales adjustment. But there are clear differences of opinion concerning the calculation of monetary gains and losses on monetary items, in particular the loan capital,which has become the most controversial accounting subject on recent time and may take a number of years to be agreed upon.

The main differences between the models of the countries mentioned above can be summarised as follows:

1- As regards to monetary working capital, the U.S.A.'s FAS 33, unlike the U.K's SSAP 16, the Australia's SAP I and New Zealand's CCA-I, made no distinction

between monetary working capital and loan capital. It required the making of one calculation for gains and losses on holding all monetary items using the movement in the general price index. Thus gains or losses on holding monetary working capital are not shown as a separate item in the income statement as in the case in the other three countries.

2- The U.S.A., New Zealand and Australian models, unlike the North America model, us specific price indices (usually those for inventories) in calculating gains and losses on net monetary working capital.

3- As regards the calculation for gains on loan capital, there are differences between Australia on the one hand and the U.K and New Zealand themselves. While these gains were dealt with in Australia by a general index, i.e. by multiplying the amount of loan capital by the increase in the general price level, the U.K and New Zealand adapted a gearing adjustment based upon specific price indices.

Moreover, the U.K gearing adjustment was to be arrived at by multiplying the gearing ratio i.e. Average Loan Capital

1.6.1 Example (33)

Comparison of Different Method for Calculating Gain and Losses on Monetary Items

A. Basic Data

1.	Average Monetary Working Capital for Year:	
	Cash at Bank	2,000
	Trade Debtors	8,667
		10,667
	Less: Trade Creditors	6,000
	Monetary Working Capital	4,667
	Lone Capital (Debentures etc.)	40,000
2.	Average Shareholders' Funds	57,600

3.	Price Movements:	
Current Costs of Inventory Items	Increased during year by	12%
Current Costs of Fixed Assets	Increased during year by	10%
General Index (General Price Level)	Increased during year by	11%

4.	CCA Profit Adjustments:	
	Cost of Goods Sold	810
	Depreciation	850
	Loss on Holding Monetary Working Capital	560
5.	Increases in Current Cost Reserve A/c During Year:	
	From Restating Fixed Assets	4,770
	From Restating Inventories	4,575
	From Recognizing Losses on Monetary Working capital	560
6.	Historical Cost Profit before interest and taxation	5,200
	Intrest on Borrowings	1,000
	Taxation	1,700

B. Calculations and Comparisons

Item	UK	USA	New Zealand	Australia
		$	$	$
1. Loss on Holding Net Monetary Working Capital				
12% of 4,667	(560)		(560)	(560)
11% of 4,667		(a) (513)		
2. Gains on Holding Loan Capital				
11% of 40,000		(a) 4,400		4,400
$\frac{40,000}{(40,000 + 57,600)} \times \frac{(810 + 850 + 560)}{1}$	910			
$\frac{40,000}{(40,000 + 57,600)} \times \frac{(4,770 + 4,575 + 560)}{1}$			4,059	

(a) The loss of 513 and the gain of 4,400 are not calculated or disclosed individually. FAS 33 merely shows the combined figure of 3,887 which is not added to "Income from Continuing Operations".

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CHAPTER TWO

THE MOVEMENT OF PRICES UP TO 1920's

2.1 INTRODUCTION

Revolutionary steps towards studying the movement of prices were made during the nineteenth century when economists began to construct a scale known as the index number, the original purpose of which was to measure changes in the purchasing power of money by means of changes in the general price level from one point of time to another (1). In most developed countries the index numbers were first compiled by private agents, but by the turn of the century they became the concern of government bodies, who recognised their usefulness as a tool to cover economic activities as well as to indicate the extent to which the purchasing power of individuals in a community was affected by fluctuating prices. Since the early 1920s both general and specific indices have been suggested by academics to provide accountants with simple means to revalue balance sheet figures and to adjust the profit and loss account.

Thanks to the early publication of price indices, economic historians have succeeded in showing the movement of prices in general since the nineteenth century, but have not yet managed to show adequately such movements for earlier periods, due to the difficulty of obtaining or the non-existence of, price quotations, many of which are still buried unnoticed in

their original sources (2). Nevertheless, these historians provide us with important information concerning the depreciation of currencies and movements of single commodity prices which helps us to obtain an idea of price movements of earlier periods.

The purpose of this chapter is twofold: first, to illustrate the evolution of the price index numbers up to the 1920s, outlining the basic formulae which were suggested by the pioneers and referring to their implementation in practice; second, to show the movement of prices up to the 1920s, particularly in England.

2.2 History

In 1764 Carli of Italy furnished an index number of prices based on only three commodities - grain, wine, and oil, to determine the purchasing power of money in 1750 compared to that of 1500. His index number appears to be among the earliest on record (3).

It was in England, however, where practically the same device had been hit upon by Sir George Schuckburg-Evelyn in 1798, that the theory and practice of index numbers were chiefly developed (4). According to Keynes (5), in 1849, the Californian and Australian gold discoveries led the English economist Professor William Stanley Jevons (1835-1882) to study the extent to which the purchasing power of gold had been affected. He had to solve the problem of price index numbers practically from the beginning, and examined the system of weighting, the choice between an arithmetical and geometric average, and what classes of commodities could best be taken as representative. He then worked out a series of price indices based on the average monthly prices of thirty-nine commodities for each of the years from 1845-1862. His final conclusion was that the fall in the value of gold was 9 per cent.

The fall in world prices beginning in 1873 accelerated the study of the index number Professor Francis Edgeworth (1845-1926), Secretary of the British

Association for the Advancement of Science, began to study methods of measuring variation in the value of money. In his capacity he wrote three lengthy memoranda (1887-1889), the most thorough investigation of index number up to that time (6).

He defined the index as a number adapted by its variations to indicate the increase or decrease of the general price level or the purchasing power of money, one the reciprocal of the other (7).

The rise in prices beginning in 1896 gave still another stimulus to the study of the price index. By the turn of the century the use of the price index was worldwide and gradually the calculation of price index numbers became a concern of government statistics. It is worth noting that the first official U.K. wholesale price index was prepared by the Board of Trade in 1903 and was based upon 45 commodities, mainly basic materials and foodstuffs; and in 1914 the first retail price index was published.

2.3 What is the Price Index?

The price index aims at the broad objective of measuring the changes in the general price level or the value (purchasing power) of money. It is a single figure derived from the data (prices and quantities) available at two points of time, and is a combination of

economic concept and statistical technique.

In other words, the price index shows the average percentage change between one point of time and another. In general, it is either the index of 'wholesale' prices or 'retail prices' of commodities, or it deals with particular prices such as foods only, or only with one kind of food such as milk.

Since the price index measures changes, it is compared with one selected level, usually 100. This is called a base year or reference year. The base year is usually the earliest, or the most convenient, or the average year of the series. Its degree of reliability depends on the quotation of the number of commodities used in the index, their sources, and the formula used in its calculation. If the prices of a number of commodities of a given year are P_1, P'_1, P''_1 ... P^n_1 and those prices are to be compared with prices of the same commodities in the base year P_o, P'_o, P''_o ... P^n_o, then the ratio between the price of each commodity is called the 'price relative ' i.e. the relationship between the prices of that one particular commodity at those two particular times. Thus the price relatives of the commodities above are

$$\frac{P_1}{P_o}, \frac{P'_1}{P'_o}, \frac{P''_1}{P''_o}, \ldots\ldots \frac{P^n_1}{P^n_o}$$

Now, a 'simple index number' of prices is ready to be constructed by applying a statistical technique - the average - to either the price relatives of the commodities or to the actual prices at both times, if they are available. The simple index, then, can be obtained from prices only, regardless of the importance of each commodity. But it was early recognized that there are enormous differences in the importance of commodities. Everybody knows that wheat is more important than sugar or tea, and so on. If the importance of the commodities is to be taken into account, then each commodity needs to be adjusted by weighting it in order to represent its importance fairly. This second type of price index, then, is called the 'weighted index'

Both the weighted and the simple index were implemented in practice. They are illustrated below, with reference to some of their applications.

2.4 The Simple Price Index

There are only six types of simple index. Five of them, namely, the simple arithmetic, simple harmonic, simple geometric, simple median, and simple mode, can be calculated if the price relatives of the commodities are known without any attempt made to learn their actual

prices, while the sixth type, namely the simple aggregative can not be calculated from knowing the price relatives of the commodities - their actual prices must first be known.

These types of simple index numbers are:

2.4.1 The Simple Arithmetic

This begins by adding the price relatives together and dividing by their number.

$$I_{o1} = \frac{\frac{P_1}{P_o} + \frac{P'_1}{P'_o} + \frac{P''_1}{P''_o} + \ldots\ldots\ldots \text{(n terms)}}{n} = \frac{\sum \frac{P_1}{P_o}}{n}$$

The advocates of its application in practice, which was achieved by the 1920s, were:

U.K.	Professor Edgeworth (1887-1889). 'London Economist' (1869); wholesale, 22 commodities. 'London Statist' (1886); wholesale, 45 commodities. 'The Times' London; wholesale, 60 commodities.
U.S.A.	Irving Fisher (1911) 'Analyst'; wholesale, 25 commodities.
Germany	'Frankfurter Zeitung' wholesale, 98 commodities. Schmalenbach, (1921) Mahlberg, (1922) and Kahn, (1921).

2.4.2 The Simple Harmonic

This begins by adding the reciprocals of the price relatives together and dividing into their number.

$$\frac{n}{\frac{P_o}{P_1} + \frac{P'_o}{P'_1} + \frac{P''_o}{P''_1} + \ldots\ldots \text{ (n terms)}} = \frac{n}{\sum \frac{P_o}{P_1}}$$

This type was not implemented in practice, but was advocated by F. Coggeshall.

2.4.3 The Simple Geometric

This is obtained by multiplying the price relatives together and extracting the root indicated by their number.

$$I_{o1} = \sqrt[n]{\frac{P_1}{P_o} \times \frac{P'_1}{P'_o} \times \frac{P''_1}{P''_o} \times \ldots\ldots \text{ (n terms)}}$$

Jevons in 1863 used and advocated this type.

U.K. 'Board of Trade Journal', (1903); wholesale, 150 commodities.

U.S.A. 'Harvard Review of Economic Statistics'; wholesale, 10 commodities.

2.4.4 The Simple Median

This begins by arranging the price relatives in order of size and selecting the middlemosts, or the average of the middlemosts when the number of terms is even.

U.K. Professor Edgeworth in 1896 advocated this type.

Germany 'Wirtschaft und Statistik', (Economics and Statistics), wholesale, 38 commodities.

2.4.5 The Simple Mode

This begins by arranging the price relatives in order of size and selecting the most common. The Mode has never been used or proposed in practice.

2.4.6 The Simple Aggregative

This begins by adding together the actual prices at each of the two times and taking the ratio of these sums.

$$I_{o1} = \frac{P_1 + P'_1 + P''_1 + \ldots\ldots}{P_o + P'_o + P''_o + \ldots\ldots} = \frac{\sum P_1}{\sum P_o}$$

U.S.A. 'Bradstreets' (1897); wholesale, 96 commodities.

It is worth noting that the above formulae can also be adapted so as to measure changes in quantities by replacing quantities with prices.

2.5 The Weighted Price Index

In its infancy the weighted price index was based on guesswork. Arthur Young estimated barley to be twice as important as wool, coal or iron (8). Later, it was agreed that the best system of weighting should be based on the value of each commodity. Such values afford the only common measure for comparing the stream of commodities produced, exchanged, or consumed and affords the only basis of weighting which has ever been seriously proposed (9). Since the commodities have values at two times, one of base year and the second of given year, then there are four possibilities for reckoning the weight as value, (10) i.e.

$P_o \times q_o$ base year price x base year quantity

$P_o \times q_1$ base year price x given year quantity

$P_1 \times q_o$ given year price x base year quantity

$P_1 \times q_1$ given year price x given year quantity

When any of these products is applied to any type of the simple price index except the aggregative type,

then the index is called a weighted index. For example, if the base year value ($P_o q_o$) is regarded as weight, then the weighted arithmetic price index is written as follows:

$$I_{o1} = \frac{P_o q_o \left(\frac{P_1}{P_o}\right) + P'_o q'_o \left(\frac{P_1}{P'_o}\right) + \ldots}{P_o q_o + P'_o q'_o + \ldots} = \frac{\sum P_o q_o \left(\frac{P_1}{P_o}\right)}{\sum P_o q_o}$$

and for the weighted geometric price index

$$I_{o1} = \sqrt{P_o q_o \left(\frac{P_1}{P_o}\right)^{(p_o q_o)} \times \left(\frac{P_1}{P'_o}\right)^{(p'_o q'_o)} \times \ldots}$$

The first of these types was used by the United States Bureau of Labor Statistics in 1920, while the second was used by the Harvard Committee on Economic Research.

And in the same manner a weighted index of harmonic, median, and mode can be constructed.

The weighted aggregative, unlike the other weighted indices, has the characteristic of possessing only two systems of weighting, because its formula and the weight already contain actual prices. Consequently, in such

index the weights must be just quantities, and these quantities are either those of the base year (q_o) or of the given year (q_1). Accordingly, the weighted aggregative has usually one of the following forms:

$$I_{o1} = \frac{P_1 q_o + P'_1 q'_o + P''_1 q''_o + \ldots\ldots}{P_o q_o + P'_o q'_o + P''_o q''_o + \ldots\ldots} = \frac{\sum P_1 q_o}{\sum P_o q_o}$$

Laspeyres, working in Germany in 1864, formulated and advocated this kind of price index when assessing an index number for Hamburg.

U.K	'Federal Reserve Bulletin'; wholesale, 98 commodities.
U.S.A	'Bureau of Labor Statistics', (1920) wholesale, 404 commodities and, retail, 43 commodities.
Germany, Berlin	'Finanzpolitische Korrespondenz', cost of living (1920); 19 commodities.

The second form is

$$I_{o1} = \frac{P_1 q_1 + P'_1 q'_1 + P''_1 q_1 + \ldots.}{P_o q_1 + P'_o q'_1 + P''_o q''_1 + \ldots} = \frac{\sum P_1 q_1}{\sum P_o q_1}$$

Paasche, in 1874 advocated and formulated this form of price index, and it is known as Paasche's formula.

To this end, the simple and weighted formulae as

shown above are the basis of any other formula found in the theory or practice of index number ever since. From any two basic formulae a new formula can be constructed by crossing (i.e. taking their geometric mean) as in the case of Fisher's ideal formula, which is the geometric mean of Paasche's and Laspeyres' formulae. It is written as follows:

$$\sqrt{\frac{\sum P_1 q_o}{\sum P_o q_o} \times \frac{\sum P_1 q_1}{\sum P_o q_1}}$$

This formula has been constructed by Irving Fisher and advocated by Welsh, Allyn Young, Pigou and others. It is called the 'ideal' formula, for it fulfils the "time reversal test" as well as the factorial reversal test. Or a new formula can be obtained by either crossing a pair of weights, as shown in this example of weighted arithmetic -

$$\frac{\sum \sqrt{P_o q_o \times P_1 q_1 \left(\frac{P_1}{P_o}\right)}}{\sum \sqrt{P_o q_o \times P_1 q_1}}$$

- or taking the average of two weights, one of base year and the other of given year, as in the formula below:

$$\frac{\sum \frac{q_o + q_1}{2} P_1}{\sum \frac{q_o + q_1}{2} P_o}$$

This formula was advocated by Marshall and Edgeworth in 1896 and provides a great deal of accuracy. It is less accurate than the 'ideal' formula, but it is easier than the ideal in calculation.

The ease and speed of calculation seems to be the answer to the question why certain formulae (e.g. simple and weighted arithmetic) were practised though they were less accurate than the formula suggested by Fisher and Marshall.

To summarize, the following steps should be followed in constructing an index number:

1- Regarding the price of each commodity as 100 in the base year (e.g 1919).

2- Taking the ratio between the prices of each successive year (e.g 1920), and the base (price relatives), and then percentaging them.

3- Giving each commodity a weight (relative importance).

4- Averaging the percentages (e.g. arithmetical average).

When the result is above 100 this means that the price level of the goods and services under consideration has risen and when it is under 100 this means that the price level has fallen.

2.6 'Fixed Base' and 'Chain' Systems

The preceding paragraph shows a construction of index number at two points of time only, i.e. times 0 and 1. When there is a series of years, and not only two years to be compared, then there are two systems for calculating a series of index numbers. The first is called the 'fixed based system'. It is based on calculating the index number of each year in the series relative to the base year. To illustrate, if the series of years are, 0 as base, 1, 2, 3, ... n, then the index of any year, (say for example) year three, is I03 and for year n, is I0n. In other words, all price relatives or prices whether they are weighted or simple, of any year in the series, are to be compared with that of the base year, chosen usually as 100. Also, comparison can be made between any two years in the series, say years 3

and 2 directly, by dividing their indices : I03/I02 if the measurement of the movement between these two years is desired.

The second system is called the 'chain system'. It is based on calculating the index number of each year as a 'link' relative to the preceding year (which is taken as 100) and then multiplying all the preceding links back to base year. To illustrate, the first link is I01 and it is the same as in a fixed base system. The next link can be obtained by calculating the index of year two, relative not to year 0, but to year 1, whose average prices are selected as 100. And so on until year n. Then the index number for year n = I01 x I12 x I23 ... x In-1 x In. This method was suggested by Marshall in 1887, in the 'Contemporary Review', and advocated by Walsh and by the 'Financial Times' of London.

In summary, the pioneer work of Jevons, Edgeworth, Laspeyres, Paasche and others has been responsible for devising a scale measuring the value of a monetary unit in terms of its power to purchase goods and services. Although there are different methods of computing index number, their results usually agree approximately.

2.7 The Price Movement in History

Since the end of the eighteenth century there has been a considerable amount of information about the movement of prices, but there was no good measure of price movement compiled by an economic historian before 1792, the date from which Jevons began his system of index number for wholesale prices in England (11); nor is there evidence available of any real value before the thirteenth century (12) except a few examples dealing with the depreciation in the value of money which might indicate early price fluctuations of money origin.

2.7.1 The Period before the Thirteenth century

Gold and silver, due to their scarcity, were always regarded as the principle measures and standards of value, and became the favourite media of exchange even before money was known. Given that money was made of silver, and to a lesser extent gold, the more gold or silver in a coin the more was its buying power, the lower was the price level, and vice versa. It is also convenient to think that when the weight of coins was reduced whether by individuals (e.g through clipping bits of metal from them) or by governments, or the latter debasement new coins, the buying power of coins fell and hence prices rose even severely at

certain times. An example was Athens, when it took to inflation by both devaluation and debasement which included the issue of plated coins which provided a currency whose metallic content had a value far below the legal value (13). Historians have also shown that money value fluctuation was recognised as early as the Roman period in Egypt, where contracts were made in terms of commodities rather than money. At that time a large number of contracts show that wheat was used for paying rent on farm land, or an amount of money equivalent to the value of wheat (14).

Thanks to the increased interest of economic historians in the history of England between the thirteenth and nineteenth centuries we have learnt more facts about the depreciation of the penny, which was caused by debasement, devaluation and rich silver and gold discoveries. Such studies have also provided information about the price movement of single commodities, in particular wheat, for which Thorold Rogers compiled a large number of price quotations covering the period from 1260-1690, as are shown in chart 1. But unfortunately the price quotations available so far of a number of commodities far cannot be compiled into a reliable index number showing the movement of general price level prior to the nineteenth century, for the quotations come from scattered references rather than from continuous series

and thus they are not comparable with each other in respect of place, quality, condition of sale etc (15).

However economic historians provide us with at least too kinds of evidence in showing that prices in England generally rose as a consequence of a) the depreciation of the penny and b) gold and silver discoveries, which were one of the chief causes of high price level prior to the eighteenth century. According to Morgan (16) the penny in 1299 had consisted of 22.5 grains of silver, 92.5 per cent fine. During the fourteenth and fifteenth centuries the fineness was preserved, while the weight was reduced several times. The issue of 1544 contained only half its weight in fine silver and that of 1545 only a third, while in the reign of Elizabeth, who reformed the currency in 1560-1561, the money brought in for recoinage was found to contain only 8 grains of fine silver.

Although the debasement of the penny was one of the causes of high price level, the influx of considerable amounts of silver from Peru and gold from central America in the 1540s to Spain and thereafter to the U.K was the main cause of the sharp increase in prices in England, particularly of wheat, as shown in chart 1. This increase continued throughout the seventeenth century.

As already noted, because of money value

fluctuation contracts were made in terms of commodities, particularly wheat rather than money. In England the 'tithe averages' often varied with the value of grain so that the tithe was in effect so much grain, not so much money; or rather, it was money measured by grains (17). The 'Scotch Fiars prices' which existed for more than two centuries and 'Act 18, Elizabeth' are other excellent examples. According to Irving (18) Fisher, in Scotland farms were rented in terms of grain and as early as 1576, in the reign of Elizabeth a statute was passed requiring that some of the of land grants for foundations of Oxford University were rented in terms of wheat.

2.7.2 The Period from 1700 to 1920

The eighteenth century witnessed another kind of money, namely bank notes, among the earliest of which were issued by the Bank of England one year after its establishment in 1694, these notes having a value equivalent to that of coins already circulating. While the debasement of coinage was one of the causes of high prices prior to the eighteenth century, the suspension of cash payment by the issuing banks became one of the main causes of rising prices thereafter. Economic historians have shown that where irredeemable notes were used, prices rose much more steeply than prices raised

by the debasement of coinage, as, for example, in the case of the 'assignats' of the French Revolution, which was issued in 1790 and was worth about 1/288 of its par by 1796 (19).

Although the nineteenth century witnessed an increased supply of gold causing an increase in the price level throughout the developed countries on two occasions (the 1850s and 1890s), the policy of the Central Bank was the main cause of price fluctuations.

England's experience with irredeemable paper money during the Napoleonic Wars (1793-1815) is one of the excellent examples history has shown us which might be generalised to countries in similar circumstances. In 1793 conditions in the money market were rendered unstable by the outbreak of the war. The government began to borrow to finance the war; businessmen and manufacturers found it more difficult to secure ready money; the normal course of trade and industry was interrupted; and people began to hoard their money and to withdraw their deposits from the banks (20). In 1797, when the reserve in the Bank of England was reduced to just over a million pounds, the government passed the Bank Restriction Act, authorising the Bank to suspend cash payment on its notes, and to meet the demands made on it by issuing bank notes without the fear of being required to change these for gold on demand. The government enacted a Gold Standard Law in

1816; even so, the suspension of cash payments continued until 1821, the date at which the former statutory figure of 3.17^{s} . 10 1/2^{d} per ounce of gold was reached. During 1808-1809 some inflation took place (Jevons' index number for the period 1789-1809 rose from 85 to 161) and several writers, including David Ricardo, drew public attention to this (21). As a result a Committee of Parliament, known as the Bullion Committee, was set up in 1809 to investigate the matter, and in 1810 the Committee published a famous report, known as 'the Report of the Bullion Committee'. The Committee pointed out that bank notes could not buy as much as gold coins, that the price of gold had risen and that the foreign exchanges had moved against England (22). In the opinion of the Committee, the only explanation for the high prices was the over-issue of credit by the Bank of England and other banks of issue (23), and as a remedy the committee recommended that cash payments should immediately be restored, which meant that the Bank should be required to change its notes for gold on demand. Due to the insufficient gold available during 1810 the recommendation was dismissed by the government (24). In 1818, when a similar committee was set up to investigate the affairs of the Bank of England it came (in 1819) to the same conclusion as the Bullion Committee and this time the government and the Bank were

in full agreement (25). On the recommendation of the committee the Act of 1819 was passed requiring that government borrowings, which always necessitated fresh note issues, were to be restricted and subjected to parliamentary control, and that the Bank of England was to resume cash payments on its notes by 1823. Actually this was done two years earlier (26). As a result of these measures -heavy reduction in note issues - English prices began to fall and continued to do so until 1849. According to Jevons index prices fell from 161 in 1809 to 100 in 1820, and according to Sauerbeck's index in 'The London Statist' prices between 1820 and 1849 fell from 112 to 74.

After the American and Australian gold discoveries in about 1849 (Gold inflation), the purchasing power of gold fell by 9 per cent as calculated by Jevons, which caused a rise of prices in countries using the gold standard. The Sauerbeck chart shows that between 1849 and 1873 prices rose from 74 to 111 in England, (i.e. 50 per cent).

The period 1873-1896 witnessed a fall in prices throughout these countries. This fall could be attributed to the fall in the price of silver by 40 per cent, as was recorded in the London market (27), and also to the fact that the volume of gold and other currencies did not keep pace with the requirements of business (28). The charts 2-5 (29) show that prices in

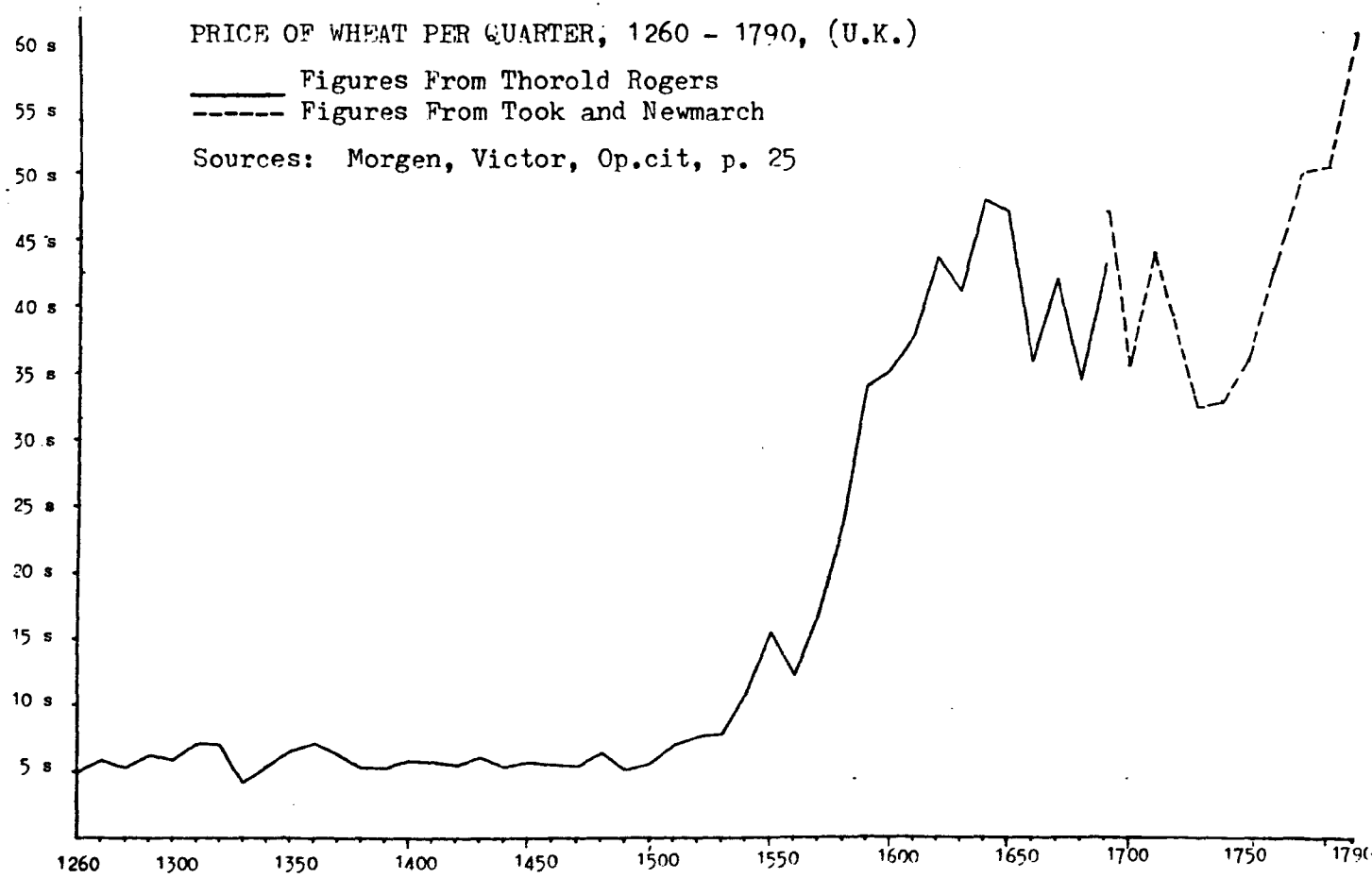
England, the U.S.A., Germany and France had reached their lowest level by 1896. The fall was from 111 to 62, in England, from 121 to 67 in the United States, from 125 to 71 in France, and from 120 to 75 in Germany.

Between 1896-1914 prices rose to the level of 85 in England, 98 in the U.S.A., 105 in Germany and 104 in France. These rises were mainly attributable to the extraordinary rise in gold production and the consequent increase in money media of all kinds (30).

During World War I prices showed a tendency to rise farther. This rise was attributable to the abrogation of gold standard laws throughout the countries involved in the war, so absolving their banks from the necessity of paying out metal against notes (31). The prices of 1918 compared to those of 1914 show that English prices rose by 125%, the American by 98%, the German by 155% and the French by 140%. By 1920 the price levels in England and U.S.A. had reached their maximum when their indices recorded 251 and 226 respectively, and then they tended to fall again; while in Germany in 1920 the official price index shows that prices in general were six times as much as they had been at the end of the war and were tending to rise rapidly, unlike the English and American indices, to record in December 1923 one of the most unprecedented increases in the history of paper currency, when the index number of wholesale prices in

paper reached the figure of 1,262 milliards compared to 1 in 1913 (32).

To summarize: History shows that the value of a monetary unit has always been unstable no matter whether the standard unit was gold, silver or paper. This is attributable to the fact that a monetary unit is always fixed in terms of itself (e.g. the pound in always 100 pence) and not in terms of the goods and services it purchases. Although the second half of the nineteenth century witnessed continuously two periods of fluctuating prices - i.e. rising prices (1849-1873) and falling prices (1873-1896) throughout the world, generally accepted accounting principles which were developed during the latter period and have been followed in accounting practice ever since have ignored the fact that our monetary units are unstable in spite of the attempt made by academic accountants in the early 1920s to draw this to the attention of accounting authoritative bodies, a few of whom have now began to realize this fact.


PRICE OF WHEAT PER QUARTER, 1260 - 1790, (U.K.)
Figures From Thorold Rogers
Figures From Took and Newmarch
Sources: Morgen, Victor, Op.cit, p. 25
60 s
55 s
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1260
1300
1350
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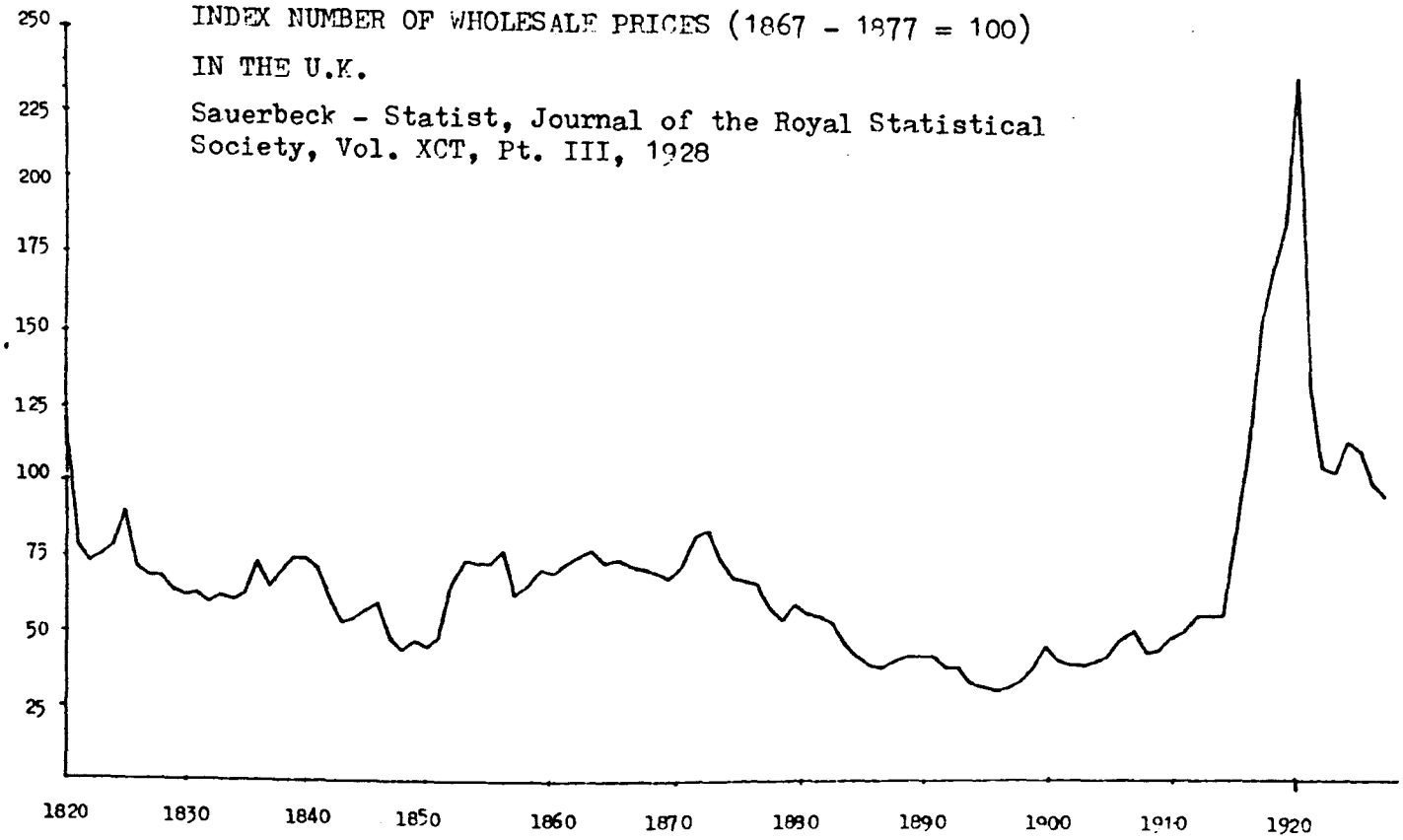
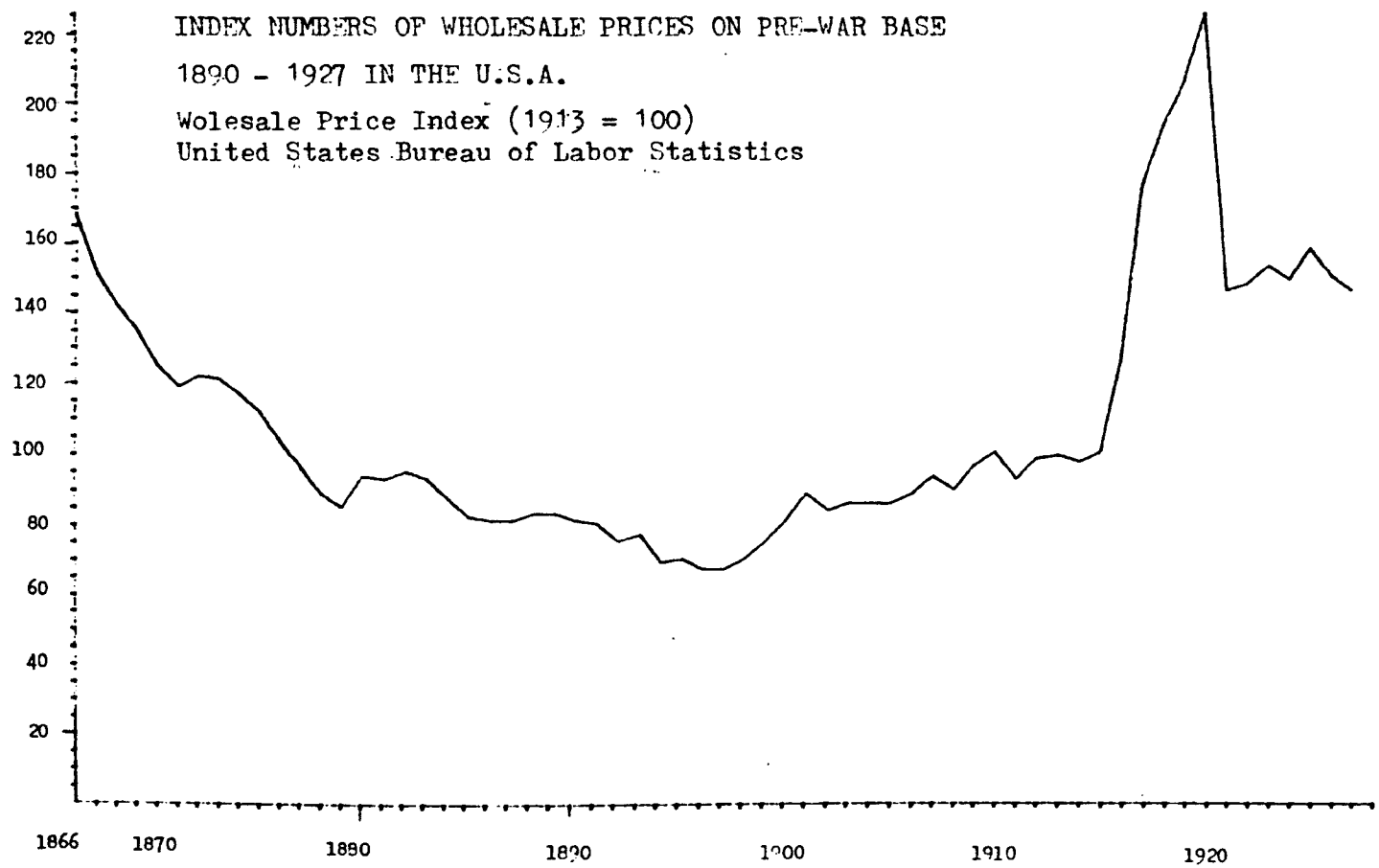
1500
1550
1600
1650
1700
1750
1790

INDEX NUMBER OF WHOLESALE PRICES (1867 - 1877 = 100)

IN THE U.K.

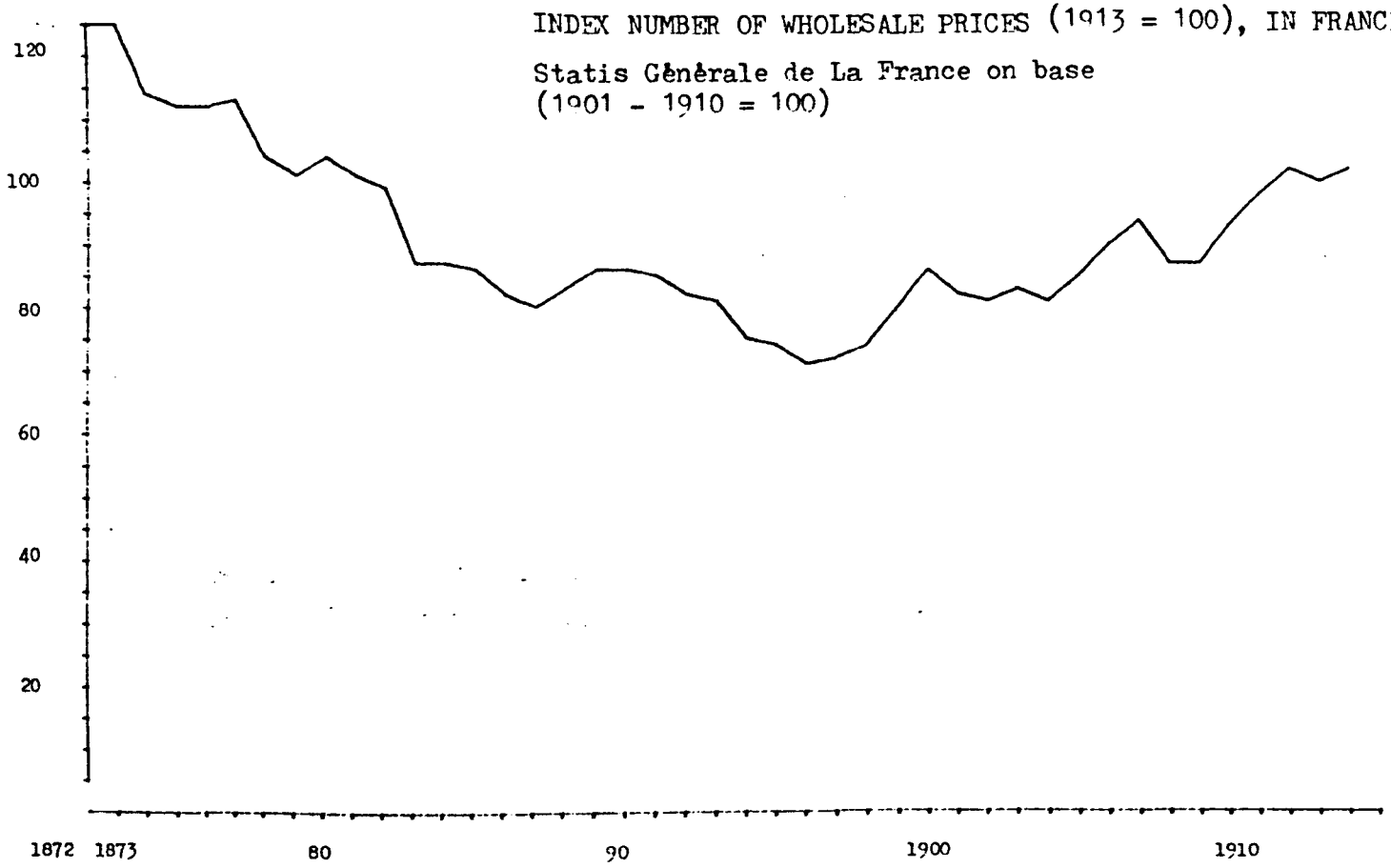
Sauerbeck - Statist, Journal of the Royal Statistical Society, Vol. XCT, Pt. III, 1928




INDEX NUMBERS OF WHOLESALE PRICES ON PRE-WAR BASE
1890 - 1927 IN THE U.S.A.
Wolesale Price Index (1913 = 100)
United States Bureau of Labor Statistics
220
200
180
160
140
120
100
80
60
40
20
1866
1870
1890
1900
1910
1920

INDEX NUMBER OF WHOLESALE PRICES (1913 = 100), IN FRANCE

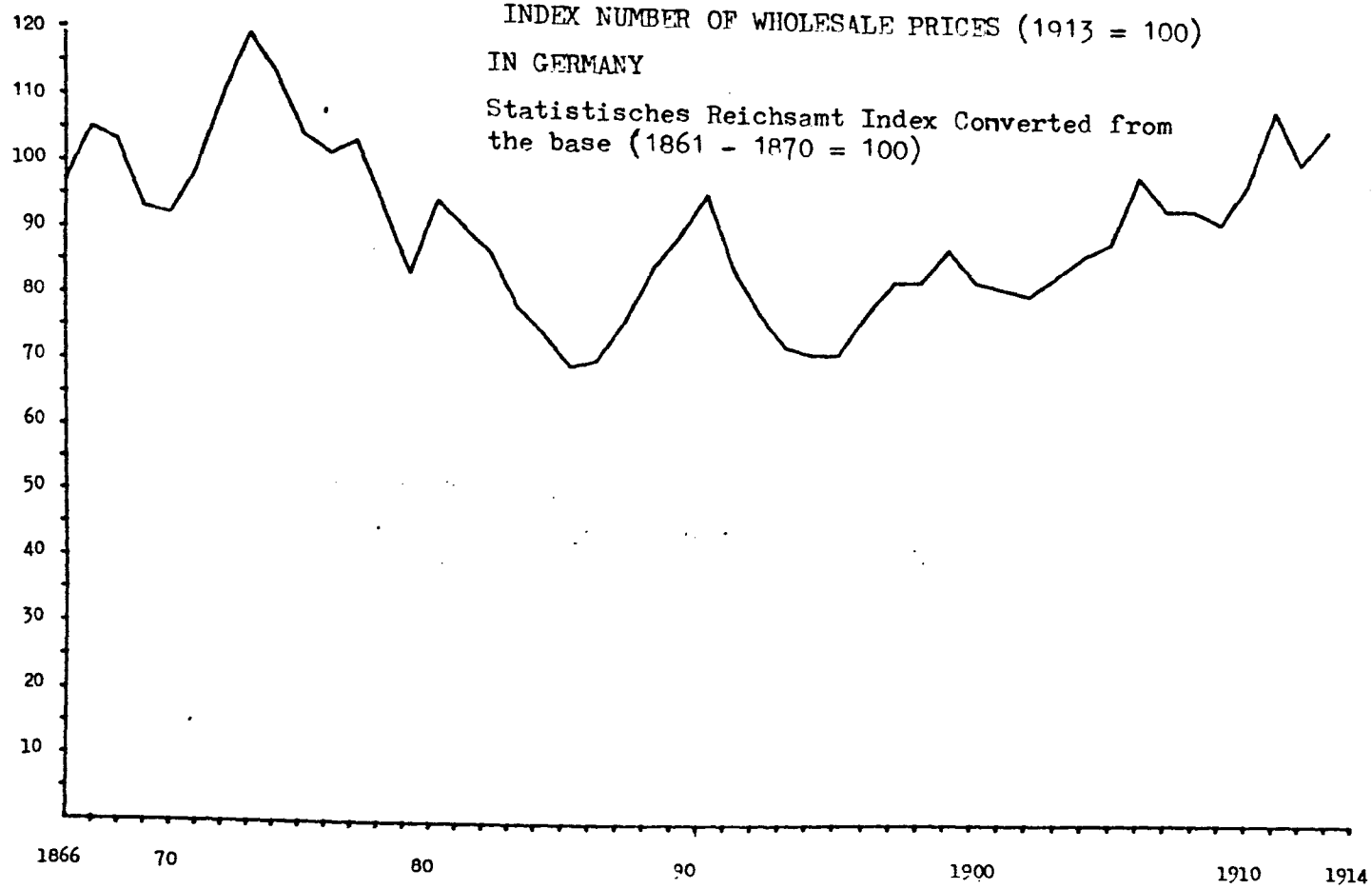
Statis Générale de La France on base
(1901 - 1910 = 100)



INDEX NUMBER OF WHOLESALE PRICES (1913 = 100)

IN GERMANY

Statistisches Reichsamt Index Converted from the base (1861 - 1870 = 100)



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CHAPTER THREE

ACCOUNTING PRACTICE IN GERMANY UP TO 1920's

Accounting Practice in Germany up to The 1920s

3.1 Introduction

This chapter is designed to show the evolution of German accounting practice from the introduction of the first commercial code of 1861 up to the 1920s. In order to achieve such an objective, it is convenient to discuss the historical development of the major authoritative bodies that influenced or attempt to influence accounting practice in Germany: governments, academics, trade associations, and finally the accountancy profession.

In the section concerning legislation concentration is focused the paragraphs and rules of both commercial and tax laws dealing with valuation, in particular paragraphs 38-40 and 261 of 1897, which have shaped accounting practice in Germany ever since.

German academics made an outstanding contribution to German accounting on the theoretical level with the aim of influencing the actual accounting practice, through their writings in many areas particularly these ideas of dynamic accounting, inflation accounting and the chart of accounts.

Section three deals with the role of German trade associations, bodies which always played a significant role in the development of industrial accounting , in particular the Association of Mechanical Engineering

(VDMBA).

Finally, section four deals with the less influential bodies, the accountancy profession. The provisions of auditing, the emergence of accountancy profession and finally an explanation concerning why such a body is still small in comparison with the U.K professional bodies is given.

3.2 Introduction to the Legislation

In 1857 administrative lawyers, four professors of law and six distinguished businessmen met in Nuremburg for the purpose of drafting a General Commercial Code (1). It took three general meetings over a four-year period for the drafters to agree on the bill which was incorporated into the General German Commercial Code (Algeneine Deutsche Handelsgesetzbuch) in 1861.

German literature shows that the drafters were divided into at least three major groups of opinion as to the question of assets valuation, which was hotly debated in the first two general meetings (lesungen), where several methods were proposed. From the beginning of the debate it was, however, argued that the protection of creditors and the prevention of of distributing unrealised profits were of utmost importance and thus the 'value' sought should be the 'actual value' (wirkliche Wert) (2). According to Sewering (3) Paragraph 33 of the Prussian Law without alteration was proposed by a number of businessmen to prescribe the bases of assets valuation in the new Law. This Paragraph, however, required that historical cost should be the upper value limit of an asset shown in the balance sheet. It stated that 'Stock should be shown at historical cost; and at market price (selling price) where this is lower than the cost' (4).

This proposal was opposed by one businessman, who strongly advocated a single valuation method i.e. historical cost (5), and a great number of lawyers who made up the majority view and seemed to be against the use of a definite concept of value .

In the second general meeting several drafts were put forward and the majority accepted that of the city of Hamburg in which was proposed that the value of an asset should be the 'true value' (wahre Wert) (6), the definition of which was left to the users to decide.

It seems possible that the German drafters were following the example of the U.K Comapny Act of 1844, which required the presentation of a 'full and fair' balance sheet without defining these terms.

3.2.1 The German Commercial Code of 1861

With minor modifications the draft was enacted as the German Commercial Code of 1861.

The law made it mandatory for every businessman to keep a regular day book of accounts,a mainly purchase and sale book, without referring to orderly book keeping principles (7). It required also the preparation of a balance sheet at the end of each year, but it did not specify the purpose of the balance sheet (8).

As far as assets valuation was concerned, the

opinion of the drafters was reflected in the resulting law, which required the 'true value' at the balance sheet date (Wert am Tage der Bilanzaufstellung) to be used, without giving any definition of the term (9). Thus it seems possible that the legislature was intending to change accounting practice from the traditional method of using historical cost.

In practice, however, businessmen in general paid only lip service to the legal requirements and continued to adhere to the traditional accounting whereby inventories and fixed asset figures were usually derived from the previous year's figures (10) while depreciation charges were fixed freely by the management of the business (11). Moreover, there was little general interest shown in the preparation of accounts annually, since the tax authorities themselves took no interest (12); taxation was low, and there were no specified legal penalties for non-preparation of such accounts.

The flexibility of the 1861 act and its failure to specify methods of asset valuation gave management scope to manipulate accounts, merely by overvaluing their assets and undervaluing their liabilities, thus enabling several joint stock companies to declare higher profits and to distribute higher dividends. According to Horn (13), Oechelhaeuser describe the balance sheets of these companies as a mockery.

3.2.2 The Atkiennovelle (Companies Act) of 1884

With the economic crisis that swept Germany during the 1870s and in particular when the heavy stock exchange crash occurred in 1873, it was felt necessary for the government to protect the interests of shareholders and creditors who were vulnerable to heavy losses. As a result the 1861 Code was amended and a new Commercial Code was enacted in July 1884. This law was mainly restricted to joint stock companies and partnerships limited by shares, while other companies continued to be governed by the 1861 legislation.

It required the publication of profit and loss account as well as the balance sheet. These were to be audited and submitted to the Annual General meeting. The law seemed to accept Paragraph 33 of the Prussian Draft mentioned earlier and laid down a general valuation rule which was found in Paragraph 185 :

'Assets should not be shown on the balance sheet at higher than cost'(14). With reference to the valuation of the balance sheets important items the law required that:

1- Fixed assets were to be shown at original cost less an appropriate deduction for accumulated depreciation (15).

2- Inventories and marketable securities were to be valued at cost or market whichever is lower.

3- Share capital (Grundkapital) must be shown at a nominal value and separately from other liabilities, which were also to be accounted for at their nominal value.

4- Cash must be shown at nominal value, receivable at probable collection value and 'organisation cost should be written off immediately' (16).

The other aspects of the law were described by Schmalenbach as follows:

> Companies [joint stock companies and partnerships limited by shares] must declare their true profits to shareholders and those who intend to become shareholders and may not pay out dividends which are distributions of capital and not of profit. Also, nothing shall be shown as an asset or a liability which does not in fact exist, but is based on an arbitrary valuation (17).

Although the law brought a radical change in the area of valuation in theory, its impact on accounting practice was, in the main, limited to demanding the accountability of management to the shareholders and safeguarding shareholders' interests. This was because companies were already using historical cost as a basis for asset valuation.

3.2.3 The Commercial Code of 1897

On May 10th 1897 a new Commercial Code appeared which was to be universal in application and was derived

from earlier legislations.

The Code contained paragraphs which were general in nature, applicable to all companies, (for example Paragraphs 38 and 39), and contained paragraphs concerning valuation applicable to specific types of companies.

3.2.3.1 Paragraphs of General Application

1- Paragraph 38 required all business entities, including sole proprietorships, to keep the books (loose-leaf accounting and ledgerless accounting was accepted) in a living language (not necessarily German) according to the principles of orderly book- keeping, i.e. book keeping generally should follow double entry principles and all entries must have orderly supporting documents.

2- Paragraph 39 required that each item of the balance sheet should be valued individually (Einzelbewertungsprinzip). Group valuation was permitted only for items of a similar nature (18).

3- Paragraph 40 section 1 required that the balance sheet must be drawn up in German Mark which was the only acceptable measuring unit.

3.2.3.2 Paragraph of Specific Application

The Code set up different regulations according to the nature of companies, Joint Stock Companies - Atkiengesellschaften (A.G.s) and Partnerships Limited by Shares - Kommanditgesellschaften (K Ga As) - were required to publish annual balance sheets and profit and loss accounts, to be submitted before each general meeting and within three months of the end of the financial year. Private companies limited by shares- Gesellschaft mit beschraekter Haftung (G.m.b.H)- and sole proprietorships were only required to publish balance sheets. On the other hand, while the Code required only Joint-Stock companies to have a Supervisory Board (Aufsichtsrat) which was to be appointed by the shareholder's meeting (Generalversammlung) to oversee the report of the board of directors and audit the financial statements, it required all other business entities to produce annual balance sheets and inventory lists and sign them personally.

As far as assets valuation was concerned the code subjected joint stock companies and partnerships limited by shares to paragraph 261. Other types of business entities were, however subject to paragraph 40 of the same commercial code, while G.m.b.H.s. were covered by paragraph 42, which was a hybrid of paragraphs 40 and

261. At this stage I wish to correct the statement of Gerhard Mueller in his book Accounting Practice in West Germany (1964) (19),in which he applied paragraph 40 to all business entities without referring to paragraph 261, and thus readers may be quite misled by his invalid conclusion.

It seems certain that Gerhard Mueller was unaware of the legal requirements as far as assets valuation prior to the 1920s was concerned.

3.2.3.2.1 Paragraph 40 of the 1897 Commercial Code

In this Paragraph the following was stated:

1- The balance sheet is to be drawn up in German currency (Reichswaehrung).
2- In drawing up the balance sheet, the value to be attached to all assets and liabilities must be estimated as those existing at the point in time for which the balance sheet is drawn up.
3- Doubtful debts are to be shown according to their probable value; bad debts are to be written off (20).

From the above valuation requirement it is quite clear that the legislature required the current value (Zeitwert), but the term 'current value' did not specify which value, i.e. selling price or replacement cost. It seems possible, however, that the legislature allowed a certain flexibility in practice.

There was a discrepancy between accounting practice

and the law as far as assets valuation was concerned. According to Berliner (21), businessmen had never attached values which were above cost to the balance sheet items and always used subjective values which lagged far below both the original costs and the current market prices. It was also felt in business circles and accepted by precedents that the adoption of assets undervaluation, i.e following the principle of the lowest value (Niederstwertprinzip) was necessary in facing anticipated business risks (22). Horn (23) went further to emphasise that valuation at selling price as well as replacement costs, particularly at times of rising prices, did not find favour with the businessmen, for (a) such valuations were against the realisation principles to which they strongly adhered, and (b) unrealised holding gains were regarded as profit and hence any appreciation was considered taxable by the authorities. Further evidence in support of the use of the lowest value in practice comes from Lion, who wrote:

> The reputable and respectable businessman objected to including in his calculation unrealised holding gains, and to showing himself wealthier than before, but he accounted for anticipated loses because these should be considered, and if not his financial position as shown in the balance sheet would be an overestimation (24).

In the case where losses were declared they were shown either on the assets side, or, as was generally practiced, written off the capital.

3.2.3.2.2 Paragraph 261

This Paragraph prescribed the valuation rules for Joint Stock Companies and Partnerships Limited by Shares and was almost the same as Paragraph 185 of the 1884 Company Act. These rules which were found in sections 1-3 of Paragraph 261 can be explained as follows:

- In section 1, as regards securities and inventories, the Stock Exchange or market price of each item should be compared with its acquisition or construction cost, and the lower of these two values should be stated in the balance sheet.

- Section 2 requires that the highest value at which other assets must be stated in the balance sheet is the acquisition cost or construction cost.

- Section 3 states that fixed assets and other assets held for use are allowed to be stated at their acquisition or construction cost even where their market prices are lower. Accumulated depreciation is either deducted from the fixed value, or to be included among liabilities, in which case fixed assets are to be shown at their original cost.

The main difference between Paragraph 185 of the 1884 legislation and Paragraph 261 Section 3 of 1897, however, is related to valuation of fixed assets. While under Paragraph 185 the acquisition or construction cost was applied to fixed assets, under Paragraph 261

(section 2) the 'lowest value principle' was applied, though the acquisition or construction cost was allowed (section 3). It seems obvious that the reason behind this allowance was that the legislature was aiming at avoiding a discrepancy between law and accounting practice, which strongly adhered to the doctrine of conservatism and the realisation principles.

According to Berliner (25), companies subject to Paragraph 261 valued their assets as follows:

1- Fixed assets were valued at original cost plus all expenses (e.g fitting, assembly and installation) less (excepting land) an estimated depreciation. In the balance sheet fixed assets were usually shown at net value. The straight line method mentioned was the most popular method for depreciation. However, many companies also applied this method to the net value of fixed assets and as a consequence reducing balance method was also applied in practice (26).

2- Inventories were usually valued individually at the historical cost or the market value, whichever was the lower. The basis of inventory valuation was the average cost method because this was the method favoured by the tax authorities. Inventories were to be revalued at the end of the accounting period regardless of their previous valuation.

3- Banks balances, cash and securities were valued

at their nominal value, and where such items where acquired using foreign currencies, their equivalent Mark value was to be shown.

4- Receivables and debtors were shown on the balance sheet at nominal net value after deducting all discounts and interest, i.e. uncollectable receivables were written off and a reserve was provided for doubtful receivables.

5- Share capital was shown separately from other liabilities at a nominal value, i.e. at par value, each issue of shares with different rights, i.e. ordinary and preference shares, was shown separately on the balance sheet without disclosing the number of each.

However, an insight into German financial statements of the day shows, undoubtedly, that many assets were understated in the balance sheet and that the profit and loss account was only vaguely indicated and thus the operating results could be, and were easily manipulated. This was largely attributable to:

1- the Commercial Code, which prescribed original cost as the upper limit for valuation, and permitted the distribution of annual profit after providing for legal reserves;

2- the tax regulations (discussed later) which accepted accelerated depreciation;

3- and as a result of 1 and 2, company directors, to whom legal requirements and regulations gave an implicit

backing, and who adopted a 'secret reserve policy', which became a feature of German accounting practice.

With regard to 'secret reserves', these were easily created, merely through repeated undervaluation of inventories and writing off excessive amounts of depreciation, and were used for the purposes - it was widely believed - smoothing annual profits and securing the benefits of equalizing dividends.

It is not surprising to read in the balance sheets of large companies of the time, e.g. Leonard Tietz (now Kaufhof; see page 311) that many fixed assets were stated at a value of one Mark. It would be highly surprising if such statements could provide any real information.

It also worth noting that the valuation rules of Paragraph 261 have been incorporated into all successive German companies Acts forcing companies to apply the 'lowest value' principle, even during the severe inflation periods of post World Wars I and II.

3.3 The Influence of Tax Regulations

In order to complete this description of the impact of legislation on German accounting practice it is important to illustrate the close relationship between the Commercial Code and tax law, which have always been along the same lines and complementary to each other in timing and requirements since the tax reform of 1891. The influence of tax law on German accounting can be traced back to this reform, the starting point of which was the introduction of a personal declaration of income. The effect of this reform was described by Schmalenbach as follows:

> Merchants now had to prepare accounts annually. This had been a requirement of the Commercial Code for thirty years but as it was am imperfect law which did not specify a penalty for its breach and, therefore, apart from cases of bankruptcy, its neglect involved no one in harmful consequences, financial accounts were often left until circumstances called for them .... The innumerable businesses which were now obliged to draw up annual accounts in order to be in a position to make their income declarations to the tax authorities had to grapple with the problems of valuation and it became the subject of much discussion among businessmen (28).

For the purpose of the assessment of a company's taxable income, tax regulations followed the same requirement as the Commercial Code and regarded profits as the increase in the net wealth between two successive balance sheet dates. In other words, the net worth approach constituted the basis of taxable income. The

close inter relationship between tax law and Commercial Code is illustrated in this Paragraph from tax law:

> For business entities that are required by Paragraph 38 of the Commercial Code to draw up balance sheets in accordance with orderly book-keeping principles, the taxable income is identical to the profit declared in accordance with Commercial Code requirements .....
>
> It is determined by the increase in business assets of the year under consideration over that of the previous year, after taking into account withdrawals and allowable expenses (29).

As far as tax allowances are concerned there has always been a rule: the tax payer can take advantage of favourable tax treatments (e.g. accelerated depreciation allowances) only if the relevant facts are reflected in published accounts. For instant, the balance sheet of Leonard Tietz A.G as at the end of 1922 shows fixed assets as follows:

	M	
Machinery, furniture and equipment	1,000,000	
Additions during the year	3,294,597	
	4,294,597	
Depreciation	4,294,596	
		1

The reason why the above company and many others wrote off the fixed assets to one Mark was attributable to the tax regulation, namely Paragraph 33, issued in January 1921, which 'considered the provision for depreciation on fixed assets as tax-free so long as this provision does not exceed the book value of the fixed asset'. (4)

On the other hand, the tax authorities understood the term 'current value' (Zeitwert) of Paragraph 40 of the Commercial Code as 'gemeine Wert' which was defined the 'selling price of a similar new assets reduced by wear and tear (31). Because of the subjectivity involved in this definition, the tax authority was forced to set up levels below and above which the balance sheet's assets may not sink or rise. This level was determined at 40% of the acquisition cost (32).

With regard to assets valuation there was no discrepancy between the requirements of the Commercial Code and the tax regulations. However, since the latter prescribed the methods for calculating the balance sheet figures and how to arrive at operating results while the Code did not, German financial statements tended to follow the methods of the tax regulations, and so one statement was usually prepared for both Commercial and tax purposes. The close relationship between these purposes has continued up to the present day, and their common feature can be set out as follows:

1- Assets in the financial statement may not be reported at higher values than those allowed for tax purposes.
2- Liabilities in the financial statement may not be reported at values lower than those allowed for tax purposes.

3- Accounting income as a matter of principle may not be reported as greater than taxable income (33).

Thus the Commercial Code and tax regulations must be understood as complementary to each other and as having had a joint and substantial influence on German accounting practice.

3.4 THE ROLE OF THE GERMAN ACADEMICS

In Germany, accounting is part of a wider field of study called Betriebswirtschaftslehre, or Business Economics. Business Economics as an independent academic displine was founded at the turn of the century. In 1898 the first commercial colleges (Handelshochschuhlen) were established in Leipzig, St. Gallen, Aachen and Vienna, and other cities soon followed, e.g. Cologne, and Frankfurt/am Main in 1901, Berlin 1906, Mannheim 1907, Munich 1910, Koenigsberg 1915 and Nurmberg 1919 (34).

Academics, most of them with long experience, became active in the field of accounting and extended their activities beyond teaching and explaining the various accounting problems. For instance, in 1906 Schmalenbach established an accounting journal called 'Zeitschrift fuer handelswissenschaftliche Forschung' and in 1907 Professor Nicklisch of Berlin established the accounting journal 'Zeitschrift Fuer Handelswissenschaft und Handelspraxis'. Most of the editors of these journals were professors of various commercial colleges, such as E. Walb of Freiburg, Mahlberg of Freiburg, F. Schmidt of Frankfurt, and W. Prion and Geldmacher of Cologne.

These journals together with various books became the outlet for articles and research studies in the

field of accounting.

In order to outline the main contribution made by the German academics this section will deal with three aspects of accounting. These are dynamic accounting, inflation accounting and chart of accounts.

3.4.1. Dynamic Accounting

In Germany as in other countries, the great majority of lawyers and accountants believed that the primary function of annual accounts was to reveal the value of capital,. and that the profit or loss of a particular financial period was to be calculated as the difference between the opening and closing capital. It was also felt that this objective could only be obtained by drawing conclusions from the balance sheet.

The leading authority of the day who appeared to oppose the balance sheet approach in favour of the profit and loss account was Professor Eugen Schmalenbach, who laid the foundation for the well-known dynamic accounting concept (Dynamische Bilanzauffassung) which has found favour in accounting literature in German since that time.

Schmalenbach, before finalising his famous book Grundlagen Dynamische Bilanzlehre which was first published as an article in his journal, 'Z.f.h.F in

1919, wrote an article in the same journal in 1908 pointing out that annual accounts should not just provide a business with information about the state of its capital, but should also serve as a means of asserting the results of its operation; and in his later writings he disputed the role of the balance sheet altogether (35). He described the balance sheet of the day as being static, for it simply aimed at determining the value or the financial position of a business at a particular point of time, and instead he suggested that a balance sheet should be dynamic, i.e. show the movement of values (expenditure and revenues) which has taken place during the accounting period and could be shown only through the preparation of a detailed profit and loss account, which in turn should determine the contents of the balance sheet and not vise versa. For Schmalenbach a balance sheet was no more than a 'store of unexpired expenditure and revenues' which were shown at the end of the accounting period beside the capital. Thus Schmalenbach assigned precedence of profit and loss account over the balance sheet in the annual accounts and disputed the role of the balance sheet for its failure to provide adequate accounting information to the users of such information, particularly owners, creditors and managers.

His arguments concerning the above users can be summarised as follows:

1- The actual value of a business and hence its capital could not be ascertained through adding together individual assets and deducting liabilities, regardless of whether market values or cost was attached to the balance sheet items. In his opinion, the value of a business was the amount at which its future earnings capacity could be capitalized.

2- The important object of commercial financial statements was the ascertainment of results for the purpose of good management. Relevant information could only be obtained from the profit and loss account which showed the movement of values, rather than from the balance sheet which showed the condition which resulted from these movements.

3- Although the main task of the balance sheet according to the law was to protect creditors, they could only be served by receiving balance sheets based on liquidation values. Alternatively, they were best served by a properly prepared profit and loss account which showed whether the business was making profit in order to ascertain the prompt return on their capital. Schmalenbach went further and asked whether creditors needed more protection than other persons who had an interest in the existence of the business, such as employees and their dependents, who in most cases suffered more for the consequences of bankruptcy than

did creditors.

Although Schmalenbach's approach failed to influence the German accounting practice of the day and took a long time to be recognised both in practice and by the legislature in the form of legislation,it made a considerable impression in academic circles and its influence is seen in all accounting literature that appeared thereafter. In this connection Enthoven is quoted:

> For several generations the balance sheet, which is essentially a historical document was considered to be of superior importance, but during the last 40 years, it has been realised that the earnings and the information on revenue and expense, which pertain to performance over a period of time, are of greater significance in evaluating a company and comparing operations. In this regard we many recall the writings of Schmalenbach (1933) dating back to 1919 who considered the balance sheet only as a means to make a correct profit and loss statements (36).

3.4.2. Schmalenbach's Dynamic Accounting

Schmalenbach's dynamic accounting is based on the concept of the 'cycle of the economy' and receipts and payments accounting. In this cycle capital is raised (cash) for the purpose of investment; fixed assets and materials are purchased and a fund for working capital is formed (payments); inventories of materials are issued to productions and, through the addition of elements of labour and expenses, transformed into

saleable goods (expenditure). The act of sale completes the cycle (revenue) by liquidating the investments (receipts) so that capital is once again available for investment.

The difference between receipt and payment which is identical to revenue - after taking into account that no capital has been withdrawn or introduced - is the profit generated during this cycle which is the company's life. Because companies are required to prepare balance sheets at the end of the financial year rather than at the end of the business's life, it is inevitable that all business transactions are completed during one year only, e.g. not all payments have been yet recovered through receipts and not all expenditure and revenues have been necessarily related to the accounting period under consideration. Thus Schmalenbach considered all balances of incompleted transaction (schwebende Geschaefte) involving receipts, payments, revenue and expenditure as suspense items which should be carried forward to the balance sheet under cash and capital (as the case may be), awaiting to take their final place in the profit and loss account in subsequent year(s). As for the nature of these suspended transactions, Schmalenbach wrote:

> The essential point about suspended transactions is that something is paid for or done in one accounting period which affects or is completed in a subsequent one; or

> alternatively, something is received in one accounting period which is the outcome of an activity of an earlier one, or will result in an expense of later period (38).

To clarify one aspect of incompleted transactions Schmalenbach's example is quoted:

> If an agent purchases a typewriter for 30 (payment) and insists on having an accurate profit and loss account he must realize that it would not be fair to charge the whole 30 to the accounting period in which it was bought. If he assumes that the machine will have a useful life of three years the most he can charge to the current year is 10; the balance of 20 (payment which is not yet expenditure) remains in suspense. And that which is in suspense belongs to the balance sheet (39).

For Schmalenbach profit is the difference between revenues and expenses of the accounting period.

3.4.3. Presentation of Dynamic Balance Sheet

At the establishment of a company, the opening balance sheet includes cash on the assets side and capital on the liabilities side. The closing balance sheet includes besides cash and capital, those items in suspense and hence the balance sheet appears as follows (40):

Dynamic Balance Sheet

Assets	Liabilities
1-Liquid funds e.g. cash	1- Capital
2-Payments not yet expenditure e.g. fixed assets subject to depreciation, etc.	2-Expenditure not yet payments e.g. creditors, taxes due interest payable on capital reserve
3-Payments not yet receipts e.g. fixed assets not subject to depreciation, land, investments etc.	3-Receipts not yet payments loans
4-Revenue not yet expenditure, self-manufactured machines and tools, etc.	4-Expenditure not yet revenue
5-Revenue not yet receipts inventory, debtors, receipt due	5-Receipts not yet revenue prepaid revenues (creditors)

The above balance sheet can also be summarised as follows:

Dynamic Balance Sheet

Assets	Liabilities
1-Liquid assets	1-Capital
2-Receipts of subsequent periods	2-Payments of subsequent periods
3-Expenditure of subsequent periods	3-Revenues of subsequent periods

3.4.4. The Presentation of Profit and Loss Account

While the balance sheet takes over the task of accounting for all incompleted transactions, the profit and loss account shows the expenditure and revenues that relate to the accounting period in detail, and hence the results, which are determined by the difference between them.

Profit and Loss Account (41)

Debit	Credit
1- Expenditure now, payment now	1- Revenue now, receipts now
2- Expenditure now, payment previously	2- Revenue now, receipts subsequently
3- Expenditure now, payment subsequently	3- Revenue now, receipts subsequently
4- Expenditure now, revenue now	4- Revenue now, expenditure now
5- Expenditure now, revenue previously	5- Revenue now, expenditure previously
6- Expenditure now, revenue subsequently	6- Revenue now, expenditure subsequently

To sum up, the impact of dynamic accounting, as far as the presentation of German income statements is concerned, became obvious during the 1930s. The income statement of the 1920s disclosed the barest details, i.e. general expenses, depreciation, gross yield and profit and loss, while the income statement of the 1930s included further disclosures and analysis of cost and revenues. The 1965 company law currently in force requires companies to present the income statement in a more detailed manner.

3.5. Inflation Accounting

As a result of the great inflationary period in Germany (1920-23) a considerable amount of inflation

accounting literature began to appear in the 1920s showing the awareness and response of German academics to the damaging effect of traditional accounting method on accounting information. They recognized the shortcomings of traditional accounting in an inflationary environment and began to suggest alternative methods. Taxation on fictitious profit was the main consideration associated with the names of Prion, Geldmacher and Von Klein in the 1920s. And in 1921 new literature appeared, in particular the excellent writings of Schmalenbach (purchasing power method), W. Mahlberg (Gold Mark balance sheet) and Schmidt (replacement cost accounting), which looked beyond the problem of taxation to a wider range of objectives to be served by accounting. These new ideas immediately received considerable attention in the academic circle, which was soon divided into two schools of thought: the advocates of the gold Mark balance sheet method, and those supporting the replacement cost accounting method.

It would be correct to conclude from the massive amount of published literature that appeared during 1921-1923 that the limitations of traditional accounting were universally recognised by the academics who were almost the only sources of such literature. The work of Schmalenbach, Mahlberg, and Schmidt is discussed

thoroughly in Chapters 6-8; thus there is no need to present it in this section.

3.6. The Chart of Accounts

> "Every serious study of uniform accounting in central Europe must begin with Schmalenbach's work" (42).

This major body of contribution made by German academics has been a feature of German accounting practice ever since it was suggested by Schmalenbach in 1927. In this section an attempt is made to outline the basic ideas of Schmalenbach's original chart of accounts.

3.6.1. Brief Historical Review

The idea of establishing a chart of accounts did not originate in Germany. It can be traced back to the Belgian accountant H. Godefroid in 1884, and the French accountants Leautey and Guilbault in 1889 (43). In Germany the first comprehensive chart of accounts was published in 1911 by J. F. Schaer and it can be described as a forerunner of the chart of Schmalenbach (44). In the early 1920s, as a result of the joint work of German academics and members of trade associations, several uniform charts of account were

made public in 1921, of which the best known was probably the chart published by the Trade Association of German Mechanical Engineering (Verein Deutscher Maschienen - Bau- Anstalten, VDMBA) (45). These charts, however, were published during the inflation which rendered their implementation useless.

The rationalisation movement that swept Germany, particularly after the great inflation, necessitated improvement in accounting technique and information and as a consequence the government set up an accounting committee under the chairmanship of Schmalenbach, to standardise accounting principles. In fact it was not the committee but Schmalenbach who published the chart of accounts first in his journal (ZfhF) and then in his book Der Kontenrahmen in 1927.

The increased needs of the Nazi regime to control all German economic activities led it to introduce in 1937 a compulsory uniform accounting system, the main feature of which was Schmalenbach's chart of accounts. The system was made compulsory not only in Germany 1932-1945 but also in most of the occupied countries, including France (46).

After 1945, when the uniform accounting system ceased to be compulsory, the charts of account continued to find favour with many German industrial companies until the present time.

3.6.2 Presentation of Schmalenbach's Chart

> I have striven to make business comparisons a part of the subject of business economics since the middle twenties and the first result was my chart of accounts (47).

The idea of the chart was based on the same principles as dynamic accounting, except for accounting classification which was now based upon the nature of the economic values. Schmalenbach divided accounts into inactive accounts (ruhende Konten), which were seldom used during the year (class 0), and into active accounts (bewegte konten) with many transactions (classes 1 to 9), and used a decimal coding system to be attached to all accounts included in the chart. Each of the classes 0-9 contained 10 groups of accounts; each group was denoted by two figures, and up to a hundred sub-accounts by three figures. For example, class 0 includes fixed assets which are shown as follows:

Class 0

Fixed assets
00 land and building
000 land unbuilt on
003 buildings
009 depreciation

Schmalenbach's original chart was designed to include 1000 accounts, 700 of which were devoted to cost accounting for internal business use. He suggest that if a business felt that the 1000 accounts were not enough, further subdivisions could be made of sub-accounts (48).

A summary of the chart is presented below:

1- Class 0 contains fixed assets and long-term capital, e.g. group 0-9 land and buildings; group 10-19 machines, equipment, cars and trucks; group 20-29 patents, rights and payments in advance; group 30-39 special assets; group 40-49 long-term investments; group 50-59 long-term debts; group 60-69 guarantees and prepaid expenses; group 70-79 contingency reserves and adjustments; group 80-89 share capital, and reserve funds; group 90-99 debentures, mortgages.

2- Class 1 contains the most frequently used accounts, current assets and current liabilities, e.g. group 100-109 cash, foreign currency and cheques; group 110-119 bank accounts; group 120-129 bills receivables; group 130-139 foreign currencies; group 140 negotiable shares; group 150-159 debtors; group 160-169 debtors in foreign currency; group 170-179 doubtful debts; group 180-189 creditors and bills payable; group 190-199 dividends and payment of interest.

Class 2 contains non-operating expenses and revenues, and neutral expenses and income including adjustments: group 200-219 insurance payments and work under construction; 220-249 (neutral expenditure) e.g. taxes, capital expenditure and bad debts; group 250-279: (neutral revenues) e.g. profit on shares-selling Group 280-299 was suggested for the purpose of determining the

expenses relating to the accounting period, and thus non operating revenues would be eliminated from operating results so as to eliminate deferred income and expenses.

Class 3-8 represent elements of cost accounting, classes 3 and 4 containing the different costs accounted for by their nature. Class 3 contains all expenses other than material and labour, these two being included in class 4. For example, group 300-319 postage; group 320-329 repair and maintenance; group 400-439 purchase of raw material; 440-459 transfers from other workshops; group 460-479 wages.

Class 5 is void and to be used for special purposes. Class 6 and 7 contain the accounts for services and production centres. For example group 600-609 and group 650-659 contain administration expenses and warehouse expenses respectively, while group 700-709 contains materials group 710-729 fuel and power and group 730-750 wages and salaries.

Class 8 contains the accounts for work in progress (group 800-849) and finished products (group 850-899).

Class 9 contains sale expenses group 900-949 proceeds of sale; group 950-969 total expenses; group 970-989 total revenues; group 990-997. Accounts 998 and 999 are specified for profit and loss account and balance sheet respectively.

The Formation of Schmalenbach's Chart of Accounts

The Chart of Accounts Classes 0-9									
Inactive Account	Active Accounts								
	Financial Accounts	Account For Internal Transactions							
		Non-operating Expense And Revenue	Operating Accounts						
			Operating Costs And Expenses		Void	Cost Centres		Cost Units	Sales (cost and Revenue) Profit and Loss, Balance Sheet
			Operating Expenses	Material And Labour		Service Centers	Producing Centers	Work in Progress And Finished goods	
0	1	2	3	4	5	6	7	8	9

The 1920's were unquestionably the Golden Age of German Academic accountants. In this decade Germany produced, in Schmalenbach, Schmidt and Mahlberg, three brilliant academics, the likes of whom have not been seem since. These leaders laid the theoretical foundations for accounting in Germany and their work particularly in the area of inflation accounting is still receiving close attention from scholars around the world.

3.7. The Role of Trade Associations

> 'The more rigid and comprehensive organization of industries in Germany in cartels, syndicates, combines and similar organizations had also been instrumental in evolving unified methods of control. The fixing of output and prices, the allocation of contracts, the sharing of markets, etc, and the charging of levies on members always required a certain measure of uniformity in accounting for its control and efficient working.' (49)

The rapid growth of industrialization was accompanied by a rapid growth in the number of trade associations, the first of which was established in 1875. As a result accounting problems began to emerge, and the need for scientific management to deal with the problems of cost allocation pricing and profit measurement became urgent. Many trade associations, in order to help their members to meet such problems employed experienced accountants and began to establish their own committees on accounting and costing problems. Traditionally these associations had acted as originators as well as clearing houses for ideas in the field of industrial accounting, and thus the emergence of trade associations seems to have had some bearing on the development of industrial accounting in Germany (50). the area of interest to which most attention was paid by these associations during and after World War I was in cost accounting or rather, uniformity of cost accounting, which was encouraged by most associations,

as their relationship between various ones was strong. One example of the collaboration between the German associations is found in 1921, when the V.D.M.B.A. published a chart of accounts together with other associations such as Rhenisch - Westphalian Coal.

Since 1945 many associations have published accounting guides, the most complete publication of which is 'Fundamentals of Accounting and Finance of the Federal Association of German Industry' published in 1952. These fundamentals cover, for instance, many propositions on book keeping, cost accounting and income determination. They also contain a recommended chart of accounts (51).

3.7.1. Accounting Guides and Proposals of V D M B A of the 1920s

Among the most active trade associations which played an important role in proposing accounting guides to their members was the V D M B A (52), which could also be regarded as the first association that recognised the limitations of traditional accounting methods during the period of inflation. For the purposes of this section a brief outline of the V D M B A recommendations of 1921 dealing with the problem of accounting in an inflationary environment, and the

problem of depreciation (1927) are presented.

3.7.2. The Guiding Principles of 1921

These principles were not confined to cost accounting but also applied to financial accounting, and included the following (53):

1- Companies should value their inventories at replacement cost

2- Fixed assets were to be shown on the balance sheet at current replacement cost according to the following measures (indices): machines were to be revalued at 15-20 their pre-war value and buildings at 20-30 times, less appropriate depreciation.

3- Depreciation charges should be based on fixed assets replacement cost, to enable companies to replace the asets consumed. Backlog depreciation should be charged against revenues (54).

4- The difference between current values and book values should be entered in a 'correction account' which was to be shown among the liabilities' side.

5- Only real profit should be available for distribution. Fictitious profit was the result of insufficient provision being made for replacing assets consumed; and when a business distributed fictitious profit, this meant that the business also

distributed its capital.

6- Raising new capital should be made through increasing the share capital rather than from borrowing; and this should be used for increasing physical assets rather than to maintain or replace the assets consumed. The above principles show clearly that the VDMBA was not willing to accept either the gold Mark method or the indexation method but was very much in favour of Schmidt's replacement cost.

3.7.3. The Problem of Depreciation

This problem was hotly debated and discussed by several trade associations, particularly during the rationalisation movement after the German inflation, Among them were the VDMBA, Verein Deutscher Wollkamer und Kammgarnspinner, der Verein Deutscher Leinenindustrielle etc. It is also interesting to outline briefly some excellent guiding principles concerning depreciation which were published by the VDMBA in 1927, when Germany was witnessing a period of relative monetary stability.

The VDMBA held that depreciation should be based on fixed assets' replacement costs rather than on historical costs, for it is the production equipment itself that is consumed through operations rather than the amount of money originally paid for it (55). Because of the Commercial Code requirement preventing

joint stock companies from showing assets above historical cost, the VDMBA, recommended that replacement cost depreciation charges should be split into two components:

1- Historical cost depreciation only must be deducted from an asset's book value (original cost).

2- The difference between replacement cost depreciation and historical cost depreciation should be transferred to the depreciation adjustment account (Abschreibungsberichtigungskonto). The example of the VDMBA is quoted bellow (56):

	M
Historical cost of a building 1912	200,000
Annual depreciation at 2%	4,000
Building index at 31.12.1928: 1.7, accordingly the replacement cost 1.7 x 200,000	340,000
Annual depreciation at 2%	6,800
Deduction from the building account	4,000
Credit to depreciation adjustment account	2,000

From the above it is quite clear that the VDMBA treated the excess over historical cost depreciation as a charge against revenues and not as an appropriation of profit. It is also worth noting that this treatment of depreciation was similar to that under replacement cost accounting method except that fixed assets would appear on the balance sheet at historical cost less historical cost depreciation. The main advantages of this method

over the traditional method were that:

1- Companies could allocate the proper costs of, and replace, the fixed assets consumed during the year. Avoiding in this way the adoption of hidden reserve policy was using accelerated depreciation which might reduce the book value of the fixed assets to 1 while they were still in hand, in which case successive years' profits should be overstated i.e., include fictitious profit. On the other hand, although under German law the total profits declared might be distributable if the shareholders wished , shareholders are now unable to claim for the excess over historical cost depreciation charges which were to be already charged against the revenues before the profit figure was declared.

3.8. The Accountancy Profession

The official history of the German accountancy profession dates back to the introduction of statutory auditing by the company law of 1931 which subjected financial statements of only joint stock companies to be audited by Wirtschaftspruefer (similar to chartered accountants). As a result, the Institute of Wirtschaftspruefer (IDW) was established in 1932, incorporating the already existing institute for Auditing and Trustees (Das Revisions-und

Treuhandwesen). Since 1951, when the Institute became the present 'Institut der Wirtschaftspruefer in Deutschland', the Institute has been mainly concerned with improving professional standards and issuing recommendations (Fachsgutachtungen) and opinions (Stellungsnahmen) for the guidance of its members in the carrying out of audits. These guidelines, although legally not binding, are in practice followed by German accountants due to the generally prevailing belief that they can carry considerable weight in any court in Germany.

In this section the auditing provisions and the emergence of the accounting profession are discussed. An attempt is also made to explain why the number of qualified accountants in Germany at the present time is far below that in the U.K.

3.8.1. Auditing Provisions

When the Commercial Code of 1861 was passed it did not include any auditing provisions. Thus, as far as joint stock companies were concerned audit responsibilities was partly the responsibility of the directors as Schmalenbach asserted in his journal (ZfhF) (58). The first auditing provisions were included in the 1884 Company Act (58) and applied to joint stock

companies only. This law made it mandatory for every joint stock company to have a 'Supervisory Board' (Aufsichtsrat) the members of which were to be appointed by the shareholders in the general meeting (Hauptvesammlung), with the tasks of supervising the Board of Directors (Der Vorstand), appointing and dismissing directors, and auditing and approving the financial statements. With reference to the auditing function the law permitted the Supervisory Board to appoint skilled assistants (auditors). Their role was limited to the inspection of books and the preparation of annual accounts, and all responsibility to the shareholders remained with the Supervisory Board. On the other hand, Paragraph 266 of the Commercial Code of 1897 provided for that the general meeting was authorised by a simple majority of votes to appoint independent auditors,and if the proposal of appointing auditors was rejected in general meeting, shareholders owning over 10% of the equity capital could seek this in the court (59).

On the other hand, business entities other than joint stock companies were not required to prepare audited annual balance sheets but to sign them according to Paragraph 38 of the 1897 Commercial Code.

3.8.2. The Report of the Supervisory Board

In my investigation into the financial reports of two large companies, Daimler Motoren Gesellschaft and Leonard Tietz Gesellschaft for the years 1921-1926 I can conclude that the reports of the Supervisory Boards were uniform in content. Firstly, such a report was expected to refer to the audit of the annual accounts and indicate whether the Supervisory Board agreed with the report of the Board of Directors. Secondly it was to report to any resignations from the Supervisory Board during the year, or any members who had been asked to resign, in which case new members were to be elected in general meeting. An example of the Supervisory Board's report on Daimler Gesellschaft of 1924 is translated:

> The published balance sheet together with the profit and loss account have been audited by the appointed auditor and the Supervisory Board, and are accurately prepared. We declare our total agreement with the report of the Board of Directors. Under the constitution 11 the following members [six members] have resigned from the Supervisory Board. The same members can be reelected.
>
> Berlin
>
> Stuttgart - Untertuerkheim, June 1925
>
> The Supervisory Board

There were 20 members on Daimler's Supervisory Board. Two of them had been elected from the workforce.

The German laws prior to 1931, however, did not require the Supervisory Board to include in its report

whether the audited annual accounts were drawn up in agreement with regularly kept books or legal requirements, or require as did the U.K Joint stock Company Act of 1856, that the auditor's report had to include an opinion on whether the balance sheet was a 'full and fair' one.

In this connection I wish to correct a misunderstanding that has been recorded in the literature in English. In his book 'Schmalenbach and After', 1977, David Forrester in describing the content of the auditor's report of I.G Farben Industries of 1925 writes on page 49:

> We have checked the above Year Closing Account and found it to be in agreement with regularly kept books.
> Sgd., Dr W. von R., Dr. C.M.C., C. von W.
>
> Forrester continues on page 51
> The 1925 statement .... was audited by three respectable and titled nominees of the shareholders.

Unfortunately, David Forrester does not say that these three nominees were members of the Supervisory Board, so that it might be wrongly understood that the general meeting had dismissed the report of the Supervisory Board and appointed independent auditors to carry out inspection.

Moreover the above quotation of the signatorie's words may be misleading in that it may give the impression that the report was required to check that

the accounts were 'in agreement with regularly kept books'; and as noted above, this was not so but any such statement was merely informative.

3.8.3. The Present Reports of the Supervisory Board and the Auditors

Since 1932 the Supervisory Board has not been directly responsible for the auditing function because of the law of 1931 which states that the signature of a qualified auditor (member of the Institute) is sufficient, but that the Board should examine and approve all the reports submitted to it-including the financial statements, business report and proposal for distribution of profits - and offer an opinion on the auditor's report.

3.8.3.1. The Report of the Supervisory Board of Bayer, 1981 (60)

> During the fiscal year we kept ourselves informed of the conduct of the business through reports received from the Board of Management at several meetings and by other means. Our particular attention was given to any measures for which the approval of the Supervisory Board is required by law or any other regulations. Important current subjects, such as raw material and energy problems and the financial situation of the subsidiary and affiliated companies, received special attention.
> On March 1,1981, Mr. Robert Dohm retired from

On March 1,1981, Mr. Robert Dohm retired from the Supervisory Board due to health reasons. We have examined the financial statements, business report, and proposal for distribution of the profit. The auditors have issued an unqualified report. The financial statements, business report, and report of the Company's auditors, with their unqualified certificate, for Bayer AG and its consolidated German subsidiaries, as well as the financial statements of Bayer World together with the explanatory report and auditor's certificate thereon have been submitted.

3.8.3.2. The Report of Auditors of Bayer, 1981 (61)

"We have duly examined the Accounting Records, Financial Statements and Business Report and have found them to be in compliance with the law and by-laws.
Leverkusen, April 10, 1981

Treuhand-Vereinigung Aktiengesellschaft
Auditors and Tax Consultants

Dr. Hans Joris
Certified Public Accountant

Dr. Heinz W. Kohl
Certified Public Accountant

The auditors' certificate applies to the German version of the Financial Statements and Business Report of Bayer AG.

3.8.4. The Emergence of the Accounting Profession

In Germany accountancy as a profession was born after the passing of the 1884 Company Act, which debarred directors of joint stock companies from acting as auditors, allowing the supervisory board to employ skilled assistants known at that time as books examiners

stock companies (A.Gs) were -and still are- owned and controlled by banks, leading banks became interested in auditing and established their own trust companies, the first of which (Deutsche Treuhand Gesellschaft) was established by Deutsche Bank in 1890, followed by Dresdener Bank in 1905 (62). By the turn of the century several trust companies had bee established among them the Treuhand -gesellschaft A.G in 1907, in which Schmalenbach was a partner. Schmalenbach who was Professor of Accounting at Cologne, University, agreed to become a partner in the company in 1911, on the condition that only holders of a Diploma degree from the Commercial College of Cologne might be employed as auditors (63). Most of the trust companies acted mainly as auditors and as consultants, and tax advisors as well. However, the spreading commercial colleges had by the turn of the century become the main source of the accountancy profession an important reason being that these colleges had started to grant Diploma degree in commerce and trust work. During the 1920s accountants with Diploma degrees formed themselves into commercial and trustee associations, but on a local basis; and in 1930 a consolidation was carried out which resulted in the formation of the Institut fur Revisions- und Treuhandwesen, which became the central part of the present German Institute.

3.9. Comparison Between the Number of Auditors in Germany and the U.K

A glance into the number of qualified auditors in Germany and in the U.K shows that in 1979 the approximate figure in the U.K was 104,000 as against 4000 in Germany (64). The explanation of such a great difference can only be clarified in terms of the historical factors that shaped accounting practice in both countries: the legal requirements and, to a much lesser extent, the type of business ownership.

1- In the U.K the 1856 Company Act, by debarring directors from acting as auditors preceded the German Act 1844 by almost three decades. Thus the auditing profession was born earlier in the U.K.

2- On the other hand, the same Act of 1856 required auditors, who were directly appointed by the general meeting, to report whether the balance sheet was a 'full and fair' balance sheet, and in cases where they had called for an explanation or information from the directors, whether such explanation or information had been given by them. Thus the profession in the U.K was given more prestige than that of Germany by a difference of over 7 years, during which German auditors were working as skilled assistants on behalf of the Supervisory Board.

3- The Institutes of Chartered Accountants in England and Wales, in Scotland and in Ireland, and the Association of Certified Accountants, were all established during the second half of the nineteenth century (e.g. the I.C.A.E.W. was established in 1870 and in 1880 it was granted a Royal Charter). Although the main interests of these Institutes have always been audit and training auditors, they have mainly been responsible for developing accepted accounting principles which could be assumed to present a full and fair view. Therefore the U.K Institutes were established at least half a century before the German Institute, which has generally been confined to the interpretation of the laws.

4- In the U.K since the enactment of the 1900 Company Act, limited liability companies have been required to appoint auditors. In Germany these companies were not required to present audited balance sheets until 1931 when the 1931 Act made it mandatory. Statistics (65) show that in 1913 the number of joint stock companies (A. Gs) was 4,773 compared to 25,448 limited liability companies (G.m.b.H), and by 1926 the number of A.Gs had increased to 9,490 only, compared to 59,934 G.m.b.Hs. Therefore at that time less than 15% of German financial statements being were required to be audited. On the other hand since the law required precisely described the basis of asset valuation and German banks have

always acted as issuing houses undertaking new issues and handling all stock exchange dealings (66), the need for true and fair comparative information is reduced, and as a consequence the accountancy profession could be expected to be much smaller than in the U.K, where there are many public listed companies whose ownership is widely spread.

Regarding the question of whether in a leading industrial country like West Germany the 4000 auditors are sufficient to carry out the auditing function, the answer is undoubtedly yes; or otherwise one of the following conditions regulating entrance to the profession would have to be changed:

1- An application must be of German nationality or a national of another country granting reciprocity.

2- hold a degree from a German university (or its foreign equivalent) in Business, Economics, Law, Engineering or Agriculture, or, alternatively, have completed 10 years' experience with a Wirtschaftsprufer, which is unusual with applicants. In fact, approximately 75 per cent of entrants hold degree in Business and 25 per cent in Economics or Law.

3- have accumulated six years of business experience, at least four of which have to be spent in the office of a Wirtschaftspruefer or in gaining equivalent foreign experience.

4- have successfully completed the professional examination.

To Summarise:

Although academic accountants, trade associations, professional accountants and others such as banks financial analysts etc. seems to have some impact on German accounting practice, it is certain that legislation was by far the most influential factor.

The dynamic accounting concept made its first impact on German accounting practice only when the law provided for detailed profit and loss account in 1931 and the chart of accounts was used out in practice because of the endorsement of the tax authorities and the government which encouraged it.

But when German accountants suggested different basis of asset valuation they received no response, and such is still the case, in spite of the repetition of these proposals in 1975.

It is also not exaggerated to conclude that the professional accountants were handicapped since they have been working as skilled assistants prior to 1931 and continued to refer in their report whether the accounts were drawn up in accordance with the law thereafter.

Daimler's Balance Sheet as at 31.12.1924

	RM		RM
Fixed Assets: land and buildings machinery etc.	21,933,630	Share Capital: ordinary shares	36,000,000
		preference shares	360,000
			36,360,000
Cash, Cheques	323,999		
Securities	47,473	Reserves fund	7,200,000
Investments	914,668	Creditors	17,620,266
Debtors	13,192,955	Net profit	431,674
Prepaid expenses	1,262,323		
Inventory, finished and semi-finished products	23,936,892		
	61,611,940		61,611,940

Profit and Loss Account

	RM		RM
Depreciation	1,511,590	Gross profit less business expenses	1,943,264
Net profit	431,674		
	1,943,264		1,943,264

1- The Daimler's balance sheet in comparison with that of Tietz (see page 311) shows that the share capital in both balance sheets was to be shown in detail and at nominal value, whilst the order of the assets side was not required to be uniform.

Daimlers profit and loss account showed the barest

2- Daimlers profit and loss account showed the barest information and provided less than that of Tietz. Here again the disclosure of the profit and loss account was not uniform and was a matter for companies to decide.

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CHAPTER FOUR

THE GERMAN INFLATION 1919 - 1923

THE GERMAN INFLATION

1914 - 1923

4.1 Introduction

The phenomenon of inflation has received considerable public attention in many countries throughout the world since the sharp increase in the rate of inflation became a feature of the western industrialised economies during the nineteen-seventies. The problem of tackling inflation has become a crucial one for governments, and their degree of success in reducing the rate of inflation has become an measure upon which governments' financial and economic policies are judged. Faced with the inflation problems of the seventies, U.K. accountants have finally 'accepted that the traditional basis of accounting is totally misleading in an inflationary environment, and action has been taken to develop an alternative system which provides a more realistic measurement of business performance' (1).

A similar response was made by German academic accountants during the post World War I period, and marked the significance of the relationship between the economic environment and accounting.

During World War I the industrialised countries experienced a period of moderate inflation. But two

years after the War, whilst inflation was got under control in the U.K., U.S.A., Holland and other countries, it ran unchecked in Germany, Poland, Austria and Hungary. In Germany the internal and external values of the Mark were continuously depreciating, accompanied by heavy price rises during 1914-1923. From the second half of 1922 until 15th November 1923 - the day on which inflation ended - Germany experienced a period of hyper-inflation (the rate exceeding 50 per cent per month) which has not been witnessed elsewhere in this century.

The purpose of this chapter is to illustrate the inflationary environment in Germany during 1914-1923, outlining the financial and economic policies of the bodies responsible for creating this environment - the Reichs (Governments) and the Reichsbank (a similar institution to the Bank of England). There will be a consideration of the elements of inflation: the quantity of money in circulation and the prices and exchange rate upon which the two main theories of inflation were based, namely, the Quantity Theory and the Balance of Payment Theory. And finally, there will be a discussion of the steps taken towards the stabilisation of the Mark and the measures taken to put an end to the crisis.

4.2 The Financial Policy of the Reich

With the outbreak of World War I great quantities of paper money came in to the branches of the Reichsbank to be exchanged for gold. When the Reichsbank felt that its reserves had suffered a considerable decline it suspended payment of gold on its notes on 31st July 1914. On 4th August of the same year two laws were enacted. The first supported the action of the Reichsbank in suspending the conversion of notes to gold and the second went further in authorising the Reichsbank to discount short-term bills, i.e. floating debt issued by the treasury, and to use them together with commercial bills as cover for notes (2). In other words, the Mark became unconvertable paper currency, and the gold standard, to which Germany had adhered, was abandoned.

4.2.1. The Government's Expenses and the Deficit in the Budget

The war caused an upward leap in Germany's expenditure. According to Helfferich the expenses for the first year (1914) amounted to 2 milliard Marks, which created a deficit in the budget of the Reich from the beginning of the war. This deficit, which was a result of the state's expenditure over its income,

mainly from taxes, was continued during the war and amounted to 1502 million Marks in 1914, 3682 in 1915, 5965 in 1916, 18046 in 1917, and 13924 in 1918. The deficit was largely covered by means of the issue of treasury bills and not by means of taxes. This was due to the weakness of the structure of the taxation system, which was founded on tripartition of income between the Reich, the state and the municipalities, and which did not provide the Reich with an income that could expanded and easily adapted to increasing needs (3). Although the taxation system became centralised in 1920-1921 and the Reich income continually increased, its expenditure grew more rapidly, due to internal political factors, particularly the financial policy of the Weimar Republic after November 1918, and the reparation payment in milliards of gold Marks imposed on Germany by the allies, particularly when the treaty of Versailles came into effect in 1921.

The following table (4) shows the income and expenditure of the Reich during 1919-1923 as well as the increase of floating debt, in millions of gold Mark:

Year	Income	Expenditure	Increase of floating debt
1919	2,559.1	8,559.8	5,999.0
1920	3,178.1	9,328.7	6,053.6
1921	2,927.4	6,651.3	3,675.8
1922	1,488.1	3,950.6	2,442.3
1923	518.6	5,278.3	4,690.1

The discounting of treasury bills at the Reichsbank, i.e. the issuing of paper money for the government, provided a channel for the simplest and most direct type of inflation which in part is shown in the large increase of notes in circulation. Besides the discounting policy of the Reich, the governments sought loans from the savings of the people by issuing bonds. Moreover, it allowed the holders of bonds, when a new loan was asked, to deposit the bonds of previous loans at certain banks which were authorised to issue paper money to the depositor, who then lent this paper money to the government (5).

As a result, additional notes from lending by borrowing were circulated. This increase in the public debt gave rise to that indirect inflation to which Irving Fisher has given the name 'credit inflation'.

4.3 The Discount Policy of the Reichsbank

Among the important objectives of the Reichsbank were the control of the notes issue and the volume of credit, and the protection of the gold reserve. The issue of notes was dependent on the gold reserve, for a note was exchangeable for gold on demand, and the volume of credit was usually made relative to the reserve, i.e. the higher the reserve the lower the rate of bank discount and the lower the reserve the higher the rate

of bank discount.

But what happened in Germany after the second half of 1914 was that the Reichsbank regarded the treasury bills as gold reserve and accordingly the issue of notes increased whenever the government had discounted treasury bills and thus the proportion of the gold reserve to its liabilities was not maintained. The immediate effect of this procedure was an increase in the general prices, the index of which rose from 99 in July to 109 in August (base year 1913 = 100), followed by a decrease in the value of the paper Mark against its gold value, which decrease was first observed in October when a gold Mark was worth 1.04 paper Marks.

Similar phenomena were also observed in the U.K and France, whose currencies began to depreciate and prices to rise as a result of the abandonment of their gold standard laws during the war. But while in these countries government debts were carefully controlled by their central banks particularly after the war, the contrary happened in Germany. From July 1915 to July 1922, the date on which Germany entered into a period of hype-inflation, the total value of treasury bills discounted by the Reichsbank exceeded 300 56 Marks, while the official bank discount rate remained fixed at 5 per cent, before it rose to 6 per cent in August, 7 per cent in September, 8 per cent in October, 10 per cent during November and December 1922, 12 per

cent from January-March 1923, 18 per cent from April-july, 30 per cent in August and 90 per cent in September and October 1923 (6).

Several economists of the day, both within and outside Germany, criticised the policy of the Reichsbank which ignored the movement of the general price level to which the rate of bank discount was vitally related. According to Keynes (7), Fisher and Wicksell maintained that the rate of discount controlled the cycle of credit and prices, and Paul Warburg held that the index number of prices was one of the data which could help in fixing the rate of discount. Professor Julius Hirsch, a former minister of Economic Affairs in Germany, in his criticism wrote:

> It is asserted that the Reichsbank followed a wrong discount policy. It should have increased the discount rate much earlier and placed a greater number of treasury bills with the private money market. In this way the increase of the quantity of money in circulation and it inflationary impact could have been avoided (8).

Against this argument, in the Reichsbank circle it was denied that a rise in the discount rate could exercise a depressing influence on the inflation and on prices; on the contrary, it was believed that a rise in the discount rate would cause a rise in the costs of production and hence in prices.

However, at the same time as it was believed that to cease issuing notes would be a vital step towards

the stabilisation of the Mark, the Reichsbank went farther in July 1922 to allow businessmen to discount commercial bills at the same rate as that of treasury bills, which was lower than the rate charged by private banks and much lower than the depreciation of the Mark. For example, when the discount rate was 6 per cent in July 1922 a gold Mark was worth 117 paper Marks. But at the end of the year, while the discount rate had increased to 10 per cent the gold Mark was worth 1808 paper Marks, i.e. approximately 16 times its value of 6 months before.

It is quite clear that under such circumstances the call for discount had come in great strength because the rise of prices caused demand for money on the one hand, and on the other hand the borrower would gain from the diminishing value of money when he paid back the debt at its nominal value. This helps to explain why active speculation prevailed during the period 1919-1923 and why the total value of commercial bills in the portfolio of the Reichsbank amounted to 442 milliards Marks at the end of 1922, and had increased to 3-9 18 trillion (a trillion = 10^{18}) by 15th November, 1923, the date on which the discounting of treasury bills ceased.

4.3.1 The Issue of Notes

Table 1 shows that in at least in the last stage of hyper-inflation, money in circulation reached huge figures such as milliards and trillions. But how was it possible for the Reichsbank to issue such quantities of money?

In 1923 and until the monetary reform of 15th November 1923, 300 paper mills and 150 big printing works with 2000 presses working day and night failed to satisfy the demand for money (9). According to Bresciani-Turroni (p 82), the issuing institution announced that during the day (October 1923) notes of total value of 120,000 billions of paper Marks had been stamped but that the demand during the day had been for about a trillion. The Reichsbank announced that it would do its utmost to satisfy the demand and expressed the hope that towards the end of the week the daily production would be raised by half a trillion (10). It is also interesting to note that on 11th November notes for 1,000 milliard were issued, then for 2,000, 5,000, 10,000, and 100,000 milliard and they were stamped on one side only. Contrary to the supporters of the quantity theory, this justifies to some extent the theory held by the supporters of the balance of payment theory that during the period of hyper-inflation there had been a shortage of money in circulation, as will be

shown later.

4.4 The Quantity of Money and the Level of Prices

The classical economists argued that the general level of prices is related to the quantity of money; that if the quantity of money in an economy is increased, money becomes less scarce, its value falls and prices rise. It was the contribution of Irving Fisher (1911), to argue that the general price level is influence not only by the quantity of money but also by the velocity of circulation of money and the total volume of goods and services (11). Fisher's argument was that in any community there is always a quantity of money in circulation and goods and services available for transactions. The amount of money which is spent on particular goods (expenditure) is always equal to the price of those goods (P) multiplied by their quantity (T). Accordingly, the total expenditure (E) of a community in a particular period will tend to equal the sum of all the individual prices multiplied by the quantities, or

the sum of the weighted average prices of (P) multiplied by the total volume of goods and services (T). Thus $E = P.T$. When the total expenditure (E), exceeds the quantity of money in circulation (M), this

means that the latter has served for more than one transaction; and when it is less it means that there is sufficient money in circulation, i.e. some of the quantity is hoarded.

If the total amount of expenditure is divided by the average money in circulation we can obtain the number of transactions the money has served during the period, or the velocity (V) of money. In other words,

$$V = E/M \text{ or } E = M.V$$

$$\text{Since } E = P.T$$

$$M.V = P.T$$

By means of the above equation - the 'Exchange Equation' of Fisher - three theories can be drawn up (12):

1- When M increases or decreases, V and T being equal, P increases or decreases in the same proportion as M.

2- When the money side M and V remain unchanged the goods side P T remains unchanged too. If P increases then T should decrease in the same proportion.

3- When M and T remain unchanged while V varies, then P should vary in the same proportion.

This Equation, which was associated with the supporters of the quantity theory, assumes that the prices are the passive element in the Equation, i.e. P

depends on variation in M,V and T. In other words, $P = MV/T$.

4.4.1 The Experience of Germany

Table 1 shows that with the outbreak of the war, money in circulation adapted by increasing, and with this price rose, but not in the same proportion. The figures show that from August 1914 until November 1919 German internal prices lagged behind the increase of total money in circulation, whilst from December 1919 until inflation ceased in November 1923 -with the exception of a few months during 1921, when a marked fall of prices took place in the outside world - prices rose rapidly and took a decided lead over circulating media. An explanation of the movement of prices and its relation to the circulation of money was given by many economists inside and outside Germany; e.g. Eulenberg, Eucken, Helfferich, Cassel and Pole agreed that during the war the hoarding of the Mark was a common habit in a broad section of the population who believed in the eventual recovery of the Mark or that it would not lose its purchasing power. According to some statistics, hoarding amounted to 1/7 of the total quantity of money in circulation (13). Professor Cassel also asserted that large sums of Marks were locked up in army pay offices in the occupied countries. In other words, the velocity

of money during the war period decreased. This explains to some extent why prices were not in the same proportion as the money in circulation.

But after the war and as a result of internal political changes in 1918, the Versailles Treaty of May 1920 and the London Ultimatum of 1921, the German population lacked confidence in the Mark. The previously hidden Marks flowed into the market, causing a further rise in prices. This phenomenon can be clearly seen in that advanced phase of inflation when the Mark was losing value day by day - even between morning and afternoon, and every-body was trying to get rid of their Marks in favour of commodities as soon as the money was received. As a consequence the velocity of money in circulation increased and hence the prices. Keynes in his article 'Inflation as a Form of Taxation' showed that

> In an advanced phase of monetary inflation new note-issues are accompanied by an increase in the velocity of the circulation of currency, and that the influence exercised by the velocity of circulation on prices and exchange can be greater than the successive issues of paper money (14).

Though the 'money in circulation' (i.e. quantity of money x velocity) affects prices, it is not always valid to assume that prices are a passive element in the Equation of Exchange, as has been thought by the supporters of the Quantity Theory. The period of hyper-

inflation in Germany showed that prices were not a passive element because they could be influenced by factors outside the Equation of Exchange such as political, psychological (lack of confidence in the national currency) and economic factors (e.g. rate of exchange). The high prices created a scarcity of money in circulation and the demand for money became great, particularly in the summer of 1923. As a result, private firms, industrialists and even public authorities were allowed by the Reich to issue illegal emergency money (Notgeld) in order to meet needs in running businesses and paying wages, etc., in the hope that emergency money would be converted into actual currency when the situation of these bodies later improved.

To sum up, in the early stages of inflation the prices were influenced by the increased quantity of money in circulation, whilst in the advanced stage the quantity of money issued was dependent on prices; and for this reason the Equation of Exchange ceased to serve adequately at all times, for it provided insufficient explanation of the events happening in Germany during the the period of hyper-inflation.

4.5. The Movement of Prices of Industrial Shares

The study of the movement of industrial shares shows the extent to which German companies were working under the pressure of inflation. Table 3 shows this movement in both paper and gold Mark s.

It was only during the first half of 1918 that investment in shares was more appropriate than in foreign currencies at that period. This was because the index number of share prices in paper Mark rose more than the foreign currencies' exchange rates. The most important period relevant to this study is from April 1920 until the beginning of 1922, in which share prices adapted themselves to the depreciation of the Mark, i.e. share prices rose approximately in the same proportion as the foreign currencies. In other words, anyone who invested his money in industrial shares succeeded in escaping the losses involved in the depreciation of the Mark during that period. The importance of the period is due to the different opinions prevailing as to whether or not Germany was experiencing a phase of prosperity at that period.

After 1919 the wheels of industry began to turn again and with them unemployment decreased while production increased. Economists and businessmen found that the number of workers employed was an index of the total volume of production which rose from 37 in 1919 to 54 in 1920, to 65 in 1921 to 70 in 1922 and then fell to

46 in 1923 compared to 100 in 1913 (15). The increase in the volume of production was partly attributed to the demand for German products which were sold cheaply relative to other countries (16). The demand led industrial companies to expand their productive capacity and hence increase their capital. This was met by issues of new industrial shares which strongly attracted the German population, who believed that industrial shares were suitable as 'a store of value'. Speculation in shares became widespread and reached its peak in the autumn of 1921. At that time a financial newspaper wrote:

> To-day there is no one - from lift-boy, typist and small landlord to the wealthy lady in high society - who does not speculate in industrial securities and who does not study the list of official quotations as if it were a most precious letter (17).

In such circumstances it was felt that companies were making a great deal of profit, which was an indication of general prosperity. This opinion was held by the majority of businessmen, economists and the public. But the reverse opinion came from the academic accountants like Schmalenbach, Mahlberg, Schmidt, Geldmacher and Prion, who asserted that the values of the capital invested in German companies were not being maintained, nor were the profits real.

As far as the capital invested was concerned, the total market value amounting to 9.9 milliards of gold

Marks at the end of 1921 declined to 4.9 milliard at the end of 1922 compared to 31.2 milliard in 1913 (18). According to the detailed calculations made by Mering from the accounts for 1920-1921 of 1458 joint-stock companies, the net gains (with the supposition, 1 gold Mark =10 paper Mark) scarcely reached 29 per cent of the net profits of the financial year 1913-1914, that is, 3.04 per cent of the capital invested (share capital published reserves) compared with 10.55 per cent in the last year of peace (19).

Schmalenbach described the phase of prosperity of that period as apparent prosperity and asserted that the whole community had been misled by the fictitious profits resulting from a wrong 'basis of calculation' i.e. historic cost valuation/money unit. He wrote:

> The wrong calculation of profits was responsible for the destruction of the German economy. Germany gave away here a huge volume of products at far below costs to foreign countries in the belief that the sales were profitable.

There is no doubt that German companies were distributing dividends from capital rather than from profit. The depreciation of shares was thought to be the expression of the capital losses suffered by German industry.

We will return to fictitious profit in the next chapter.

4.6. The Determination of the Rate of Exchange

In Germany two theories prevailed in connection with the determination of the exchange rate of a particular currency in terms of others. These were a) the purchasing power parity, and b) the balance of payments theory.

The purchasing power parity was originally proposed by Gustav Cassel and has two versions, absolute and comparative. According to the absolute version, which depends on absolute general purchasing power, "the rate of exchange between two countries will be determined by the quotient between the price levels of the two countries" (21). According to the comparative version, which was also developed by Cassel in 1920, 'parity is not to be calculated directly as the quotient of price levels, but equals the old rate multiplied by the quotient between the degrees of inflation of both countries' (22), an innovation which Keynes elucidated as follows:

> For example, instead of calculating directly the cost of standard set of goods at home and abroad respectively, the calculations are made that 2 are required to buy in the United States a standard set which 1 would have bought in 1913 and that 2.43 are required to buy in England what 1 would have bought in 1913 (23).

Thus the parity rests upon two countries price

levels, and these essentially depend on the quantity of money in circulation and its velocity in each country.

According to the balance of payments theory, the rate of exchange is determined by the supply of and demand for bank notes, and these in turn rest on the balance of payment; e.g. an unfavourable balance of payment causes decline in the rate of exchange. Elis (24) classified the supporters of this theory into three groups. The first group, including Knapp, Kaula and Delberg, believed that the rate of exchange, like any price, is determined by supply and demand without referring to the impact of prices on the determination of the rate of exchange, nor conversely. The second group, among them Mises, believed that the rate of exchange was to be regarded as an independent phenomenon; that it stands upon its own ground, owes nothing to prices nor is owed . These supporters sought to explain the behaviour of the rate without any influence of domestic prices on that rate. The third balance of payments group, by far the most numerous and including members, like the representatives of the Reichsbank, Bonn and Helfferich, maintained that the balance of payment determines the exchange rate, which exercises a great deal of influence upon the prices of domestic goods.

Although the first and second of these groups of this theory stood on solid ground in that they traced

the determination of exchange rate to the law of supply and demand, by ignoring the impact of the exchange rate on prices and vice-versa or by regarding the exchange rate as an independent phenomenon, they gave insufficient explanation to the facts happening in Germany during the inflation. The explanation of the third group, though it is a matter of different points of view, is more relevant to inflation theory.

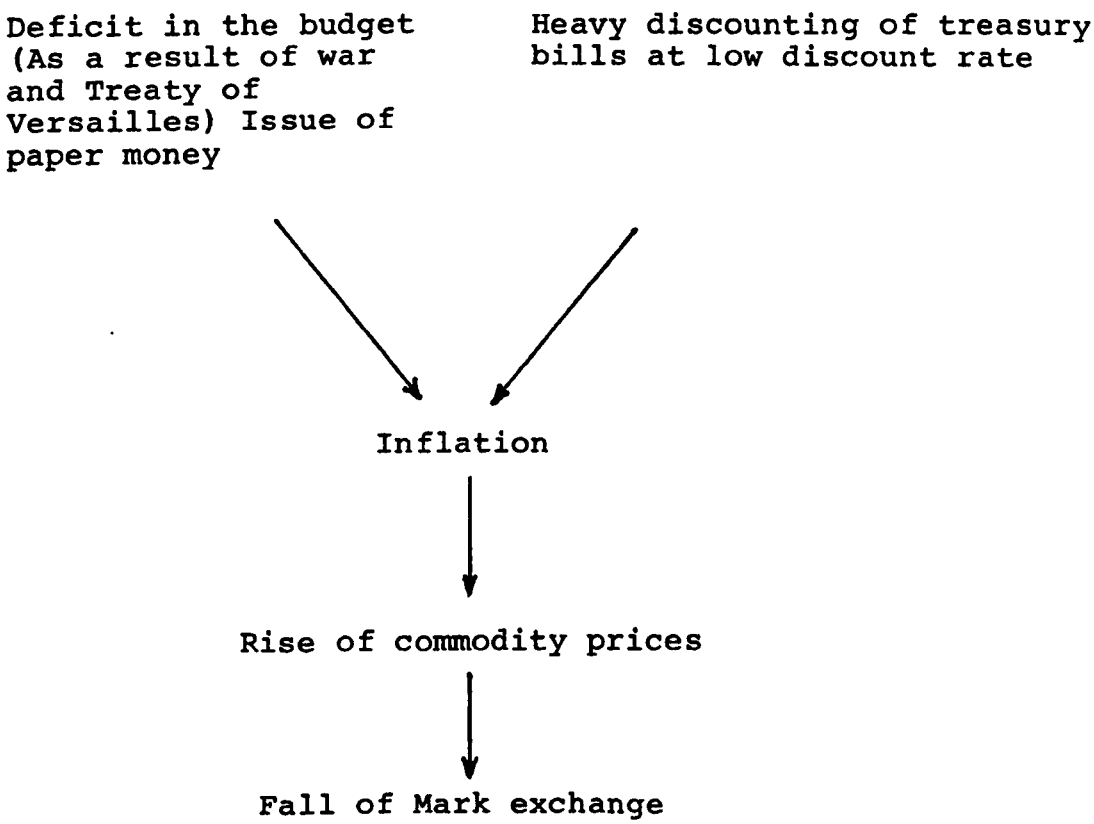
4.7 The Introduction of Inflation Theories into Germany's Experience

In accordance with different points of view prevailing in and outside Germany two theories, namely, the quantity theory and the balance of payments theory were crystallized. they will be presented here by means of diagrams showing how the various causes of the German inflation were related.

4.7.1. The Quantity Theory

Some of the German writers like Hellferich and Eucken, whose point of view was supported by some English classical economists (members of the Reparation Commission) asserted that the loss of the war and, a year later the Treaty of Versailles in July 1919, caused

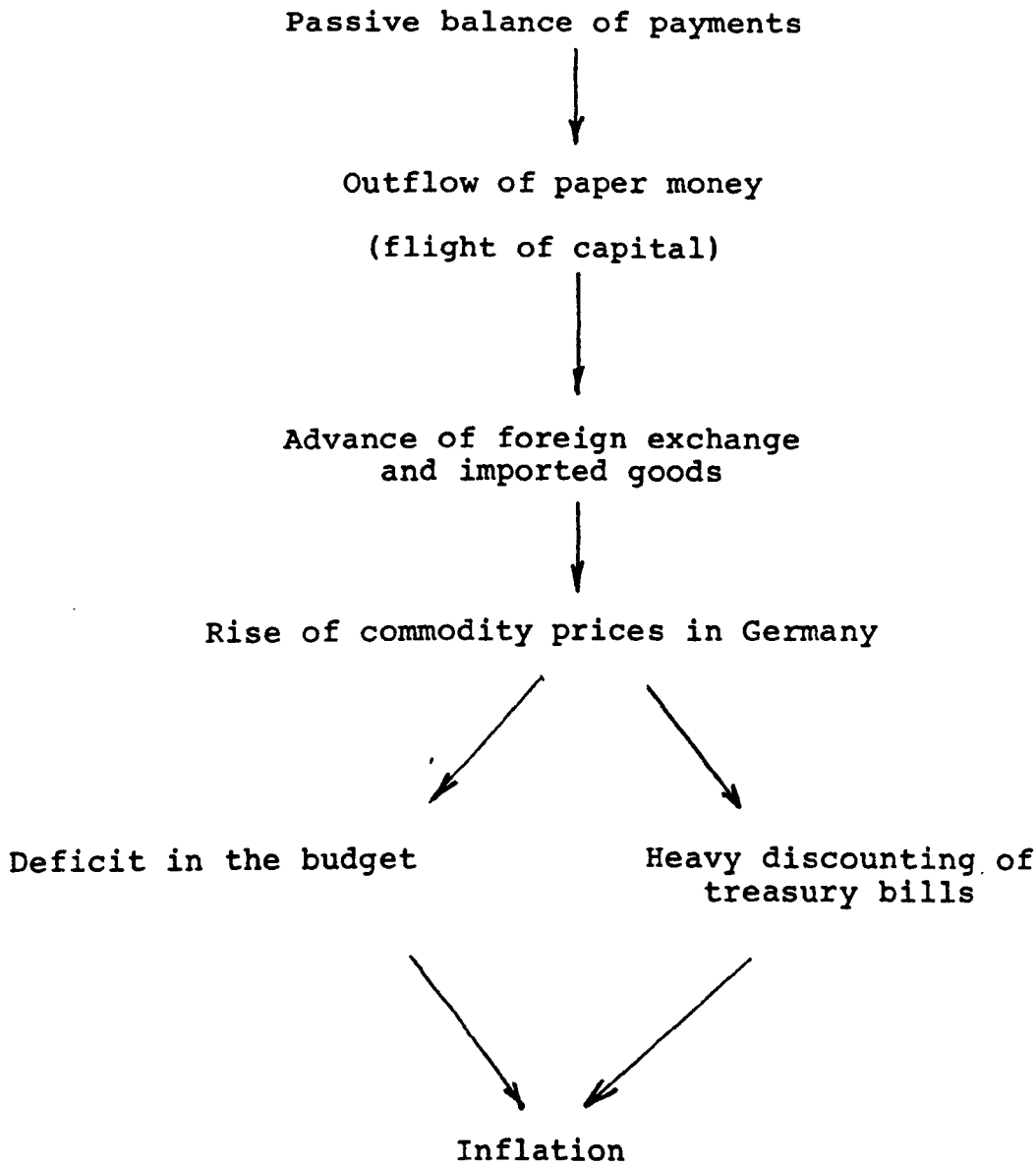
a deficit in the budget of the Reich. This deficit, together with a heavy discounting of treasury bills at a low rate, caused inflation. As a consequence prices rose and the Mark exchange fell. Accordingly the causation proceeded along the following lines:



4.7.2. The Balance of Payments Theory

Contrary to the quantity theory explanation a great number of economists like Karl Elester, and officials and representatives of the Reichsbank, asserted that the main cause of inflation was Germany's unfavourable balance of payments. According to Walter Eucken, German exports declined relative to 1913 (100), to the following proportions:
1919, 23%; 1920, 50%; 1921, 36%; 1922, 39%. This passive balance of trade, together, with the reparation payments imposed on Germany weakened the German economy so that the phenomenon "flight from the Mark" in favour of foreign currencies swept through a German population which was no longer certain about its future economy. Moreover, the government, in order to make up her payment balance, exported milliards of Marks. As a consequence the supply of Marks was in great quantities whilst the demand for Marks in the international markets declined. As a result of this phenomenon the external value of the mark became low and the prices of imported raw materials and goods and with them the domestic prices rose. The rise in prices caused a deficit in the budget, and the Reich in order to make up her deficit discounted treasury bills in great numbers in order to

create a new purchasing power. The following diagram illustrates the above explanation:



To sum up, the quantity theory traces causation from the deficit in the budget, through money in circulation and its velocity, to commodity prices and exchange rate. The balance of payments theory traces causation from balance, through rate of exchange, to domestic prices and note issues.

4.8 The Stabilisation of The Mark

During this century and after both World Wars I and II, it was possible to save the German currency only by means of monetary reforms. In this section we shall discuss the periods of relative stability of the Mark, outlining the attempts made towards stabilisation and monetary reform in November 1923.

4.8.1 From the War Until The Acceptance of The Ultimatum London

During World War I depreciation of the Mark was relatively slow. In October 1918 the exchange rate of the gold Mark expressed in paper Mark was only 1.57. From the Armistice until the signing of the Treaty of Versailles in July 1919 the velocity of the depreciation of the mark increased to 3.59 and to 11.14 towards

December 1919, the month in which a financial agreement between Germany and the Allies took place. In this agreement the Reichsbank forbidden to dispose of its gold reserves. This requirement by the Allies was mainly made to ensure the reparation payments imposed on Germany would be made in milliards of gold Marks. From February 1920 until the acceptance of the Ultimatum of London on 15th March, 1921 the value of the Mark remained almost stable, for the gold Mark was worth 15.4 paper Marks in February 1920 and 14.9 in March 1921. The most important feature of the period 1919-1921 was the introduction of new fiscal reform which imposed very heavy burdens on the German population. This reform aimed at creating a great system of taxes and was linked with the name of Erzberger. By means of very high rates of taxes on profits of companies, most of which profits were fictitious, and on capital gains (Kapitalzuwachs) the government's income from taxation continually increased, at the expense of the productive capability of industrial companies, most of which were working at a loss in that period. In other words, taxes on fictitious profit diminished the real capital of the companies, most of which thought that they were making considerable profits. The unduly high rates of taxes were a stimulus to evasion and to the 'flight of capital' abroad.

The Erzberger system was subject to criticism in

that the rates of taxes were only one element in the fiscal burden, whilst the methods of assessing the taxes and valuation of property, the exemptions and rebates of taxes, the possibility of evasion and delay in payment were of equal importance and had not been appreciated (25).

It is worth mentioning with regard to this period that the increase in the Reichs' income, which relatively decreased the budget deficit in that period, was not totally responsible for the stabilisation of the value of the Mark. There was another important factor assisting at the stabilising of the exchanges rate, namely, that of the marked fall of prices in the outside world in that period. This fall caused a decrease in the prices of imported goods which amounted to approximately 1.5 million tons per month and hence in the general price level which is the reciprocal to the value of money. However, the Reich by imposing its system of taxes aimed at increasing income to meet its heavy expenditure, did not aim at stabilizing the value of the Mark, for it felt that the fall in the value of the Mark had increased German exports, the figure of which in thousands of tons reached 2762 in December 1919, 2895 in May 1920 and 1930 in December 1921 compared to 323, 397, 583 and 641 for the first months of 1919. Moreover, the opinion held by the government,

the Reichsbank and some economists was that stabilisation of the Mark depended on the improvement of the German economy. At the congress of German bankers which took place in September 1920 Warbug maintained that the exchange was the expression of the depressed economic, financial and social conditions of Germany and that an improvement (or stabilisation) of the exchange could not be achieved until the general situation had been improved from this threefold point of view (26). Adding to this the Reparation payment (the payment of the first milliard gold Mark was due in 1921) it seemed very unlikely that the Reich or the Reichsbank intended to take any serious step towards the stabilising of the value of the Mark at that period.

4.8.2. From March 1921 Until June 1922

After the acceptance of the Ultimatum of London in which the Reparation payment was determined at 132 (27) milliards of gold Marks, the value of the Mark started to depreciate once again, reaching 117 paper Marks for one gold Mark in June 1922. The Ultimatum imposed on the German government the obligation to prepare a vast fiscal reform which would render existing taxes more productive and procure new receipts sufficient for the payment of reparation. Accordingly a 'Committee of Guarantee' was set up. The Berlin delegation of the

Committee of Guarantee made agreements with the German government and with the Reichsbank and collaborated with the latter for the purpose of helping to collect of the foreign currency necessary for the payment of reparation. It was at the Congress of Cannes in January 1922 in which the Moratorium for Reparation payment was discussed, when the Allies expressed their strong interest in the stabilisation of the German currency and the stoppage of issues of notes, and made this interest a main condition in dealing with the problem of Moratorium (28). Besides this, the German government was require to reduce its expenditure and to replace the President of the Reichsbank with a Board of Directors (29).

Although the German government had made some steps towards the fulfilment of the Allies' desire, attempts to stabilise the Mark were out of the question in the circle of the Reichsbank and some economists like Helfferich, who asserted that 'inflation and the collapse of the exchange are children of the same parent and the problem of restoring the circulation is not a technical or banking problem, it is in the last analysis, the problem of the equilibrium between the burden and the capacity of the German economy for supporting this burden' (30).

4.8.3. The Period of Hyper-inflation until the Monetary Reform

From 9th June, 1922 until the monetary reform of 15th November, 1923 the price index number and the monthly average exchange rate of the gold Mark expressed in paper Marks increased tremendously. Except in certain months of that period (September 1922, March and April 1923) the exchange rate rose less than 50 per cent per month. One gold Mark was worth 75.6 paper Marks in June, 117.5 in July, 270.3 in August, 1807.8 in December 1922, and 1000 milliard in December 1923. From the beginning of this period it was felt that only by means of monetary reform would it be possible to save the Mark. The opposition to the idea of monetary reform came also from the Reichsbank and Minister Cuno. According to Schmalenbach the theory held by the President of the Reichsbank, Cuno, as well as Wirth and Herms, was that a currency reform could not be possible before the whole economy, foreign trade and the Reparation payment were brought under control and regulated (31).

Also in November 1922 'the committee of foreign experts' (32) called in by the German government had declared the stabilisation of the German exchange to be possible under certain conditions; but the Reichsbank stuck firmly to its theory, according to which it was

useless to attempt monetary reform.

During the second half of 1923 when the velocity of the depreciation of the Mark had reached fantastic figures, creation of money or other medium of exchange with 'fixed value' (Wertbestaendige Zahlungsmittel oder Waehrung) became the most urgent requirement in Germany (33). Plans for stabilization and monetary reform had been suggested by various economists. Two of these proposals which were concerned with the introduction of new currency are worth mentioning. These were (34):

a) Stabilisation through return to the gold standard (i.e. gold Mark). The main representatives of this proposal were Kramer, Schacht, Helferding, Hirsch and Bernhard.

b) Stabilization through issue of government bonds (Rentenbriefe), the cover of which was a fixed value. The representatives of this proposal were Helfferich and Minoux.

With the growth of the need for money with stable value among the German population, the government was authorized by the Law of August 14th, 1923 to issue and put in to circulation some small denominations (in the old proportion of 4,2 Mark equal to one Dollar) the sum of which amounted to 500 million gold Marks (35). This amount was a gold loan (Goldanleihe) of which the cover was fictitious. Nevertheless in October and in the first half of November lack of confidence in the German

legal currency was such that, as Luther wrote,

> any piece of paper, however problematical its guarantee, on which was written 'constant value' was accepted more willingly than the paper Mark (36).

4.9 The Monetary Reform of November 1923

In September and October the economic and social conditions of Germany were deteriorating. Trade was halted, factories closed, unemployment figures rose and provisioning of towns and industrial centres were seriously menaced (37). This situation was mainly attributed to the impossibility of continuing economic activities on the basis of the paper Mark, whose value in September depreciated by 23.5 milliard.

It was on 15th October, 1923 that a decree was passed to establish a Rentenbank whose function was the issue of a new currency to be known as the Rentenmark. According to the decree, the maximum issue of Rentenmark was fixed at 2,400 million including 1200 million to be put at the disposal of the government. Helfferich asserted that the experiment with the Rentenmark was being made without having created a solution to the reparation question nor contributed to an economic and political solution (38). Even Minister Luther, the author of the decree, described his work as that of one

who builds a house, beginning with the roof (39).

On 16th November, 1923 the new currency (i.e. Rentenmark) was issued and given the value of one gold Mark. This value of the Rentenmark was not stated officially but resulted indirectly from the promise to the holders of Rentenmarks that on demand 500 Rentenmarks could be converted into a bond having nominal value of 500 gold Marks.

On 20th November, the value of the paper Mark was stabilised at the rate of 4,200 milliard Marks for a Dollar, i.e. one billion paper Mark for one gold Mark.

Although the Rentenmark was only a legal means of payment and added to the existing paper Mark which remained the only legal tender money until 11th October, 1924, its impact on German economic activities was made immediately after its issue: commerce revived, factories re-opened and unemployment declined rapidly.

On 28.12.1923 a decree was passed imposing on German industrial companies the obligation of preparing a new 'balance sheet', valuing their assets and liabilities in 'gold Marks' as from 31st December, 1924 (see Chapter 7).

According to the law of 30th August, 1924 the German currency became the 'Reichsmark' whose ratio in value with the old mark (1 Reichsmark = 1 billion paper Marks) was fixed by law. Its ratio with the Rentenmark and gold was also fixed 1 Reichsmark = 1 Rentenmark =

0.36 gram of fine gold.

The old paper mark was withdrawn from circulation and ceased to be legal tender on 5th of June.

4.10 1924 - The Period of Stabilisation

After the introduction of monetary reform the Reichsbank and the German government took new measures which helped to stabilise the economic situation. Immediately after the discounting of treasury bills stopped, the Reichsbank imposed a uniform rate for exchange on all German stock exchanges. At first the exchange of 4,200 milliard paper Marks for a dollar -the rate on the New York Stock Exchanges on November 20th 1923 - was fixed officially. Thus the value of the Mark was based on the value of the dollar. i.e. a billion Marks were worth 23.81 cents. The Reichsbank had not dared to adopt a strong restriction of credits immediately after the introduction of the Rentenmark for fear of provoking a very serious crisis in business, which had suffered huge capital losses during inflation. But when the Mark began to depreciate slightly against the dollar once again in February and March (a billion Marks was worth 22.67 cents and 22.44 cents on those dates respectively) the Reichsbank in April restricted credits and limited the total outstanding to 2

milliards gold Marks which had been reached at the end of March. As a result the Mark recovered once again in value, and a billion Marks were exchanged for 23.41 cents in May and 23.94 cents in June 1924. The official discount was also fixed at 10 per cent during 1924 and reduced to 9 per cent in 1925. Thanks to additional measures which were taken to stabilise the external value of the Mark, such as the prohibition of buying or selling of foreign exchange at a higher rate than the official rate, and making forward contracts in foreign exchange etc, the gold reserve of the Reichsbank increased from 467 million gold Marks in 1923, to 613.6 in 1924 and 1,208 in 1925.

At the same time the budget deficit was quickly made up after the reform. This was due to

a) cutting down of expenses, which were thus reduced to 7,720 million gold Marks during the fiscal year 1924-1925, and

b) the introduction of new taxes and revaluation of existing taxes and tariffs, which increased the government income to 7,757 million gold Marks for the same fiscal year.

As a result of the above measures German prices also began to stabilise and the index number of wholesale prices compared to 1913 as 100 recorded 126.2 in December 1923, 117.3 in January 1924, 116.2 in February and 120.7 in March.

Table 1

Dec. of years	1 Circulating money in millions	2 Increase in quantity of money in %	3 Floating debt in millions	4 % of floating debt held outside the Reichsbank
1913	6,552	100		
1914	8,703	132,8	2,900	6.9
1915	10,050	153,4	5,700	8.8
1916	12,315	188.	12,600	29.4
1917	18,425	281.2	28,600	50.4
1918	33,106	505.3	55,200	50.7
1919	50,083	764.4	86,400	52.2
1920	81,570	1245.	152,800	62.3
1921	122,913	1876.	247,100	46.5
1922	1294,748	19761,	1495,200	20.8
1923	497×10^{18}	7.6×10^{16}	1200×10^{16}	0.9

Sources for column 1: Zahlen zur Geldentwertung in Deutschland 1914-1923, Berlin 1925, p. 45-52.

Sources for columns 3 and 4: Deutschlands Wirtschaft Waehrung und Finanzen, Berlin 1924, S. 62.

For a detailed analysis of the figures above, see Holtferich "Die Deutsche Inflation 1914-1923, P. and PP. 64-65.

TABLE II

Years	Index number of wholesale prices in paper Marks	Exchange rate of the gold Mark expressed in paper Marks	Ratio between German prices in paper and American prices (price parities)
1913	100		
1914	125	101.7	1.08
1915	148	116	1.40
1916	151	132	1.20
1917	203	157	1.01
1918	245	143	1.21
1919	803	470	2.01
1920	1440	1501	6.57
1921	3487	2491	13.0
1922	147500	44921	229.4
1923	$1261{,}6 \times 10^{9}$	10^{12} (Dec.)	-

Sources for columns 1 and 2: Statistisches Reichsamt: Zahlen zur geldentwertung in Deutschland 1914 bis 1923, Berlin 1925, S. 6, 16, 17. (Holtfrerich, P. 15.

Sources for columns 3 and 4: The Economics of Inflation PP. 445-446.

1- The figures of columns 1 are the index number of Dec.

2- The figures of the other columns represent yearly average.

3- The exchange rate of the U.S. Dollar expressed in paper Marks was the same as the gold Mark. Both currencies were expressed in terms of constant gold weight. When 4.2 is multiplied by the exchange rate we arrive at how many Marks the dollar was worth.

TABLE III

Index Number of Prices of German Industrial Shares, by Quarters, 1918 - 1923, 1913 = 100.

Years	In paper Marks	In gold Marks	Years	In paper Marks	In gold
1918	130	104.1	1919	97	44.8
	136	109.8		94	30.2
	138	94.6		104	23.2
	97	55.9		125	14.8
1920	187	9.7	1921	268	17.9
	170	15.1		284	18.3
	204	17.9		340	19.2
	260	15.0		700	16.3
1922	856	15.9	1923	33400	6.2
	905	12.7		156800	10.1
	1105	5.2		181.7×10^{6}	16.7
	5371	3.6		16944×10^{9}	31.5

1- This index was compiled by the Statistical Bureau of the Reich, and presented the quotations of 300 shares of the most important groups of industries, quoted in Berlin. For more details i.e. monthly average see Economics of Inflation PP. 452-453.

2- The average quotations of shares in 1913 were at 178.66% of the nominal value of shares [Economics of Inflation P. 255].

3- The column of gold Marks represent the adjustment of the share prices according to the exchange rate of the dollar, i.e. dividing the prices of shares in paper Marks by the exchange rate.

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22- Ibid, P. 208.

23- Ibid.

24- Ibid, P. 204.

25- Bresciani-Turroni, C: Op-cit., P. 46.

26- Ibid.

27- Holfrerich, Karl-Ludwig: Op-cit, P. 302.

28- Ibid, P. 229.

29- Ibid.

30- Bresciani-Turroni, C: Op-cit., P. 46.

31- Schmalenbach, E: Die Goldmarkbilanz, in ZfhF, 1924, P. 1.

32- Struss, Dieter: Das war 1922, 1982, P. 28.
The member of the Committee were Keynes and Brand (U.K), Cassel (Sweden), Jenks (U.S.A), Beaufort (France), Dubois (Switzerland, Schroeder (Germany).

33- Luther, H: Feste Mark- Solide Wirtschaft, 1924, P. 65.

34- Holtfrerich Karl-Ludwig: Op-cit., P. 312.

35- Luther, H: Op-cit., P. 122.

36- Bresciani-Turroni, C: Op-cit., P. 347.

37- Ibid, 336.

38- Ibid, 335.

39- Ibid.

CHAPTER FIVE

INTRODUCTION TO GERMAN INFLATION ACCOUNTING

5.1 Introduction

The importance of the distinction between capital and income has been widely recognised by legislators, economists and accountants since the introduction of the U.K Company Act of 1862 and the German Commercial Code of 1884, both of which required that dividends should not be paid out of capital. Although the main reason behind this legal requirement in both countries was the protection of creditors, the distinction between capital and income has become a fundamental, if not the fundamental purpose of accounting.

During 1920-1921, when economists inside and outside Germany believed that the German economy was prospering, several German academic accountants - among them Schmalenbach - signaled that this 'prosperity' was only apparent, because companies were selling their products below actual costs, thus declaring fictitious profits and distributing dividends out of capital - a process which was making Germany a poor country (1). The reason behind this argument was that companies regarded profits as the amount over and above what was necessary to maintain nominal (money) capital, upon which concept the German conventional accounting was based. Not only was the failure recognised of maintaining the notion of nominal capital at a time of rising prices, but a solution to the accounting problem

was made by proposing different possible definitions of the capital which a company considered should be maintained intact before any profit was distributed, and accordingly different accounting methods were suggested.

The attempt made by the academics to alter the conventional basis of accounting was made not only in the literature but at government level, since changes in conventional accounting necessitated changes in the legal requirements which prescribed the basis of German accounting.

This chapter deals with the serious attempts made to reform accounting in the Reichswirtschaftsrat and at the first accounting conference held in November 1921. It outlines also the arguments against the nominal capital maintenance concept and sets out the alternative capital concepts proposed by the academics.

5.2 THE MOVEMENT OF ANTI-SCHEINGEWINNE OR ANTI-FICTITIOUS PROFITS

5.2.1 The Debate at the Reichswirtschaftsrat or Economic Advisory Council of the Reich

It was on October 24th, 1919 that 56 top officials gathered in Berlin with the aim of establishing a semi-official body devoted exclusively to producing suggestions for legislation to reform the economic and political structure of Germany after World War I (2). In the Reich circle it was thought that such a body, later called the Reichswirtschaftsrat (RWR), ought to be made up of Reich officials and representatives of different groups of the German community, namely (a) employees, (b) employers and (c) others such as consumer associations, political corporations, self-employed, academics, etc. Group (c) comprised 44 remarkable persons, of whom 12 had been carefully chosen by Dr. Julius Hirsch and included Professor Schmalenbach of Cologne (3).

Under the auspices of the RWR two main committees, namely the Ansschusse fuer Wirtschafts und fuer Sozial Politik (Committees for Economic and Social Policy) were established for handling special problems, including business rules (Geschaeftsordnung). On 30th June 1920, at the general meeting of the RWR, Schmalenbach was

elected as secretary and executive member of one of these committees.

At the plenary meeting which took place on 10th December 1920 (At that time one gold Mark was worth 17 paper Marks), Schmalenbach highlighted the shortcomings of conventional accounting, though with out suggesting alternatives, in words translated as follows:

> The balance sheets at the present time are not correct. They are, also, not only 90% wrong but they are all wrong. We don't know how we can put it right. The commercial code is based on the prerequisite condition that we have a stable currency. But such a currency we do not have (4).

It was, then, in December 1920 and for the first time, that the idea of 'the gold mark balance sheet began to receive considerable attention.

5.2.2 The Committee of Financial Policy

On 13th December 1920, at the general meeting of the RWR, Schmalenbach together with Hachenburg (known as the author of the Commercial Code) proposed the establishment of a committee for taxation (Steurausschuss). Because there had been other proposals suggested by Beckmann and others, dealing with a wide range of financial problems, a third main committee, called the 'Finanspolitischer Ausschuss' (Committee for Financial Policy), was established on 16th December 1920 under the Chairmanship of George

Bernhard (5).

At Government level the debate on inflation accounting seems to have begun on 23rd April 1921 when the Committee for Financial Policy discussed a petition put to it by the chambers of commerce of Cheminitz and Muenich-Gladbach, in which they sought to have exempted from taxation an amount sufficient to maintain the businesses' productive capacity (6).

In this meeting Schmalenbach, a member of the committee, argued:

> At times of money value fluctuation the balance sheet drawn up in accordance with the legal requirements will be misleading, because the law does not recognise the fact that the figures calculated at two different points of time will have two different values.
>
> At times of depreciating currency the profit declared will be fictitious unless the accounts are expressed in terms of their real value, which could perhaps be arrived at by adjusting them by means of a wholesale price index. Thus it is in the interest of the economy to consider fictitious profit as a form of reserves for replacement (7).

He therefore held out for 'Reform of the Commercial Code and Tax Law as an urgent requirement' (8).

The opinions of Schmalenbach were widely supported by the representatives of the employers on the committee, who gave many examples to show that at the time they were unable to set aside sufficient sums for renewals and replacements of their assets (9).

On the other hand, the representatives of the employees took a conservative attitude in that they

doubted that these reserves would be used for the purpose of preserving companies rather than for stimulating the distribution of more dividends or other benefits to the owner. But they did agree that the reserves should only be increased to the amount necessary to ensure the productive capacity of the firms (10).

5.2.2.1 The Working Party (Arbeitsausschuss)

Since changes in accounting conventions necessitated changes in legal requirement it was felt necessary to set up a working party to deal with accounting problems in general and with the petition under discussion in particular. As a result a working party was set up by the committee for financial policy on 7th May 1921, and the members of the RWR, Hachenburg und Mueller, were appointed as expert adviser (11).

Hachenburg in his report concluded that the problem was one of taxation problem and should be dealt; with as such, therefore a reform of the Commercial Code was unnecessary (12).

Mueller agreed with Hachenburg and went farther to point out that fictitious profits could be eradicated

since undervaluation was permissible under the Commercial Code (13).

From its establishment until the introduction of the decree of the 'gold mark balance sheet' on 28th December 1923, the working party, together with representatives of the government, reviewed in 16 meetings the accounting fundamental included in the Commercial Code, as well as the 'draft plan for a new law' about the gold mark balance sheet (14); but no result was achieved.

To sum up, although Schmalenbach on his own initiative and later on behalf of the academic accountants, made several attempts to highlight the shortcomings of conventional accounting, he failed to persuade the Reichswirtschaftsrat to accept his proposals for the reform of, or alternative method for, accounting, because the conventional method was the most advantageous to the governments to increase their income from taxes, in order to meet their deficit budget.

5.3 The Debate at the First Accounting Conference

The historical moment of the anti-fictitious profits movement came when Die Gesellschaft fuer wirtschaftliche Ausbildung or 'Society of Economic Development' organised in Frankfurt at the end of

November 1921 its first accounting conference (15), in which the main subject under consideration was the treatment of fictitious profit in the account (16).

The conference was attended by more than 400 people (17), including academic and practising accountants and representatives of government, trade associations, of industry and chambers of commerce (18). The conference also aimed at making a formal request which might lead to a reform of accounting provisions by the Committee for Financial Policy. Several papers were presented by German academics including Schmalenbach, Prion and Schmidt.

Although at this conference there was a general agreement that fictitious profits by whatever means should be eliminated from the accounts (19), there were different opinions as to how this should be done. i.e. whether money or assets should be revalued. Because of this Schmalenbach proposed the establishment of a commission to deal with the problem of fictitious profits (20). His proposal was accepted and the commission was established as follows (21).

Professor Dr. Schmalenbach, University of Cologne as Chairman; Dr. Rudolf Fischer, Judicial Authority of Leipzig; Director Hergen, Auditing and Management A.G. Frankfurt; Commercial editor Ernst Kahn, Frankfurt; General director Arnold Langen, Gas Motor Factory, Cologne; Dr. Strutz, Council President of the Court of

Exchequer, Munich; Dr. Meumann, The Reich Association of German Industry; Director Haussmann, German Oil Industry, Berlin; Bramstedt, government authority in the Statistical Bureau of the Reich; Walter Susat, Ministry of Economic Affairs; Dr. Waldschmidt, Judicail Authority; Professor Dr. Nicklisch, University of Berlin, Professor Dr. W. Prion, University of Cologne, Professor Dr. Fritz Schmidt, University of Frankfurt; Professor Dr. Walter Mahlberg, University of Mannheim; Professor Dr. Ernst Walb, University of Freiburg.

The task was to examine the following questions (22):

1- Which is the most appropriate index number for the purpose of adjusting the accounts?

2- Which method of calculation is to be chosen in order to convert the balance sheet? And

3- What are the practical consequences resulting from the above suggestions, in accordance with the requirements of commercial and tax laws?

In order to arrive at an accepted method for inflation accounting the committee decided to appoint the following experts to report on the above questions (23):

1- Ernest Kahn (24) and Fritz Schmidt (question 1)

2- Walter Mahlberg (question 2)

3- Rudolf Fischer (question 3)

As far as the calculation method and the index

number were concerned the committee appointed Mahlberg and Schmidt as referees.

At the second meeting of the Commission held in Berlin two months later the experts' investigation resulted in two different opinions held by the referees. According to Schmidt's report, 'the correction of the balance sheet accounts could only be made possible by means of valuation at replacement prices (25). He regarded the general index as inadequate (26), and recommended the use of a special index for each individual enterprise' (27).

Since the majority views including Schmalenbach, favoured money value correction, the Commission disregarded Schmidt's opinion and decided to accept Mahlberg's report in recommending the following (28):

1- Accounting errors [fictitious profits] that occurred as a consequence of money value fluctuation can be avoided only where the balance sheet figures are reduced, using a standard measure.

2- The Mark prior to the War (Friedenmark) [i.e. gold Mark] is the most preferable standard measure.

3- The adequate means by which the reductions are carried out is the wholesale price index since it covers material and finished goods, besides being available monthly.

As a consequence a 'plan for a new law' involving a gold mark balance sheet linked with the name of

Schmalenbach was put to the R.W.R in 1922 and included Mahlberg-Schmalenbach's suggestion (see chapter 7).

In this regard it is worth mentioning that Mahlberg's report was a combination of two initiatives: The gold Mark balance sheet was Mahlberg's initiative and the use of wholesale price index as a standard measure was Schmalenbach's. We will return to this in the following chapter.

To sum up, whatever were the merits of the alternative accounting method chosen, the first accounting conference succeeded in publicising the limitations of conventional accounting, and this itself was a great achievement.

5.4 THE APPROACH TO THE ACCOUNTING PROBLEM

5.4.1 The Rejection of the Nominal Capital Maintenance Concept

> The balance sheet has essentially two functions:
> 1- the ascertainment of a company's assets and liabilities, and
> 2- The ascertainment of the company's operating results' (29).

Prior to World War I, German financial statements were based on a number of conventions, such as the money assumption and the historic-cost and stability which were found in the of the body of the Commercial Codes, e.g. in Pragraphs 40, 260 and 261.Following the above conventions, a company's assets and liabilities were expressed in terms of nominal values, (30) and hence so were the company's net assets, i.e. the capital in a narrow sense. This form of capital was termed by the German accountants the 'nominal capital' (Nominalkapital), and was defined by Professor Walb as 'the invested capital which is expressed in money and is furthermore, to be seen as the same amount of money'(31). Thus the elements of the nominal capital are:

a- historic - cost as basis of assets valuation, and

b- Actual currency as a unit of measurement.

Since the elements of conventional accounting are the same as the nominal capital, it is also convenient

to think that the conventional accounting method is based on the nominal capital maintenance concept.

Although at that time a few writers (see chapter 8) were opposed to historical cost as the basis of assets valuation, due to the relative stability of money it was generally accepted that historical cost was the most suitable basis of valuation, since this cost embodied what was called 'objectivity' and reflected the principle of good accounting, the first of which was the realisation principle.

But this was no longer the case after the War, when the Mark began to depreciate heavily in value, losing its usefulness as a unit of measurement and rendering the balance sheet useless. In spite of this, German balance sheets and inventories, thus failing to reflect changes in the prices of specific assets or the general price level.

Moreover, the book figures became dissimilar with respect to the value equivalent of the unit in which they were expressed, i.e. gold and paper Marks, and thus the aggregation of accounts became meaningless and misleading. Kalveram described this as follows:

> In preparing the accounts and calculating the cost, we have for years added together the Mark of different purchasing power as like with like. We could as well add together English pounds, U.S. dollars, French francs and Dutch guilders without conversion and give the result as pounds or dollars (32).

During inflation, the longer the period is of holding fixed assets, the lower are their balance sheet figures. As a result the assets on German balance sheets were understated, and hence so were the net assets.

As far as the measurement of operating results was concerned, the simplest way was by comparing the net assets of two successive balance sheet dates. An increase in the net assets at the end of the year over the net assets at the beginning represented a profit, and a decrease represented a loss (33). Thus the net assets at the beginning of the accounting period were used as a bench-mark to determine the operating results. For example (34),

				M
1)	a-	Total assets at time	1	500,000
	b-	Total liabilities at time	1	300,000
	c-	Net assets at time	1	200,000
2)	a-	Total assets at time	2	600,000
	b-	Total liabilities at time	2	350,000
	c-	Net assets at time	2	250,000

3) Profit calculation (No capital has been withdrawn)

Net assets at time	2	250,000
Net asset at time	1	200,000
Profits		50,000

In other words, the nominal capital is regarded as

maintained when the capital at the end of the accounting period agrees numerically with the capital at the end; and what is over and above what is necessary to maintain the capital at the beginning of the period is the profit. Kalveram (35) formulated this connection as follows:

Money I ---------> goods ---------> Money II

(whereas Money II. Money I.

When Money II is greater than Money I this means that for a given business over a given period, the revenues which usually arise from the sale are greater than the expenditure that relates to the same period in question. Thus it is also convenient to think that the nominal capital is maintained when the revenue from certain goods covers the expenditure originally paid to acquire the goods. Using the transaction approach to profits determination, the profit is the proceeds which should be greater than the expenditure. Putting the Kalveram formula in a slightly different way,

Money II - Money I = Revenues - Expenditure

German theorists argued that the increase in Money II over Money I can be regarded as real (distributable) profit only if the general as well as specific prices have remained unchanged (36), for in this case when the profit is withdrawn from the business, the business will be as well off at the end of the accounting period as it was at the beginning. But in times of rising prices

neither the purchasing power of the capital invested nor the productive capacity of the business will be maintained when the nominal profit is distributed. This is because the charges of depreciation and the cost of stock sold, both, based on original cost are insufficient a) to replace the assets consumed during the accounting period, or b) the value of money invested in the consumption. As a result the expenditure will be understated and thus the profit will be overstated. In other words, the nominal profit is a mixture of operating profit and realised holding gains. Moreover the majority of German theorists, however, argued further that the real capital can not be maintained intact unless gains and losses on holding monetary items are calculated and reflected in the operating results. This helps to explain why German theorists in general believed that companies' profits distributing profits out of capital.

It is surprising that the German explanation given above failed to persuade the professional bodies in the U.K. and the U.S.A that the nominal capital maintenance concept, upon which their conventional accounting was based, was illusory during 1919 and 1920, when prices in these countries were almost triple those of 1913, in which circumstance companies' profits should have been recognised as fictitious.

5.5 The Development of the Capital Maintenance Concept

> It is important for a definition of profit to have a definite capital concept (37).

Although there was wide agreement at the first accounting conference that companies were distributing dividends out of capital, German accountants were divided into two groups as to the determination of capital which a company considered should be maintained intact.

The first group believed that accounting problems during inflation were caused by using a measuring unit (i.e. the Mark) of widely varying values and hence that the capital thus calculated would fail to represent the real value of a company's assets and liabilities. They therefore argued that the problem should be approached by revaluing the monetary unit at in such a way as to obtain a constant unit of measurement, which when attached to the assets and liabilities would enable the real value of capital to be determined.

The second group of academics saw the problem as central to the basis of assets valuation i.e. historical cost, and therefore held that assets and not money should be revalued. They argued that the problem was approachable only if the assets were revalued at the buying market prices. As a result of these two approaches, two new concepts of capital maintenance were

introduced into German accounting literature after being named by Walb in 1922 as the real capital maintenance (reale Kapitalerhaltung) and physical capital maintenance (materielle Kapitalerhaltung) (38).

5.5.1 The Real Capital Maintenance Concept

The advocated of this concept were Mahlberg, Schmalenbach and Sommerfeld. According to this concept capital may be broadly defined as the original monetary outlay by shareholders plus retained earnings since then, maintained in terms of a 'constant unit' of measurement. Because there are several possible ways to define the 'constant value', the definition of 'real capital' necessarily depends on the definition of the measuring unit.

German accountants suggested mainly three possible means by which the assumed 'constant value' could be arrived at and Marks of varying values could be converted into. These means were (39):

a- General (wholesale) prices index (Schmalenbach).
b- Gold prices e.g. gold Mark (Mahlberg).
c- Currencies based on gold standard e.g. the U.S. dollar (Sommerfeld).

Since there was no difference between b and c, for both were automatically fixed in terms of gold, it is convenient to think that German accountants aimed at finding the constant 'value' unit by means of general (Wholesale) prices and gold.

Using the general price index or its equivalent the wholesale price index, the real capital will be expressed in terms of purchasing power units, no matter whether the index at the end of the accounting period or the base year, or at any particular time, is used as a bench mark to determine the value of the capital. For instance, Schmalenbach in his indexation method used this index at the end of the accounting period while the index at 1.1.1918 was used in his gold Mark balance sheet method. In both cases, however, the capital were expressed in purchasing power units at the date to which the index related. Thus in Schmalenbach's view the real capital was aimed at maintaining the purchasing power of the capital invested, and was regarded as maintained when the capital at the end of the accounting period equalled the capital at the beginning, both measured in the same purchasing power unit. Accordingly, profit was the increase in the capital at the end of the accounting period over that at the beginning.

On the other hand, the advocates of the 'gold unit' were, at best, aiming at measuring capital in terms of gold Mark in the same way as they had done prior to World War I, as if no money value changes had taken place.

Using the coefficient of exchange between the Mark and gold prices or currencies based on gold standard as

a means of conversion, the capital will be expressed in terms of gold, upon which the Mark was based prior to the War. Accordingly, the real capital maintenance aimed at maintaining the capital invested in terms of gold values. Thus the capital invested is regarded as maintained when the capital at the end of the accounting period equals that at the beginning, both measured in gold units, and any increase in the capital at the end of the accounting period over that at the beginning is the profit for the period, which is now expressed in gold terms. The profit in effective currency is arrived at by multiplying the profit figure by the exchange rate between the gold unit used and the effective currency at the end of the accounting period.

Since money and not assets is revalued, all monetary and non-monetary items are affected, and thus gains and losses on holding monetary items should be considered. Thus, the elements of the real capital maintenance are,

1- Historic-cost as basis of assets valuation, and
2- purchasing power or gold as a unit of measurement.

It should be remembered that there is a difference between purchasing power capital and gold capital. While the latter is expressed in terms of gold money the former in terms of goods and services capital can buy.

However, in times of stability prices and stability monetary units, the concept of real capital will be the

same on the nominal one.

5.5.2 Physical Capital Maintenance Concept

This concept was advocated by Geldmacher (1920), Schmidt (1921), Walb (1922), and the Trade association of Mechanical Engineering (1921). It aims at maintaining the operating capacity of a company in the form of the stock of real property, including money and money due (40). Profit is only produced when between the beginning and end of an accounting period an increase in the real property has taken place. This necessitates two conditions:

1- Profit can only result from the sale, and
2- Sufficient funds are retained from related revenue to ensure the replacement of all existing assets at current costs at market prices.

The supporters of this concept were also divided as to whether the maintenance of capital should be of a transitory or permanent nature, and as to the measurement of consumption i.e. depreciation and cost of sale.

Walb held that only during increasing prices was the maintenance of physical capital necessary. In contrast, Schmidt held that it should be considered as a permanently workable phenomenon during a period of rising prices and falling prices alike, while Geldmacher

was more concerned with the problem of taxation on fictitious profit (41).

As far as the concerned, it was the contribution of Schmidt to distinguish between buying market (Beschafungsmarkt), to which input values relate, and selling market (Absatzmarkt), to which output values relate. For Schmidt and Geldmacher the value of an asset, whether consumed during the accounting period or held, was the replacement cost which could only be determined in the buying market.

Although Schmidt and Geldmacher held that current costs of replacement should be measured at the moment the sale transactions took place, they were divided as to the calculation of the cost. Schmidt, unlike Geldmacher, asserted that if changes in the production have taken place between the production date and the selling date, these changes should be taken into account; in other words, calculation should be made of what an asset would cost if it were reproduced at the moment of sale, and not what its replacement cost, in its existing condition, would be at the moment of sale. To clarify this, let us assume that the historical cost of all elements involved in production of an asset is 5 and the replacement cost of the same elements calculated at the moment of sale is 7. According to Schmidt and Geldmacher, the company at this moment will be as well off as it was at the beginning of the production if the

product is sold for an amount equalling the cost of replacement i.e. 7. The difference between this cost and the historical cost, i.e. fictitious profit of 2, should be treated as a part of capital and retained to maintain the capital intact, thus enabling the company to continue operating as a going concern. Any proceeds over 7 will be the profit, which at the moment of sale can be withdrawn, leaving the company as well off as it was. But - and here is the difference between Schmidt and Geldmacher - if between the date of production and the selling date a production change (Productionverschiebung) has taken place and the same product can be produced at the moment of sale at a higher or lower current cost (whichever the case may be), say at 8 - according to Schmidt only the amount yielded over 8 is considered as distributable profit, for 3 is now required to be retained to maintain the company's operating capacity. Geldmacher omitted this point.

This difference between Schmidt's and Geldmacher's approaches to the physical capital maintenance concept is reflected in the terms 'relative' (Schmidt) and 'absolute' (Geldmacher) capital maintenance in German accounting literature, and of course they are the same in the absence of production changes. Thus the elements of the physical capital maintenance concept are:

1- replacement cost as basis of assets valuation, and

2- money as a unit of measurement.

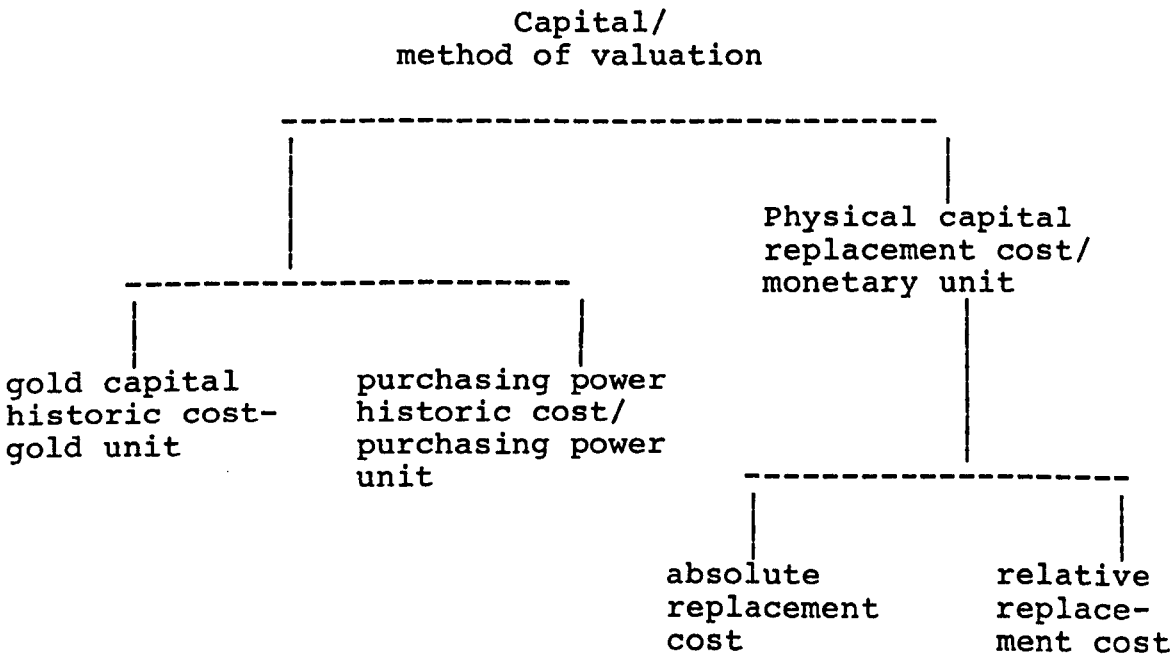
These form the basis of replacement cost accounting. It is worth noting that the selling price as the basis of assets valuation was not suggested during the inflation period, but in 1925 by Karl Sewering. Although realisable value accounting is a branch of current value accounting, the capital maintenance concept underpinning it aims at maintaining the realisable value of a company's net assets, but not necessarily its assets in physical terms. However, the work of Sewering will be discussed in Chapter 8.

5.6 Forms of Capital

The above discussion reveals that German theorists from the beginning distinguished between money capital and physical capital. Money capital has two forms, depending on the means by which a company's capital is expressed, but it has no basis of valuation, i.e. historic cost. If the money capital was expressed in terms of effective currency it was called nominal capital. If it was expressed in a constant unit of measurement it was called real capital. Again, real capital had two forms. It could either be purchasing power capital or gold capital. On the other hand, physical capital had one form and one basis of assets

valuation i.e. current replacement cost, but had two versions, absolute and relative.

According to the German suggestion the forms of capital maintenance and the method of valuation embodied in them can be shown diagrammatically as follows:



Give that 'the measurement of income is dependent upon the measurement of capital at the beginning and end of the accounting period and these measurements of capital are, in turn, dependent upon valuations of assets and liabilities at these dates' (42), German accountants went to the heart of the matter when they considered the basis of assets valuation as the key to the concepts of capital and income.

The characteristics and differences

The characteristics of both concepts can be summarized as follows:

1- Both concepts were opposed to the nominal capital concept; thus they were revolutionary in approach.

2- Both concepts were developed at the same time (1921).

3- Both concepts attempted to allow for the effect of inflation by retaining general or specific reserves which were charges against revenue to replace assets consumption.

4- Both concepts were (and still are) among the simplest alternative concepts to the nominal one.

5- Both concepts, separately or together, have constituted the basis of all current debate on the capital maintenance concept, whether incorporated into Accounting Standards or still under consideration.

Although both concepts possess a number of common characteristics they are differently orientated and in these orientations centre the major differences between them, i.e. the maintenance of physical capital as against purchasing power capital. At this stage these differences can be summerised as follows:

Real Capital Maintenance	Physical Capital Maintenance
1- The unit of measurement can be purchasing power or gold unit.	1- The unit of measurement is the effective currency.
2- Basis of assets valuation is historical cost adjusted by general price index or gold unit, since only money revalued.	2- Basis of assets valuation is replacement cost, using either direct observation or individual specific price indices.
3- All non-monetary items are shown on the balance sheet increased at the same rate as the general index has done; or shown reduced inversely to the rate to the general index or the rate of currency depreciation.	3- Non-monetary assets are individually revalued at their estimated replacement costs.
4- Profits are a product of operating profits and monetary gains and losses.	4- Profits result from sales only; thus, monetary gains and losses are not recognized.
5- Real capital is sought.	5- Physical capital is sought.
6- The prime users of accounting information are the shareholders.	6- The prime users of accounting information are the managers who act on the shareholder's behalf.
7- Since gains and losses on monetary items are not real gains and losses to the community its application is limited to capitalist economies.	7- It can be applied universally

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CHAPTER SIX

CURRENT PURCHASING POWER SYSTEM (INDEX METHOD)
THE WORK OF SCHMALENBACH

6.1 Introduction

> 'The issue [Money value fluctuation] will always find a place in the accounting literature' (1).

During 1921, when literature on inflation accounting began to appear, particularly the writings of Mahlberg on the gold Mark balance sheet and Schmidt's on replacement cost accounting, Schmalenbach developed the current purchasing power system, known at that time as Indexation Method. The first of his writings on the subject appeared in his Journal of accounting, the 'Zeitschrift fuer Handelswissenschaftliche Forschung', Issue 15, 1921, PP. 401-417. In this article he presented an example, here translated unchanged, which was submitted as an appendix to his paper, 'Steuerliche Behandlung der Scheingewinne', at the first accounting conference held in Frankfurt /am Main. Furthermore, in his Dynamische Bilanz of 1926, Schmalenbach wrote a section of 60 pages, literally translated as 'The impact of monetary fluctuation on profit calculation', showing examples computed in both paper and gold Mark, and concluding that 5%-10% changes in the value of money

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Eugen Schmalenbach (1873-1955), graduated from the Commercial College in Leipzig in 1900. In 1903 he submitted his postdoctorate thesis at the Commercial College of Cologne and was Professor of Business Economics at Cologne from 1906-1933 (2). His Dynamic Accounting (1919) and Der Kontenrahmen 1927 (The Chart of Accounts), further built up his reputation as an advanced thinker in the study of Business Economics in Germany.

within a short term period could damage the operating results if monetary correction had not been applied.

This chapter will show the original work on the current purchasing power accounting system developed by Schmalenbach in 1921, basing the discussion mainly on his above three writings which include his thinking about the nature of fictitious profit, his suggestion of a new unit of measurement and his methods of calculation. And finally the similarities between Schmalenbach's work and Sweeney's will be discussed.

6.2. The Separation of Operating Results from Outside Profits

Schmalenbach, unlike Schmidt and Sewering, did not develop a concept of value. In his writings he advocated valuation at cost in times of stable monetary value, except for speculative stocks, (i.e. stocks which are set aside in anticipation of an increase in prices), which he recommended should be valued at year end prices (3). He defined 'expenditure' (Aufwand) as the value of assets which are destroyed or lost, whether deliberately or accidentally, on behalf of the business, irrespective of whether this takes place within the business or outside it (4). On the other hand, he distinguished between performance (Leistung) and revenue (Ertrag). By the former term he meant revenue in a narrow sense (i.e. ordinary revenue), whilst the latter term embraced not only ordinary revenue but also extraordinary revenue, the occurrence of which is due to factors outside the ordinary activities of the business, such as the state of the market (Konjunkturgewinne) and neutral revenues like gifts, etc.

For him the operating result (Betriebsgewinn) is the value of performance (revenue) reduced by the value of expenditure ; and only this result is the decisive measurement of business performance. While Schmalenbach regarded the market profits (Aussengewinne) as real

profit and as distributable, he held that these profits should be shown separately from the operating result in the profit and loss account, for such separation is of great importance for both management and shareholders, who should also know how profits have been generated during the accounting period (5).

Schmalenbach defined inflation as a monetary phenomenon and as a general increase of prices. He wrote:

> By inflation we mean, in technical language, rising prices caused by swollen purchasing power (6).

Since the value of money is falling during inflation, money as a unit of measurement will not be constant and thus the operating results will not be determined by the difference between revenue and expenditure, unless both of them fall at the same point of time. And since expenditure is normally incurred before related revenue is received, the value of expenditure will be underestimated compared to revenue and thus the operating result will be overstated i.e. include fictitious profit. As Schmalenbach wrote:

> When comparing expenditure with revenue transacted at the same point of time the comparison will not be affected by the fluctuation of the measuring unit used. An error occurs only when the related comparative values have come from different points of time (7).

However, according to Schmalenbach the operating result is still the difference between the values of

revenue and expenditure, both of which must be measured by reference to a constant measuring unit.

To sum up, it is not price difference but value difference that should determine the operating results.

6.3 Fictitious Profits

> Fictitious profit calculation means calculation based on nominal purchase prices, without taking into consideration the decline in the value of money (8).

Schmalenbach observed that companies were declaring and distributing fictitious profits during the inflation periods. In this regard he attacked the self-seeking attitudes of company's directors and members of the supervisory boards, whose fees were based on profit-sharing schemes . All these people, said Schmalenbach, whether knowingly or not pursued fictitious profits, and it was doubtful whether they tried to avoid them (9).

Schmalenbach gave the following illustration in which a company reveals fictitious profit without experiencing a period of money value depreciation (10): A company which owns a machine, the book values of which have been higher in previous years than they should have been, but which machine is still in good working order. In the year under consideration there will be no depreciation charges; hence the profit figure of the

year will appear higher than it is in reality (10).

But in times of inflation, Schmalenbach asserted, fictitious profit occurs as a result of money value depreciation (11).

He considered the use of a changeable yardstick in accounting (e.g gold and paper Marks) a great mistake which had passed without challenge in traditional accounting , and he held that the use of such a yardstick results in a measuring error from which fictitious profit is produced in the accounts (12).

To illustrate his point Schmalenbach gave examples, two of which are quoted below:

Example 1 (13)

> Suppose that a trader started his business in one financial year with 100.000 M in cash. He had nothing but this 100.000 M, no trading goods, nor credits. At the end of the year he had 240.000 M, in cash. Again, he had no other assets and liabilities nor had he withdrawn or introduced capital during the trading period. According to the customary calculation the trader had made 140.000 M in the business. If in this year the Mark had depreciated heavily in value, say, to one-fourth of its original value, then the trader did not make a profit, on the contrary, he made a loss.
>
> If he calculated the money he had at the beginning of the year in terms of the bad money at the end of the year then he should have 400.000 M in terms of bad money. Since he had only 240.000 M in had he did not gain 140.000, but lost 160.000 M.
>
> It is exactly the same if, in the above example, the trader, instead of money had debtors and at the end of the period possessed

nothing else but that (14).

Example 2 (15)

Suppose that a plot of land is sold for 10.000 M, whereas its original cost was 6.000 M.

Schmalenbach held that before the profit is computed from this transaction an estimation of the value of the Mark should be made on the date of the land's acquisition and again on its selling date. If the money has in the meanwhile depreciated at 10% the profit will be 3400 (i.e. 10.000 - 600 x 110/100), not 4000 M. (i.e. 10.000 - 6000).

From the above it is clear that the basis of assets valuation, which is the key to profits determination, is the adjusted historical cost of the monetary unit. Given this basis of valuation, real profit is the difference between the capital at the beginning and end expenditure measured in a constant purchasing power unit. Thus fictitious profit is the difference between the historical cost profit and real profit.

Fictitious Profit and Losses in the Heading of the Balance Sheet

Fictitious profit and loss should be eliminated from operating result (16).

Schmalenbach showed that the items of the balance sheet are differently affected by money value depreciation. While fictitious profits enter into almost all assets items, fictitious losses enter into liabilities (17).

The amount of fictitious profits also varies with listed assets in the balance sheet, according to their nature. Schmalenbach's thought is summarized below:

6.4.1Fixed assets

a- Fixed assets which are not subject to depreciation, such as land, have no effect on the profit and loss account preparation. Their only consequence is found in the underestimation of the financial position of the business in times of inflation.

b- Fixed assets, the value of which are reduced over their useful lives due to depreciation charges, such as machines, buildings etc. - this class of fixed assets have not only the same consequence as the above but they go farther to overestimate the profits when calculated in accordance with conventional methods during inflation, because depreciation charges will always be less than the adjusted historical cost depreciation. For example (18),

Historical cost of a building	100.000 M
Annual depreciation rate at	4%
Decline in the money value since the acquisition at	10%

According to Schmalenbach, since the value of money has declined by 10% during the accounting period, depreciation charges against revenue should be increased by 10% i.e. 400 M. This increase (additional depreciation) is the only influence on the fixed asset created by the decline in money value (19). If it is further assumed that the Mark will remain stable in the following year or years, fictitious profits of 400 M

will be continuously included in the profit of the following year or years, until the end of the useful life of the fixed assets. Schmalenbach came to the following conclusion as far as fixed assets are concerned:

> The effect of the decline in money value on fixed assets is restricted according to the depreciation rate only. But by this restriction its effect would continuously spread over the whole useful life of the fixed assets, even when the value of money did not depreciate further, but was stabilised (20).

Thus, depreciation adjustment is required for removing the impact of money value depreciation from the operating results.

6.4.2Stock

While fixed assets are affected by the decline in the value of money i.e. through depreciation, and for a long period stock is affected through the cost of sales, the influence of the decline in money will immediately disappear after the sale (21). This is due to the nature of stocks, which are assets destined for selling rather than use. They remain in the business from the date of acquisition or manufacture to the date of their sale; and only during this period if the value of money declines, say, at 10% should the nominal (purchase) prices of stock consumed be restated at 10% higher before a deduction from the selling prices is made (22). According to Schmalenbach the difference between the restated figure of the cost of sales and their

historical cost represents fictitious profit which should be eliminated from the historic-cost profit. In other words, the cost of sales requires and adjustment.

6.4.3 Monetary Assets and Monetary liabilities

Monetary items such as cash, debtors, receivables, creditors etc, unlike non-monetary items, are fully affected by the decline in the value of money (23). This is due to the fact that such assets do not tend to increase or decrease in general value as prices rise or fall, for their amounts are fixed in nominal terms; hence they will stay unchanged. Schmalenbach claimed that by holding monetary assets and owing monetary liabilities fictitious gains and fictitious losses occur, the amounts of which are inversely proportional to the decline in the money value during the period during which those monetary items are held or owed. He argued, however, that a certain amount of money held at one point of time will be worth less in value at a later point of time, and this reduction in value between the two points of time represents a real loss to the holder; and if is ignored (as in traditional accounting) a fictitious profit will be disguised among the profit figures computed. But in contrast to the monetary assets, monetary liabilities during inflation involve a real gain to the borrower, no matter what he has done

with the borrowings (24), for the debt will be extinguished by payment worth less in value than it was at the date the debt was made. According to Schmalenbach this gain from borrowing was fictitious loss which was ignored in traditional accounting.

In order to eliminate the impact of money value depreciation from the historical cost profit Schmalenbach asserted that a monetary adjustment was required. To clarify Schmalenbach's technique regarding the treatment of monetary items, let us suppose that (A) borrowed 100 from (B) and in the meantime the value of money halved. The ledger accounts of (A) will show the following:

Cash

b/d balance	100	P+L	100
Value adjustment	100	c/d balance	100
	200		200

Creditors

P+L	100	b/d balance	100
c/d balance	100	Value adjustment	100
	200		200

The value adjustment account and the profit and loss cancel each other out.

Thus Schmalenbach asserted that correction of accounts should not be restricted to non-monetary items,

but should include both monetary and non-monetary items. He wrote:

> It was one of strangest ideas that money value correction should be applied to non-monetary items, but not to the monetary working capital such as the bank balances, cash, debtors and creditors etc. (25).

To sum up: according to Schmalenbach, in order to arrive at real profits, three adjustments to historic cost profit are required:

1- Depreciation adjustment

2- Cost of sale adjustment

3- Monetary adjustment.

6.5 The Problem of Measuring Unit

The usefulness of the Mark as a measuring unit during inflation was hotly debated, and became a controversial question in German accounting literature during the early 1920s. There were mainly three groups associated with this problem. The first, which represented nominalists and included official bodies, argued that the Mark was the only legal tender and thus that accounts should continue to be drawn up in terms of the Mark regardless of its purchasing power. The second group, the advocates of current value accounting - among them Schmidt and Geldmacher - argued that the problem of accounting was a problem of assets valuation rather than monetary valuation and thus that correction should be

that therefore the Mark should continue to be the unit of measurement. The third group, which constituted the majority, among them Schmalenbach, Mahlberg and Sommerfeld, argued that the impact of inflation on accounting was eliminated if accounts were drawn up in a common unit of constant value, which was assumed to be a feature of the Mark prior to inflation. Although this group aimed at stabilizing the account, they were divided as regards the definition of the unit of measurement.

6.5.1 Schmalenbach's Search for the Measuring Unit

6.5.1.1 The Ideal Index Number

> What we search for is merely a reliable, constant unit of measurement which permits comparison of operating results to be made, and it seems to me that an average of a great number of commodity prices which can be considered as a unit of exchange value is better than all other media (26).

Schmalenbach distinguished clearly between production and consumption goods and services and held that only consumption goods and services are to be considered, not production goods, in the index number (27).

Thus the measuring unit which was sought by Schmalenbach was that unit which should be constant in value and simultaneously reflect the purchasing power of

money. He also made it clear that changes in the purchasing power were not to be measured from the point of view of the individual firm or all firms, but, as was later recommended in PSSAP 7, from the point of view of the consumers.

In his Dynamic Accounting Schmalenbach examined the different possible units of measurement from the available indices of the day. He rejected the most stable single commodity prices, including gold prices as suggested by Mahlberg, for gold prices were subject to fluctuation. Like Irving Fisher, he showed in an example that the value of gold in terms of the goods it purchased was unstable for the period 1891-1914, and how the average price levels during that period varied with gold production, i.e. the higher the gold production, the higher the prices of other commodities, and vice-versa (28).

Similarly, Schmalenbach rejected the use of exchange rates between Germany and some gold standard countries, generally the United States, as suggested by Professor Sommerfeld, and showed how the value of the Dollar, which was believed to be the most stable currency of the day, had declined during 1913-1919 to reach half its value in terms of American goods during 1919, compared to 1913 (29). He asserted that a gold value fluctuation of 5%-10% within a short period, e.g.

one year, should not pass without correction if an accurate computation of operating result was to be arrived at (30).

Since Schmalenbach had favoured the use of a general price index as a substitute for the Mark, he examined the price indices which were available during the early 1920's in Germany:

1- The cost-of-living index number

2- The retail price index number, and

3- The wholesale price index number.

He rejected the cost-of-living indices, because they were compiled for the purpose of regulating tarriffed wages. They were not considered as representative of the general price level, nor as a measurement of the purchasing power of money, but as a measurement of the purchasing power of wages (31). He also rejected the retail price indices as a standard measure, because they were complied on an occasional basis and only for limited periods (32). So that they were useless for accounting purposes.

6.5.1.2 The Measuring Unit: The Wholesale Price Index

The non-availability of the ideal index which Schmalenbach had in mind during the 1920s in Germany led him to accept the wholesale indices published by the Statistical Bureau of the Reich as a standard measure,

for certain practical reasons (33).

1- The indices were complied during 1921 using 18 representative commodities, most of which were consumption goods, and in 1923 the number had been increased to 38. They were weighted according to their importance, and in addition to this supplementary monthly indices dating back to 1879 with 1913 = 100 as a base year were published.

2- The indices during 1922 were published regularly on the 5th, 15th, and 25th of each month, and weekly during 1923, so that accountants were able to prepare short-period financial statements i.e. monthly.

However, in spite of the shortcomings of the index, Schmalenbach believed that the German wholesale price was the best among the worst indices available.

It is worth mentioning that Schmalenbach and the makers of the 'Frankfurter Zeitung' namely kahn and others, were heavily influenced by the writings of Irving Fisher. They referred, when dealing with the subject of index number, to Fisher's book entitled 'The Purchasing Power of Money', published in Germany in 1916.

It is interesting to note that Professor Mahlberg in his later writings accepted Schmalenbach's point of view and advocated the use of the wholesale price index instead of the gold prices index.

6.6 Schmalenbach's Accounting Methods for Inflation

Schmalenbach suggested three accounting methods for inflation, each of which was designed for different company needs. The common base of these methods was the correction of the money value of the assets and liabilities, whether partial or comprehensive. In other words, the basis of assets valuation was the adjusted historical cost, which was to be arrived at by multiplying the historical cost by the change in the general (wholesale) price index. The reason why Schmalenbach preferred this basis of valuation to current value was that he considered that inflation was concerned with general price level, and in order to allow for the effect of inflation, money and not assets must be corrected. These methods are

1- The unsystematic method (nicht systematisches Verfahren) or partial adjustment method
2- The systematic method (Aufwendiges Verfahren)
3- The simple method (Vereinfaches Verfahren).

6.6.1 Unsystematic Money Value Adjustment or Partial Adjustment

The method was suggested for companies which were opposed to a costly and comprehensive accounting system, but which felt it appropriate to establish a reserve to finance the increased cost of replacing certain assets.

According to Schmalenbach, the reserve should be treated as a charge against historic cost profit, and should appear on the liabilities side of the balance sheet under an account called 'money depreciation' (Geldentwertungskonto). Thus the method aimed mainly at correcting the depreciation charges or the cost of goods sold. To clarify Schmalenbach's method, one of his examples dealing with partial adjustment is quoted (34):

Historical cost of a building	100,000 M
Annual depreciation rate at	4%
Average decline in money value	10%
Annual depreciation charges (11000 x 4/100)	4400
Additional depreciation (4400 - 4000)	400

Schmalenbach suggested that 1) the building should either be credited with the 4400 Marks, in which case its balance will be 95,600 Marks and thus no special reserve is required, or 2) the building account should be credited by 4000 Marks whilst the additional appreciation charge should be credited to the money depreciation account. Accordingly, the entries in the journal are shown as follows: (35)

Depreciation account (profit and loss account)	4400	
to buildings account		4000
to money depreciation account		400

although the method suffers from major shortcomings in that the depreciation charge and the charge for goods consumed are based on inflation-adjusted value rather than on the replacement cost of these assets, it is more

realistic than the reserve policies adopted by German companies during the inflation of the 1920s, and the recommendation of the ICAEW, 1949. The reported profit according to the traditional method is always overestimated during an inflation period and this might be the reason why German companies tended to establish special reserves to avoid distributing more than a certain amount of profit in order to allow for the effect of inflation. According to the German newspaper 'Bergwerg Zeitung' (No. 2, January 3rd, 1922), 'thirteen great iron and steel companies had realised in 1920-1921 a net profit of 383.6 million Marks but paid out only 160.1 as dividends and the difference was added to the reserves; (36).

In the U.K the ICAEW, through its Recommendation of 1949 advised companies to establish a reserve to allow for the effect of inflation in similar fashion to what was practiced in Germany during the 1920s. The effect of such practice was a failure to recognise the economic concept of profit, because the reserve was treated, unlike in Schmalenbach's method, as an appropriation of profit and not as a charge against profits; and thus it had no effect on the calculation of profit, and still allowed a misleading impression of the operating performance of a company.

Schmalenbach's method has also an advantage over

even the 'base stock' valuation policy figure, but at the expense of declaring a misleading low balance sheet figure.

6.6.2 The Systematic Method (Aufwendiges Verfahren)

This method, unlike the partial adjustment, aimed at introducing a comprehensive accounting method for inflation. It retained all the characteristics of traditional accounting method except for the change in the unit of measurement, current purchasing power (CCP unit). thus the capital maintenance concept underpinning the method was that of maintaining intact (Kapitalerhaltung) where all accounts are translated into end-of-year purchasing power unit.

The basic outline of the Schmalenbach method can be summarised as follows (37):

1- No changes should be made to the entries in, or to the balance of, the traditional accounting method.

2- All businesses are recommended to prepare a supplementary balance sheet and a supplementary profit and loss account in terms of value of the Mark at the end of the accounting period to which the accounts relate, i.e. monthly or annually.

3- The wholesale price index should be used for the purpose of converting the paper Mark figures into

their equivalent values at the end of the accounting period.

6.6.2.1 The Process of Conversion

In this method Schmalenbach recommended a costly, comprehensive process. Since the process of conversion will be discussed in more detail in Chapter 7, at this stage it is sufficient to summarise the steps as follows:

1- All non-monetary items of the opening balance sheet, except capital, should be restated at their values as at the beginning of the accounting period. This restatement should be carried out be multiplying each historical cost figure by the change in the wholesale price index since the date to which that historical figure relates. For reasons of simplicity, Schmalenbach suggested that all assets acquired or capital issued prior to 1.1.1918 were to be restated as if they had been acquired on 1.1.1918 (38). No adjustment was to be made to monetary items, for they were already expressed in terms of the value of the Mark as at the beginning of the accounting period. However, the converted balances are not final and should be subjected to the test, as will be discussed below.

2- Each item of the converted opening balance sheet

except capital should be adjusted in the supplementary account by reference to the change in the wholesale price between the beginning and end of the account period. The difference between the updated figure and the opening one is to be debated or credited (as the case may be) to a special capital reserve account called the 'money value adjustment account' (Geldwertausgleichkonto). This Account, according to Schmalenbach, has two functions (39):

a) It contains the differences resulting from adjustments so that they will have no effect on the profit and loss account.

b) It serves to adjust automatically the nominal capital, for when its balance is added to the nominal capital balance the aggregate of both balances will represent a figure equal to the capital figure if it is multiplied by the change in the index used (*).

3- In addition, Schmalenbach recommended the adjustment of the several entries to each account (40), using either a monthly index or a year average index. In the former case, the entries were to be made to the ledger accounts once at the end of the month. The entries are

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(*): The reason why Schmalenbach preferred to show the nominal capital rather than the restated one in the balance sheet was that the German Commercial Code required companies to show their capital at nominal value, and perhaps Schmalenbach aimed at making his method move acceptable to the legal authority.

here made by multiplying the totals of the month for each type of transaction by the change in wholesale price index during the month for which the entries are made. In the case of the year average index the entries are made once a year by multiplying the totals of the year for each type of transaction by this factor of year index over average year index.

4- The closing balances of non-monetary items are obtainable from the supplementary ledger accounts to which the updated opening balances and the adjusted entries have been posted. The balance will thus be automatically adjusted at year-end values as if the converted opening balance is multiplied by the change in the price index during the year. Of course, monetary items required no adjustment. The closing balances of non-monetary items should be subjected to a test.

6.6.2.2 The Test Process

Schmalenbach asserted that the principle of the 'lowest value' (Niederwert Prinzip) should be applied to both opening and closing inflation-adjusted balances (41). In his opinion these balances are not final unless they are subjected to a test.

The test of the opening balances, which is only necessary for the first year in which the method is introduced, was to be carried out as follows:

a- Each inflation-adjusted item of the opening balance sheet should be compared with its estimated current value (Zeitwert), The lower of the two should be shown on the balance sheet.

b- If the current value is lower than the adjusted value, a further correction is needed and the difference between the two should be debited to the value adjustment account (42).

The closing balances are subjected to the same procedure. But the difference between the inflation adjusted value and the current value should now be debited to the profit and loss account (43).

Example
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Since a lengthy example based on the principles already discussed above will be presented in Chapter 7, except that there the measuring unit is gold rather than purchasing power, at this stage an example of 'Cash Account' is sufficient to show the technique of the method.

Cash Account in Nominal Terms

1. Jan. b/d balance	11000		March	Inventory	8000
May inventory	12000		July	Inventory	8000
Oct. inventory	6000		Sep.	Expenses	2000
			31 Dec	c/d balance	11000
	29000				29000

Note: The movement of the general index was as follows:

January 1st	110
March	120
May	125
June 30th	140
July	150
September	160
October	170
December	175
December 31st	180

According to the monthly adjustments method the cash account in real terms appears as follows:

Cash Account (Real)
using monthly indices

1st January		11000	March	180/120	12000
V.A.A		7000	July	180/150	9600
May inventory	180/125	17220	Sep.	180/160	2250
Oct inventory	180/170	6355	P+L		6723
			c/d balance		11000
		41573			41573

Cash Account (Real)
using year average index

1 January		11000	Inventory	180/140	20571
V.A.A		7000	Expenses	180/140	2572
Inventory	180/140	23143	P+L		7000
			c/d balance		11000
		41143			41143

Schmalenbach asserted that the correction of entries by means of monthly indices is more accurate than by the year average index, particularly where a company buys fixed assets during the year, in which case

the closing balances of the fixed assets and depreciation charges will be affected. Because the difference between the operating results of the two ways of calculation is usually minor, the use of year average index will be sufficient in the case where the total operating result only is to be ascertained (44).

6.6.3 The Simple Method (das Vereinfache Verfahren)

> 'What is essential is the correction of money value means' (45).

The method was originally described in a lengthy article written by Schmalenbach in his Journal 'ZfhF' in 1921. The article included an example which will be translated without modification in this section. The same example was also an appendix attached to the paper represented by Schmalenbach in the first accounting conference which took place in Frankfurt between 25th and 26th November 1921. The simple method maintains all the characteristics of the systematic method, leading to the same total operating results but presented in simplified form. The reason why Schmalenbach suggested the method, in spite of its obvious failure to show the correct movement of values in the income statement, which failure was recognised by Schmalenbach himself - the reason that he expected that his systematic method would not be put into practice anyway (46), mainly

because businessmen did not fully recognise the effect of the depreciation of the Mark on the accounts. Another reason was the extra cost involved in implementing the method.

The basic outline and the test process of the method is similar to that of the systematic method, but the following steps of the conversion process are reduced, and this might be the reason why method was named by Schmalenbach the 'simple method':

1- No correction for the opening balances is required, and thus no test against their current value is required either.

2- No correction to the entries is required, and thus the movement of the general index number during the beginning and end of the year is ignored.

Accordingly, the differences between the two methods are obvious. Firstly, the operating results for the first year only according to the first method will be overstated because the capital at the beginning of the accounting period will be underestimated. This is due to the non-correction of the balances of non-monetary depreciation charges and cost-of-goods adjustments will be understated. However, this is newly established. Secondly, since correction to the entries is not made to the accounts, they will include purchasing power of different times, and thus the

movement of individual values in the profit and loss account is artificial.

6.6.3.1 Example of the Simple Method (47)

The following example is translated without modification from Schmalenbach's PP. 404,409. His notes to the account are also translated. For the purpose of showing the differences between the simple method and the conventional one, Schmalenbach used four-column accounting (two columns for nominal values, i.e. conventional method, and two columns for real values, i.e. simple method). It is assumed that the change in the value of money during the year was as follows:

January 1st	1
December 31st	2,5

It is further assumed that the current values of all no-monetary assets, except investment, at the end of the year have risen to above 2.5 times their values at the beginning of the accounting period.

Balance Sheet as at 31 December of Previous Year

		M				M
1	Lands	180,000	9	Nominal Capital		600,000
2	Buildings	480,000	10	Money Value Adjustment Account		-
3	Machines	1	11	Reserve funds		200,000
4	Stock	240,000	12	Mortgage		270,000
5	Debtors	180,000	13	Creditors		80,000
6	Bank	110,000	14	Bonus Account		15,000
7	Cash	10,000	15	Dividends Account		60,000
8	Investments	100,000	16	Legal Risk Reserve		50,000
			17	Contingent Account (Reserve for bad debts)		20,000
			18	Profit and Loss Account	80,001	
				Directors' fees 15,000		
				Dividends 60,000	75,000	
				Balance Carried forward		5,001
		1,300,001				1,300,001

Ledger Accounts for the Year

(1) Lands Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	180,000	180,000	Dec. 31, by Balance	180,000	450,000
Dec. 31, to M V A	-	270,000			
	180,000	450,000		180,000	450,000

(2) Buildings Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	480,000	480,000	Dec. 31, by Depreciation	10,000	25,000
Dec. 31, to M V A	-	720,000	Dec. 31, by Balance	470,000	1,175,000
	480,000	1,200,000		480,000	1,200,000

(3) Machines Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	1	1	- by Debtors (sold as scrap during the year)	1,000	1,000
- to Creditors (Additions during the year)	16,000	16,000	Dec. 31, by Depreciation	15,000	15,000
			Dec. 31, by Balance	1	1
	16,001	16,001		16,001	16,001

(4) Stock Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	240,000	240,000	- by Debtors	1,500,000	1,500,000
- to Creditors	880,000	880,000	- by Cash	70,000	70,000
- to Cash	505,000	505,000	- by Creditors	10,000	10,000
- to Debtors	15,000	15,000	Dec. 31, by Balance	340,000	440,000
Dec. 31, to M V A	-	360,000			
- to Profit and loss Account	280,000	20,000			
	1,681,000	1,951,000		1,681,000	1,951,000

(5) Debtors Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	180,000	180,000	- by Stock	15,000	15,000
- to Machines	1,000	1,000	- by Cash	40,000	40,000
- to Stock	1,500,000	1,500,000	- Bank	1,306,000	1,306,000
Dec. 31, to M V A	-	270,000	- by Expenses	30,000	30,000
			Dec. 31, by Balance	290,000	290,000
			Dec. 31, by P + L Account	-	270,000
	1,681,000	1,951,000		1,681,000	1,951,000

(6) Bank Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	110,000	110,000	- by Creditors	756,000	765,000
- to Debtors	1,306,000	1,306,000	- by Cash	640,000	640,000
Dec. 31, M V A	-	165,000	Dec. 31, by Balance	20,000	20,000
			Dec. 31, P+L Account	-	165,000
	1,416,000	1,581,000		1,416,000	1,584,000

(7) Cash Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	10,000	10,000	- Stocks	505,000	505,000
- to Stocks	70,000	70,000	- by Creditors	50,000	50,000
- to Debtor	40,000	40,000	- by Directors' fees	15,000	15,000
- to Bank	640,000	640,000	- by Dividends	60,000	60,000
Dec. 31, to M V A	-	15,000	- by Mortgage	20,000	20,000
			- by Expenses	105,000	105,000
			Dec. 31, by Balance	5,000	5,000
			Dec. 31, by P+L Account	-	15,000
	760,000	775,000		760,000	775,000

(8) Investments Account

	Nominal	Real		Nominal	Real
Jan. 1, to Balance	100,000	100,000	Dec. 31, by P+L Account	-	70,000
Dec. 31, to M V A	-	150,000	Dec. 31, by Balance	100,000	180,000
	100,000	250,000		100,000	250,000

(9) Nominal Capital Account

	Nominal	Real		Nominal	Real
Dec. 31, to Balance	600,000	600,000	Jan. 1, by Balance	600,000	600,000
	600,000	600,000		600,000	600,000

(10) Money Value Adjustment (M V A) Account

	Nominal	Real		Nominal	Real
Dec. 31, to P+L Account	-	7,500	Dec. 31, by Lands	-	270,000
Dec. 31, to Reserve fund	-	300,000	Dec. 31, by Buildings	-	720,000
Dec. 31, to Mortgage	-	405,000	Dec. 31, by Stock	-	360,000
Dec. 31, to Creditors	-	120,000	Dec. 31, by Debtors	-	270,000
Dec. 31, to Bonus	-	22,500	Dec. 31, by Bank	-	165,000
Dec. 31, to Dividends	-	90,000	Dec. 31, by Investment	-	150,000
Dec. 31, to Legal Risk Reserves	-	75,000			
Dec. 31, to Contingent	-	30,000			
Dec. 31, to Balance	-	900,000			
		1,950,000			1,950,000

(11) Reserve Fund Account

	Nominal	Real		Nominal	Real
Dec. 31, to Balance	200,000	500,000	Jan. 1, by Balance	200,000	200,000
			Dec. 31, by M V A	-	300,000
	200,000	500,000		200,000	500,000

(12) Mortgage Account

	Nominal	Real		Nominal	Real
- to Cash	20,000	20,000	Jan. 1, by Balance	270,000	270,000
Dec. 31, to P+L Account	-	405,000	Dec. 31, by M V A	-	405,000
Dec. 31, to Balance	250,000	250,000			
	270,000	675,000		270,000	675,000

(13) Creditors Account

	Nominal	Real		Nominal	Real
- to Stock	10,000	10,000	Jan. 1, by Balance	80,000	80,000
- to Ecpenses	20,000	20,000	- by Machines	16,000	16,000
- to Cash	50,000	50,000	- by Stock	880,000	880,000
- to Bank	765,000	765,000	Dec. 31, by M V A	-	120,000
Dec. 31, to Balance	140,000	140,000			
Dec. 31, to Account	-	120,000			
	976,000	1,096,000		976,000	1,096,000

(14) Bonus Account

	Nominal	Real		Nominal	Real
- to Cash	15,000	15,000	Jan. 1, by Balance	15,000	15,000
Dec. 31, to P+L Account	-	22,500	Dec. 31, by M V A	-	22,500
	15,000	37,500		15,000	37,500

(15) Dividends Account

	Nominal	Real		Nominal	Real
- to Cash	60,000	60,000		60,000	60,000
Dec. 31, to P+L Account	-	90,000	Dec. 31, by M V A	-	90,000
	60,000	150,000		60,000	150,000

(16) Legal Risk Reserve Account

	Nominal	Real		Nominal	Real
Dec. 31, to P+L Account	-	75,000	Jan. 1, by Balance	50,000	50,000
Dec. 31, to Balance	50,000	50,000	Dec. 31, by M V A	-	75,000
	50,000	125,000		50,000	125,000

(17) Contingent Account

	Nominal	Real		Nominal	Real
Dec. 31, to P+L Account	-	10,000	Jan. 1, by Balance	20,000	20,000
Dec. 31, to Balance	40,000	40,000	Dec. 31, by M V A	-	30,000
			Dec. 31, by P+L Account	20,000	-
	40,000	50,000		40,000	50,000

Depreciation Account

	Nominal	Real		Nominal	Real
Dec. 31, to Buildings	10,000	25,000	Dec. 31, by P+L Account	25,000	40,000
Dec. 31, to Machines	15,000	15,000			
	25,000	40,000		25,000	40,000

Expenses Account

	Nominal	Real		Nominal	Real
- by Debtors	30,000	30,000	- by Creditors	20,000	20,000
- by Cash	105,000	105,000	Dec. 31, by P+L Account	115,000	115,000
	135,000	135,000		135,000	135,000

(18) Profit and Loss Account

	Nominal	Real		Nominal	Real
Dec. 31, to Debtors	-	270,000	Jan. 1, by Balance	5,001	5,001
Dec. 31, to Bank	-	165,000	Dec. 31, by M V A	-	7,500
Dec. 31, to Cash	-	15,000	Dec. 31, by Creditors	-	120,000
Dec. 31, to Contingent	20,000	-	Dec. 31, by Stock	280,000	20,000
Dec. 31, to Depreciation	25,000	40,000	Dec. 31, by Mortgage	-	405,000
Dec. 31, to Expenses	115,000	115,000	Dec. 31, by Legal Risk-Reserve	-	75,000
Dec. 31, to Investments	-	70,000	Dec. 31, by Contingent	-	10,000
Dec. 31, by Balance, Profit	125,001	80,001	Dec. 31, by Director's Fees	-	22,500
			Dec. 31, by Dividends	-	90,000
	285,001	755,001		285,001	755,001

Balance Sheet as at 31 December of Last Year

		Nominal	Real			Nominal	Real
1	Lands	180,000	450,000	9	Nominal Capital	600,000	600,000
2	Buildings	470,000	1,175,000	10	Money Value Adjustment Acc.	-	900,000
3	Machines	1	1	11	Reserve Funds	200,00	500,000
4	Stock	340,000	440,000	12	Mortgage	250,000	250,000
5	Debtors	290,000	290,000	13	Creditors	140,000	140,000
6	Bank	20,000	20,000	16	Legal Risk-Reserve	50,000	50,000
7	Cash	5,000	5,000	17	Contingent Reserve	40,000	40,000
8	Investments	100,000	180,000	18	Profit	125,001	80,001
		1,405,001	2,560,001			1,405,001	2,560,001

The notes to the accounts are summarised below:

1- Lands: The money value correction amounting to 270,000 M (i.e. 180,000 x 1.5) has no effect on the profit and loss account; it only affects the balance sheet, for land is not subject to depreciation.

2- Buildings: The increase in the depreciation charges from 10,000 M to 25,000 M is due to the money value correction which affects not only the balance sheet but the profit and loss account as well. Its effect on the latter account is restricted to depreciation rate only. The additional depreciation charge is 1,5 x 10,000 = 15,000 M.

3- Machines: The old machines are still in working order. This is the reason why their balances at the beginning and end of the

accounting period are shown on the balance sheet at 1 M. The new machine is assumed to be bough during the year and sold at scrap value during the same year. Accordingly, no monetary value correction is needed in either case.

4- Stocks: The real value of stocks at the end of the accounting period was estimated to be 440,000 M.

5- The account 5-7: The closing date balances of these monetary assets are not affected by the money value correction, for they are already expressed in terms of their nominal values. The loss which is recorded in each of these accounts is equal to the related money value adjustment.

8- Investment: The value of investment at the end of the year was estimated at 180,000 M. It did not reach 250,000 M as it should have done. Accordingly, the difference between these values (i.e. 70,000) is to be regarded as a real loss.

9- The Nominal capital: This account needs no direct correction. It is indirectly corrected by means of the money value adjustment of all the other accounts; e.g. 600,000 x 1,5 = 900,000 M.

10- Money value adjustment account: This includes all the money value corrected accounts' balances.

11- The accounts 12-16: These accounts are monetary liabilities. The money value correction has no effect on the balance sheet, for they are, like monetary

assets, expressed in terms of nominal values. The gain appearing in each of these accounts is equal to the related money value correction.

17- Reserve for bad debt or contingencies: In this example it was necessary for the company to increase the reserve for bad debts for the year in question from 20,000 M to 40,000 M. In the real column the money value correction is 30,000 M, and since the reserve has been increased to 40,000 M the profit and loss account is only affected by 10,000 M.

18- Profit and loss account: The difference between the real and nominal profit is 45,000 M (i.e. 125,001-80,001). This profit, according to Schmalenbach, is fictitious profit and can be analysed as follows:

(a) The loss on monetary items;

Debtors	270,000	
Bank	165,000	
Cash	15,000	
	-------	450,000

(b) The gain on monetary items;

Creditors	120,000	
Contingencies	30,000	
M.V.A	7,000	
Dividends	90,000	
Mortgage	450,000	
Legal Risk Reserves	75,000	
Directors' fees	22,000	
	-------	750,000

Fictitious loss from monetary items (real gains)		(300,000)

(c) fictitious profit on non-monetary items:

Stock correction	260,000	
Additional depre.	15,000	
Investment	70,000	
	345,000	
Total fictitious profit		45,000

6.7 Limitations and Advantages of the Indexation Method

Since the indexation method was developed in 1921, it is interesting to find Schmidt's criticisms of it in his book, Die organische Bilanz of 1922. Schmidt writes:

1- Assets do not change in value at the same rate as the general index (47), and thus the indexation method reflects not only inaccurate balances but necessarily wrong operating results (48):

2- Gains from borrowing are pure adjustment, and when regarded as distributable profit, as Schmalenbach and Mahlberg wish it to be, it will necessarily be at the expense of the company's operating capability (49) (For further discussion see PP.365 - 8).

3- The method is useless for managerial decision-making purposes (Unternehmungspolitik) (50), because it shows only the extent to when the purchasing power capital has increased or decreased during the accounting period, whilst it fails to tell us whether the production and selling levels have been

maintained or whether by every selling transaction the cost of goods sold at the date of sale has been recovered (51).

In all the above respects, Schmidt was right:

a- In its Recommendation (see page) the V.D.M.B.A recommended that machinery should be revalued at 15 to 20 times its prewar values, and while land and buildings at 20 to 30 times. But the general price index was recorded at 34 times the prewar values, index was recorded at to

b- On the other hand, Germany in 1923 provides practical example against the thesis supporting the distribution of gains on borrwoings: if external funds are invested in non-monetary assets then it is assumed that the latter will also be replaced using external funds: In other words, distributing gains from borrowing, then borrowing again. We have already shown that during 1923 Germany's economic conditions made it impossible for many companies to pay the wages and salaries of their workforce. Thus the credit limit might be a convincing answer.

c- Management will be judged as successful where a company sells a product at an amount over and above the adjusted historical cost of the product or tis historical cost in the case where the product has

been financed with borrowed capital, regardless of its replacement cost which might be even higher than the proceeds from the sale.

In spite of these criticism, the indexation method has certain limited advantages:

a) It allows for changes in general price level, and in the case where the general reserve is sufficient to replace the assets consumed, the productive capacity as well as the money capita will automatically be maintained intact.

b) It works with a constant unit of measurement which is also regarded by many professional accountants in different countries as a sensible alternative to money.

c) It is simple, and so not costly, and could provide a temporary, workable solution in an extreme inflationary environment like that of Germany in 1922-1923.

6.8 The Evolution of Sweeney's 'Stabilized Accounting'

The history of accounting has been given fresh impetus in recent years by attempts to ascribe the origins of ideas in the subject. In keeping with this aim, I wish at this point to correct an error which is prevalent in the current literature, that is, that the origin of the Current purchasing Power Method is attributable to Sweeney rather than to Schmalenbach, its true originator.

In his preface to the second edition of Stabilized Accounting (1964) Sweeney wrote (52):

> On 1925 I undertook the selection of an accounting topic for my dissertation. In my intensive effort to make valuation more logical I realised that the old, easy-going treatment of a dollar as always remaining the same in value had to be discarded. For how could I measure with a ruler that was twelve inches long at one date or seven and eight inches at another date? before I could proceed with any sound measurement of values, therefore, I had to have a sound money unit of measurement. At that moment 'Stabilized Accounting' was born.....
> Meanwhile, in the five years immediately following the World War I, I knew that inflation had gone increasingly and completely out of control in Germany, where the paper Mark was the official currency.....
> business in Germany had had to go on. Accounts had had to be kept.....
> Certainly some practical solution had had to be found. What had it been?
> In answer to my queries on the subject Professor Kester [Sweeney's supervisor] recommended that I consult Professor Daniel Shonting, who gladly helped me to select German literature on inflation accounting. About that time also I was directed to Dr. Hahnebach who helped me understand technical German explanations of the proposals for correcting.

> Of German treatises on the subject the most logical, clear, complete and practical was, by far, the book entitled Bilanztechnik und Bewertung bei Schwankender Waehrung, by Professor Dr. Mahlberg.....
> After several reviews of German, I was able to begin reading the German inflation literature without a dictionary.....
> In 1927 French books and pamphlets on inflation accounting were beginning to appear. They were much easier to read than the German ones....And, finally the French literature, having benefited form the earlier experiments in neighbouring Germany tended to be more mature, concrete and practical.
> Early in 1933 I was permitted to take the final Ph.D. examination which consisted of defending my dissertation, 'Stabilized Accounting'.
> Its main usefulness, as emphasized in 'Stabilized Accounting', will consist in supplying supplementary information for financial reports. It must not be used, as some of the foreign writers proposed, to alter the original book entries. They must remain, in their perhaps crude but stark reality, inviolate. In this important admonition Accounting Research Study No. 6 concurs.
> 'Stabilized Accounting' appeared in 1936 and, as far as I know, antedated by many years any similar complete exposition, in even booklet form, in the English language. Furthermore, as far as I know, it presented the first complete and realistic treatment, in any language, of gains and losses from changes in accountants in Germany and France had not had the time that I had to work it out. Nor had they had the good fortune, as I had, to find the foundation of stabilized accounting already in place for them to build on).
> As partial compensation for the time, effort, and money that I spent in writing 'Stabilized Accounting'. I cherish the belief that it was the first fully-formed and mature exposition of what is bound to become a new branch of conventional accounting.

From the above quotations it is reasonable to suppose that Sweeney was heavily influenced by

Professor Mahlberg's ideas (*) and by those of the French, who followed Mahlberg in concerning themselves mainly with the Gold Mark balance sheet, rather than with the paper one. (For more details on French work see Chapter 7).

Sweeney outlined four main differences between his method and those of the Germans and French as he understood them. These criticisms might have been valid when applied to the Gold Mark balance and the French work, but they have no validity when applied to Schmalenbach's method (53).

Sweeney's criticisms are quoted as follows:

> The main differences between the stabilized accounting procedure outlined above and typical European balance sheet stabilization are four in number. First, the foreign method was usually quite content to stabilize the paper-money book figures on the basis of merely some gold money (usually the national gold money), despite the fact that the general purchasing power of gold money itself kept fluctuating. Second, the foreign method usually did not try to separate the surplus into its realized and unrealized profit and loss statement could not be prepare.

As for the first criticism, Schmalenbach sought an ideal index and because of its non-availability, chose the wholesale price index. Sweeney also referred to the ideal index number and chose the Snyder Index for its availability in the U.S.A. Second, Sweeney's separation

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*: Sweeney expressed his debt to Mahlberg in his preface to the 1936 edition 'for the review and approval of the 1927 draft' of his thesis.

of realized from unrealized profit was unimportant to the German writers, since they were mainly concerned with preventing fictitious profits from appearing as real, and were trying to present the simplest method possible for persuading companies to adopt correct and practical methods of calculation. Thus Sweeney's separation was meaningless, for realized and unrealized profits are regarded by the method as distributable. Third, Schmalenbach's dynamic accounting means simply the precedence of the detailed preparation of a profit and loss account over the balance sheet. Schmalenbach's work as copied above shows Sweeney's arguments to be pointless. The same example answers Sweeney's fourth criticism in that it shows clearly the gains and losses on monetary items.

Sweeney's criticisms reveal, in fact clear similarities between his recommendations and Schmalenbach's, and there are others.

To sum up,

(a) Both writers sought an ideal index and chose an available one;

(b) The conversion processes of both men's methods are similar;

(c) Both writers required the preparation of a detailed supplementary statement revealing the real annual accounts, while keeping intact the historical records as practiced in conventional accounting;

(d) The basis of assets valuation is the adjusted historical cost, for both writers. Thus the capital maintenance concept upon which both methods were based is the real capital maintenance. (real Kapitalerhatungsskonzeption). Sweeney even used the same term directly translated, in his book.

In all important respects Sweeney's and Schmalenbach's recommendations are identical, and Sweeney's criticisms of the 'European method of Stabilization' have no relevance to Schmalenbach. The latter's ideas were published in clear detail during 1921-1926, and while it is difficult to believe that Sweeney had not read them, he made no reference at all to Schmalenbach's method in his own writings. Why not?

My own conclusion is that Sweeney's entire thinking on the method was based on Schmalenbach's and that he did not acknowledge the debt.

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CHAPTER SEVEN

THE GOLD MARK BALANCE SCHEET

THE GOLD MARK BALANCE SHEET

7.1 Introduction

The gold mark balance sheet is a mirror image of Schmalenbach indexation method (1), which was discussed in the previous chapter. It found favour with German accountants (1921-1924), with the French (1926-1927) (2) and the American Sweeney (1928) (3). It was also suggested to the Sandilands Committee as an accounting method for inflation (4), although it is unfamiliar in the U.K.

The method works with different techniques and different indices, but the underlying philosophy is the same, since it leads to the same operating results and reflects the balance sheet in terms of gold units.

This chapter consists of five parts, following the historical order of the evolution of the method.

The first will outline the origin of the method in the theory of Professor Mahlberg. His example will not be presented here, since one of his lengthy examples has already been translated by Sweeney (*) and instead on example of Professor Sommerfeld based on Mahlberg and showing two different techniques, will be illustrated.

The second part will outline the 'plan for a new

(*): The Magazine article entitled 'German Inflation Accounting'. The example was quoted from mahlberg's book entitled bilanztechnik und Bewertung schwankender Waehrung, 1922, pp. 89-93.

law' which was suggested by the accountancy academics to the Reichswirtschaftsrat in 1922. An example based on Mahlberg's ideas, although linked with the name of Schmalenbach, will be presented.

The third part will deal with the degree of 28th December and the new Tax Law of 19th November 1923. Both of these required companies to complied their balance sheets, value their assets and liabilities and re-construct their capital in terms of the gold Mark. The main paragraphs of these laws will be translated here.

Within these legal requirements there were options for assets valuations and capital re-assessment and, so the fourth part of this chapter will deal with how companies followed the law in practice.

Finally, the work of French accountants on the 'gold franc balance sheet method' will be discussed. It was a copy of the German work.

7.2 Mahlberg Accounting Method(*)

The inventor of the gold Mark balance sheet method was Professor Mahlberg (5) whose idea was finalised and published in a famous book entitled Bilanztechnik und Bewertung by Schwankender Waehrung in January 1921. This idea was that if the balance sheet was drawn up in terms of the gold Mark, the value of which was equal to the paper Mark prior to 1914, then the problem of determining the real profits would be solved, and hence the balance sheet would reflect the value of the business in real terms (in gold Marks). Furthermore, once balance sheets and operating results were stated in gold Marks, a gold balance sheet of any date could be correctly compared with a gold Mark balance sheet as of any other date, for the valuation unit would be the same. However, Mahlberg aimed at drawing up a balance sheet in times of inflation which was the same as the pre-war one (6).

The basic outline and the conversion process of the method as suggested by Mahlberg is described as follows:

1- Dr. Walter Mahlberg was born in 1884. In 1909 he obtained a Diploma degree and in 1912 was appointed as assistant to Schmalenbach at Cologne University. In 1913 he finished his Ph.D and was offered a chair at the University of Munich in 1918, at Mannheim (1921), and at Goeteborg in Sweden (1923). In 1926 he was the successor to Professor Walb at the University of Freiburg in Berisgau and remained there until his death in 1935. (Kruk, Potthoff, Sieben, p. 41).

1- As regards the opening balance

The book value of all opening balance-sheet items which are stated in paper Marks of different values should be converted into their equivalent values in terms of the gold Mark.

This process is carried out using a gold Mark index (i.e. the number of paper Marks are gold Mark, or one Mark of 1913, was worth at the beginning of the accounting period as a reduction factor:

Fixed assets and investments which have been acquired in gold Marks and share capital which was so issued, as well as accumulated depreciation, need no conversion (7).

But between 1913 and the date the method is applied (say 1922) additions to and deductions from, fixed assets, investments and capital should be converted to their equivalent gold values using the reduction factor relating to the date at which these transactions occurred.

Other balance sheet items are adjusted by dividing their paper mark figures by the reduction factor at the date the opening balance sheet is prepared.

The difference between the adjusted and non-adjusted figures is to be debited or credited as the case may be, to an account called the money depreciation

account 'Geldentwertungskonto' which usually appears on the asets side. (For more details see pp.270). The adjustments can be made directly to the ledger account, in which case the balances brought foreword are shown in paper Marks and the difference between the paper and the gold figures will be shown on the opposite side of the accounts. Or this can be done outside the account, in which case the balance brought forward will be shown at its gold values (see the example below).

2- As regards entry of transactions

As regards the entry of transactions during the year, Mahlberg suggested:

(a) If the analysis of the movement of values within each account is sought, all entries are to be converted to their equivalent gold values by applying a monthly average index to the total entries during the year, or applying a yearly average index to the total entries during the year. Mahlberg also asserted that a daily index is theoretically possible to be applied to the daily entries, in which case a four-column accounting should be established (8).

(b) If only the figure of operating results is sought, no conversion is applied to the entries, which are now entered in paper Marks as they occurred (9).

3- As regard closing balance sheet

All balance sheet figures as at the end of the accounting period should be shown at their gold values. Of course, current assets and liabilities need to be adjusted by reference to the index at the end of the period; but fixed assets and capital, excepting additions and deductions which may be take place during the period, will require no adjustment for they are already expressed in terms of gold Marks.

Example (10)

It is assumed that a company was established at a time when one gold Mark was worth 2 paper Marks and had the following asset and capital structure:

Machinery	2000	Capital	4000
Cash	1000		
Inventory	1000		
	4000		4000

it is further assumed that:

80% of the inventory was sold for 13000 Marks in cash.
Machinery depreciated at 5%, and
during the year the Mark continued depreciating and reached 1/20 of its gold value at the end of the period.

1- Correction of the ledger and annual accounts using money value adjustment account.

Machinery

b/d balance	2000	Money value adjustment	1000
		Depreciation	100
		c/d Balance	900
	2000		2000

Cash

b/d Balance	1000	Money value adjustment	500
Inventory	13000	Profit and loss	12800
		c/d Balance	700
	14000		14000

Inventory

b/d Balance	1000	Money value adjustment	500
P + L	12600	Cash	13000
		c/d Balance	100
	13600		13600

Profit and loss

Cash	12800	Inventory	12600
Machinery	100	Capital	300
	12900		12900

Capital

Money value adjustment	2000	b/d Balance	4000
profit and loss	300		
c/d Balance	1700		
	4000		4000

Money value adjustment

Machinery	1000	Capital	2000
Cash	500		
Inventory	500		
	2000		2000

Balance sheet

Machinery	900	Capital	1700
Cash	700		
Inventory	100		
	1700		1700

2- The correction can also be made directly to the opening balances which are now shown at their gold values so that no monetary adjustment account is required. For example the machinery account is shown as follows.

Machinery

b/d Balance	1000	Depreciation (Profit and loss)	100
		c/d Balance	900
	1000		1000

However, the same operating results and balance sheet are arrived at regardless of the techniques used.

7.3 THE PLAN FOR A NEW LAW

As was mentioned in Chapter 5, the main committee of the accounting conference held by the 'Society of Economic Development' or 'Gesellschaft fuer wirtschaftliche Ausbildung', had rejected Schmidt's report and voted in favour of Mahlberg's, which recommended the use of the gold Mark balance sheet as an accounting method and the wholesale-price index as a means of conversion. In his capacity as member of the Reichswirschaftssrat R.W.R. and chairman of the accounting committee, Schmalenbach was authorised by the conference to present to the R.W.R. a plan for a new law which should reflect the majority opinion on the approach to the accounting problem. With minor modification, Schmalenbach put to the R.W.R. the following plan which was linked with his name.

7.3.1 The Contents of the Plan (11)

Companies, which are required by the 'Commercial Code' to keep books of accounts, are permitted to draw up their balance sheet and profit and loss account in gold Marks. In doing so they have to comply with the following rules:

1- As regards the opening balance sheet:

a) The book values of fixed assets (Uebertragswerte) existing on 1 January 1918 (*) are regarded as equivalent to their gold Mark values and hence no corrections are needed to be applied to them. Between 1 January 1918 and the date on which the opening balance sheet is prepared (say, 1st January 1922) all additions, deductions and depreciation should be converted into their equivalent gold values by dividing these values by the year-average-index (wholesale price) relating to the year during which these transactions occurred. The aggregation resulting from additions, deductions and depreciation to the figure of 1st January 1918 is an interim opening balance sheet figure for the year in question. This interim figure should be compared with the estimated current value in gold Marks, and the lower of the two is the final opening balance sheet

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(*) This seems to me a modification introduced by Schmalenbach, for most writers, including Mahlberg, regarded the pre-war price index as well as the gold Mark, as 1. It is also worth noting that the year average index of wholesale prices was 1.04 in 1914, 1.79 in 1977 and on 1st January 1918, 2.04. Schmalenbach, in regarding the index on 1 January 1918 as 1, aimed at obtaining a fixed unit of measurement which he called the fixed Mark (Festmark) rather than a gold Mark in real terms.

figure (*).

b) Current assets and liabilities (Neuwerte) are generally to be converted into their equivalent gold values by dividing each of the figures by the closing date index. Accounts such as stock which were carried forward from the previous balance sheet at an amount below their actual costs (because of "hidden reserve" policy) are to be corrected to their actual values in paper Marks before the conversion is carried out (+). Monetary items which are expressed in terms of foreign currencies, such as cash in Dollars, debtors and creditors in Sterling etc., are to be converted into their paper Marks by multiplying each of the figures by the exchange rate between the Mark and the foreign currency in question before the resultants are divided by the closing date index.

The current assets need no individual

(*) Since Schmalenbach's example, which will be presented in the next section, assumed that the current values of fixed assets were greater than their historical ones, the example quoted below is shown:
If the revalued figure of a piece of land calculated as above is 161,305 gold Mark, and its estimated current value is 4,000,000 paper Marks on 1st January, at which date the wholesale price is 3576, the opening balance should be reduced to 11,860 (4,000,000%3576) gold Marks. (Dynamische Bilanz), 1926, p. 249.

2- In his Dynamische Bilanz 1926p. 250 Schmalenbach divided the stock balance not by the index of 31 December but by the index of 30th September, on the assumption that these were required on that date.

conversion. The conversion can be applied to the total sum.

c) The difference between the figures of paper and gold Marks assets reduced by the difference between the figures of paper and gold Marks liabilities, is carried as a loss to the capital reserve accounts (reserve funds + provisions + retained earnings) which are available for setting against the loss (*). In the case where the loss exceeds the reserves figure, the difference is either to be shown be shown on the assets side of the balance sheet under the name, 'money depreciation account' (Geldentwertungskonto), in which case the

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* For example: the below opening balance sheet is given:

	P.Mark	G.Mark		P.Mark	G.Mark
Total assets	20,000	16,000	Capital	15,000	15,000
			Reserve funds	2,000	900
			Provisions	1,000	
			Retained earnings	1,000	
			Creditors	1,000	100
	20,000	16,000		20,000	16,000

The difference between the paper and gold Mark of assets	4,000
The difference between the paper and gold Mark of liabilities	900
The loss	3,100

The following amounts are available for the loss:

Reserves	2,000		4,000
Provisions	1,000	Less loss	3,100
Retained earnings	1,000		
Total	4,000	New reserve	900

capital will be shown at its nominal value, or the capital should be reduced by the difference.

2- As regards business transaction during the year, the conversion of these entries into their equivalent gold values is to be by means of a year-average-index, with the assumption that these transactions occur evenly during the year, by dividing the total additions and deductions relating to each account by the year-average index; or if it is desired, the conversion can be carried out by means of monthly indices by dividing the additions and deductions of each account by the index relating to the month in which they occur (*).

Once the monthly indices are used, this should be continuously applied till the end of the year.

3- As regards the closing balance sheet for fixed assets, all additions and deductions should be converted into gold Marks and agreggated with the opening balances to which they related before depreciation charges - based on the estimated useful life of the assets - are

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(*): For example: suppose that a company has bought two plots of land during May and September for 200,000 M. and 400,000 M. respectively, and assume that the monthly indices recorded were 2 in May and 8 in September, and that the year average index was 6.
According to the yearly calculation the additions are 100,000 M. (200,000 + 400,000)/6 whilst according to the monthly one they are 150,000 M. (200,000/2 + 400,000)/8. The former calculation is simpler, while the latter is more accurate.

ascertained. Additional depreciation is necessary to be applied to those assets, the gold values of which at the end of the accounting period exceed their current value, expressed in gold Marks.

New capital issued during the year is not subject to conversion, for the capital stock should be shown at the nominal value; but the difference between the paper and gold values should be transferred to the money depreciation account (Geldentwertungskonto).

Current assets and liabilities at the end of the accounting period should be converted into their equivalent gold Mark values by means of the end-of-the-year index, by dividing each paper Mark balance by this index.

4- At least 5% of the declared profits of each year should be appropriated for the amortisation of the money depreciation account.

5- The books or sheets of accounts on which the conversion into gold Marks is made are subject to the same legal regulation.

6- Companies that draw up their balance sheet in gold Marks also have to calculate dividends, directors' fees and shares of profits in gold Marks. The conversion of the gold Marks into paper Marks is carried out by means of the end-of-year index.

7- With reference to the Commercial Code's requirement

that a general meeting be called in the event of the loss of half a company's capital, or of excessive debt, for companies which draw up their accounts on a gold Mark basis: money depreciation does not count as a loss. However, this account is set up for the purpose of showing the nominal capital as if it is gold. The loss of half a company's capital is the loss which is shown at an amount in excess of half the difference between the nominal capital and money depreciation amount (*).

8- Joint-stock companies should not be entitled to issue shares certificates in gold Marks unless the account money depreciation is eliminated. The nominal value of a share should not be less than 100 gold Marks.

9- From 31st December 1926 onwards, all businesses that are required by law to keep books of account are obliged to prepare their accounts in gold Marks.

10- The index number of the Statistical Bureau of the Reich which is published before the 10th of the month is to be regarded as the monthly index of the last month. The year average index is thus the simple average of the monthly indices.

(*): For example (13)

Nominal capital	5,000,000
Money depreciation	2,000,000
Real capital	3,000,000

The loss of the year should exceed 1.5 million in order to warrant calling a general meeting. And the excessive debts should be over 3 million (14).

To sum up, the underlying philosophy of the 'plan for a new law' and the indexation method is the same: both are based on the real capital maintenance concept, and the basis of assets valuation is the adjusted historical cost in each case.

Thus they have the same limitations and advantages which have been discussed in Chapter 6.

Example:

1- The indices for the years 1918-1921 are given below:

The year	Yearly Average Index	End-of-Year Index
1918	3.3	-
1919	4.7	-
1920	14.1	17.1
1921	18.5	34.0

2- Balance Sheet as at 1. January 1921

(in paper Marks)

Lands	200,000	Nominal Capital	2,000,000
Buildings	460,000	Reserve Funds	915,000
Machines	510,000	Provisions	300,000
Tools	1	Mortgage	500,000
Furnace equipment	1	Creditors	788,000
Trucks	1	Retained Earnings	10,200
Inventory	987,500		
Debtors	1,698,597		
Debtors in Foreign Currency	200,000		
Cash	17,100		
Insurances	40,000		
Investments	400,000		
	4,513,200		4,513,200

3- The movement of fixed assets and investment as well as their conversion from 1.1.1918 to 31.1.1920 are shown below:

+ Numbers = additions
- Numbers = deductions and depreciation
M = paper Mark
GM = gold Mark

	Balance on 1.1.1918	1918	1919	1920	Balance on 31.12.1920
Index		3.3	4.7	14.1	
Lands	150,000	-	-	+ 50,000	200,000 M
	150,000	-	-	+ 3,547	153,547 GM
Buildings	375,000	- 7,500	+ 29,000	+ 63,500	460,000 M
	375,000	- 2,273	+ 6,170	+ 4,504	383,401 GM
Machines	500,000	- 50,000	- 4,000	+ 64,000	510,000 M
	500,000	- 15,152	- 851	+ 4,450	488,537 GM
Tools	1	-	-	-	1 M
	1	-	-	-	1 GM
Trucks	1	-	-	-	1 M
	1	-	-	-	1 GM
Furnace	180,000	- 60,000	- 60,000	- 59,999	1 M
	180,000	- 18,182	- 12,766	- 4,256	144,796 GM
Investments	-	200,000	- 50,000	+ 250,000	400,000 M
	-	66,666	- 10,633	+ 17,730	67,698 GM

The Conversion of Other Balance Sheet Items

	Book value in paper Mark	Correction of hidden reserves	Corrected book values in Mark	Gold values index in Dec. 1920 = 17,1
Inventories	987,500	+ 493,750	1,481,250	86,623
Debtors	1,698,597	-	1,698,597	99,333
Debtors in foreign currency	200,000	+ 29,000	229,000	13,392
10000 fl. @ 2290 = 229000				
Reduction against				
Exchange risk 29000				
200000				
Cash	17,100	-	17,100	1,000
Insurance	40,000	-	40,000	2,339
Mortgage	500,000	-	500,000	29,240
Creditors	788,000	-	788,000	46,082

Balance Sheet as at 1 January 1921

	P. Marks	G. Marks		P. Marks	G. Marks
Lands	200,000	153,547	Nominal capital	2,000,000	2,000,000
Buildings	460,000	383,401	Reserve funds	915,000	-
Machines	510,000	488,537	Provisions	300,000	-
Tools	1	1	Mortgage	500,000	29,240
Furnace equipment	1	144,791	Creditors	788,000	46,082
Turcks	1	1	Retained earnings	10,200	-
Inventory	987,500	86,632			
Debtors	1,698,597	99,333			
Debtors in foreign currency	200,000	13,392			
Cash	17,100	1,000			
Insurance	40,000	2,339			
Investments	400,000	67,698			
Money depreciation account	-	634,654			
	4,513,200	2,075,322		4,513,200	2,075,322

4- The Accounts in Paper Marks
During 1921

Lands Account

Jan. 1	Balance b/d	200,000			
April	Creditors	150,000			

Buildings Account

Jan. 1	Balance b/d	460,000			
June	Cash	30,500			
Oct.	Cash	100,000			

Machines Account

Jan. 1	Balance b/d	510,000	Cash		115,000
Nov.	Creditors	172,350			

Tools Account

Jan. 1	Balance b/d	1			

Trucks Account

Jan. 1	Balance b/d	1			

Furnace equipments Account

Jan. 1	Balance b/d	1			
Sep.	Creditors	121,915			

Inventory Account

Jan. 1	Balance b/d	987,500	-	Debtors M	5,909,231
-	Creditors	2,725,261	-	Debtors in foreign currency	315,246
-	Cash	1,810,290			
-	Debtors M	37,805			

Debtors in Paper Marks Account

Jan. 1	Balance b/d	1,698,597	-	Creditors	2,940,520
-	Inventories	5,909,231		Cash	1,830,212
				Inventories	37,805

Debtors in Foreign Currency Account

Jan. 1	Balance b/d	200,000	-	Creditors	415,858
	Inventories	315,246			
	Exchange-rate difference	302,910			

Cash Account

Jan.	Balance b/d	17,100	-	Inventories	1,810,290
	Debtors M	1,830,212	-	Overhead charges	523,789
	Creditors	889,686	-	Operating expenses	237,431
	Machines	115,600	-	Buildings	130,500

Insurance Account

Jan	Balance b/d	40,000			
	Creditors	115,000			

Investments Account

Jan. 1	Balance b/d	400,000	March	Cash	80,000

Nominal Capital Account

Jan.			Jan. 1	Balance b/d	2,000,000
				Creditors	400,000

Reserves Funds Account

			Jan. 1	Balance b/d	915,000
				Creditors	800,000

Provisions Account

			Jan. 1	Balance b/d	500,000
				Creditors	300,000

Creditors Account

-	Debtors	2,940,520	Jan. 1	Balance b/d	788,000
-	Debtors in foreign currency	415,858	-	Inventories	2,725,261
-	Nominal capital	400,000	-	Cash	889,686
-	Investment	300,000	-	Interest	87,300
-	Reserve funds	800,000	-	Operating expenses	421,265
			-	Overhead charges	187,654
			-	Lands	150,000
			-	Machines	172,350
			-	Furnace equipment	121,915
			-	Insurance	115,000

Profit and Loss Account

		Jan. 1	Balance b/d	10,200

Exchange-Rate Difference Account

		-	Creditors in forein currency	302,910

Interest Charges Account

-	Creditors	87,300		

Operating Expenses Account

-	Creditors	421,265		
-	Cash	237,431		

Overhead Expenses Account

-	Creditors	187,654		
-	Cash	523,789		

Trial Balance of the Accounting Transactions
The Year Average Index for 1921 = 18.5

	Debit		Credit	
	paper	gold	paper	gold
Lands	150,000	8,108	-	-
Buildings	130,500	7,054	-	-
Machines	172,350	9,316	115,600	6,249
Furnace	121,915	6,590	-	-
Inventory	4,573,356	247,208	6,224,477	336,458
Debtors	5,909,231	319,418	4,808,537	259,921
Debtors in foreign currency	618,156	33,414	415,858	22,479
Cash	2,915,498	157,594	2,702,010	146,054
Insurance	115,000	6,216	-	-
Investments	-	-	80,000	4,324
Nominal capital (difference curried to capital depreciation account)	-	-	400,000	21,622
Reserve funds	-	-	800,000	43,243
Mortgage	-	-	300,000	16,216
Creditors	4,856,378	262,507	4,870,431	263,266
Foreign-Exchange Difference	-	-	302,910	16,373
Interest charges	87,300	4,719	-	-
Operating expenses	658,696	35,605	-	-
Overhead expenses	711,443	38,456	-	-
	21,019,823	1,136,205	21,019,823	1,136,205

5 - The Account in Gold Marks

Lands Account

1921	Balance b/d	153,547	Dec. 31	Balance c/d	161,655
Jan. 1	Transferred transactions	8,108			
		161,655			161,655

Buildings Account

1921	Balance b/d	383,401	Dec. 31	Depreciation	7,809
	Transferred transactions	7,054		Balance c/d	382,656
		390,455			390,455

Machines Account

1921	Balance b/d	488,537	1921	Transferred transactions	6,249
Jan. 1	Transferred transactions	9,316		Depreciation	49,160
				Balance c/d	442,444
		497,853			497,853

Tools Account

Jan. 1	Balance b/d	1	Dec. 31	Balance c/d	1
		1			1

Trucks Account

Jan.	Balance b/d	1	Dec. 31	Balance c/d	1
		1			1

Furnace Account

1921	Balance c/d	144,796	Dec. 31	Depreciation	30,277
Jan. 1	Transferred transaction	6,590		Balance c/d	121,109
		151,386			151,386

Inventory Account

1921	Balance b/d	86,623	1921	Transferred transaction	336,458
Jan. 1	Transferred transaction	247,208	Dec. 31	Balance c/d	50,750
Dec.31	Profit & Loss Account	53,377			
		387,208			387,208

Debtors Account

1921	Balance b/d	99,333	1921	Transferred transactions	259,921
Jan. 1	Transferred transaction	319,418	Dec.31	Balance c/d	82,332
				P+L Account	76,498
		418,751			418,751

Debtors in Foreign Currency

1921	Balance b/d	13,392		Transferred transactions	22,479
	Transferred transaction	33,414	Dec.31	Balance c/d	11,831
				P+L	12,495
		46,806			46,806

Cash Account

1921	Balance b/d	1,000	1921	Transferred transactions	146,054
Jan. 1	Transferred transactions	157,594	Dec.31	Balance c/d	6,782
				P+L Account	5,758
		158,594			158,594

Insurance Account

1921	Balance b/d	2,339	Dec.31	Balance c/d	4,559
	Transferred transactions	6,216		P+L Account	3,996
		8,555			8,555

Investments Account

Jan. 1	Balance b/d	67,698	1921	Transferred transactions	4,324
			Dec.31	Balance c/d	63,374
		67,698			67,698

Money Depreciation Account

1921	Balance b/d	634,654	Dec.31	Reserve funds	43,243
Jan.1	Transferred transactions (nominal capital)	378,378		Balance c/d	969,789
		1,013,032			1,013,031

Nominal Capital

Dec.31	Balance c/d	2,400,000	1921	Balance b/d	2,000,000
				Transferred transactions	400,000
		2,400,000			2,400,000

Reserve Funds

Dec.31	Money depreciation	43,243	1921	Transferred transactions	43,243
		43,243			43,243

Mortgage Account

Dec.31	Balance c/d	23,529	Jan. 1	Balance b/d	29,240
	P+L Account	21,927		Transferred transactions	16,216
		45,456			45,456

Creditors

1921	Transferred transactions	262,507	Jan. 1	Balance b/d	46,082
Dec.31	Balance c/d	23,590		Transferred transaction	263,266
	P+L	23,251			
		309,348			309,348

Exchange-rate Differences

Dec.31	P+L Account	16,373	1921	Transferred transactions	16,373
		16,373			16,373

Interest Charges

1921	Transferred transactions	4,719	Dec.31	P+L Account	4,719
		4,719			4,719

Operating Expenses

1921	Transferred transactions	35,605	Dec.31	P+L Account	35,605
		35,605			35,605

Overhead Expenses

1921	Transferred transactions	38,456			38,456
		38,456			38,456

Depreciation Account

Dec.31	Buildings	7,809			87,246
	Machines	49,160			
	Furnace	30,277			
		87,246			87,246

Profit and Loss Account

Dec.31	Debtors	76,489	Dec.31	Inventory	53,377
	Debtors in foreign currency	12,495		Mortgage	21,927
	Cash	5,758		Creditors	23,251
	Insurance	3,998		Exchange-rate difference	16,373
	Interest charges	4,719		Balance c/d	149,845
	Operating expences	35,605			
	Overhead expenses	38,456			
	Depreciation	87,246			
		264,773			264,773

The Balance Sheet as at 31 December 1921

(in gold Marks)

Lands	161,655	Nominal capital	2,400,000
Buildings	382,646	Mortgage	23,529
Machines	442,444	Creditors	23,590
Tools	1		
Trucks	1		
Furnace equipment	121,109		
Inventory	50,750		
Debtors	82,332		
Debrors in foreign currency	11,832		
Cash	6,782		
Insurance	4,559		
Investments	63,374		
Money depreciation	969,789		
Loss	149,845		
	2,447,119		2,447,119

7.4 LEGISLATION ON GOLD MARK BALANCE SHEET

7.4.1 The Decree of 28th December 1923

In the light of the monetary reform of 1923 and the issue of the new currency (Rentenmark) which was given the value of one gold Mark,. the above decree which involved partial reform in the Commercial Code, e.g. the suspension of paragraph 261 was passed. The decree compelled businesses to compile new balance sheets, revaluing their assets and liabilities in gold Marks.

It was the first time in German history that companies were given the opportunity to consider a major and comprehensive revaluation of their properties. The revaluation was not a mere translation of the balance sheet figures into their equivalent gold values, but was, in most cases, the market value expressed in gold Marks which determined the revalued figures.

According to Schmalenbach (16) the decree consisted of twenty paragraphs, but for the purpose of this study only the most important paragraphs have been selected for consideration.

PARAGRAPH 1

1- Businessmen, who are required to keep an orderly set of books, are obliged from 1st January 1924 onwards - or in the case of their financial year beginning

later, from that date onwards - to draw up the inventory and balance sheet in gold Marks.

2- The gold Mark is considered to be equal to 10/42 of the U.S. dollar (*). The Reich government is authorised to determine other measuring units as alternatives.

PARAGRAPH 2

1- No later than 1st January 1924 - or in a case where the financial year begins later, then at that point of time - an opening inventory and an opening balance sheet in accordance with Paragraph 39 of the Commercial Code should be drawn up in gold Marks. The legal requirements for the annual balance sheet are valid for the approval and publication of the gold Mark opening balance sheet. In Paragraph 260 section 2 (+) of the Commercial Code the determined period is to be six months. It can be extended only by the court.

(*): Prior to 1914 a dollar was worth 4.2 gold Marks and after the issue of the new currency the paper Mark was simply stabilised at the rate of 4.2×10^{12} of the Dollar, for the mint par of the gold Mark was equal to 1/4.2 of the dollar.

(+): This paragraph had allowed companies to submit their balance sheet no later than 3 months before the general meeting. The legislation perhaps now intended to give them more time in order to enable companies to prepare their new balance sheets.

PARAGRAPH 3

Inventories and balances which are constructed in gold Marks, so far as not otherwise stated in this decree, are subject to law or statutes of current regulation.

PARAGRAPH 4

1- In drawing up the opening balance sheet of a joint-stock company (A.G) and partnership company limited by shares (Kommanditgesellschaft) these companies are not bound by Paragraph 261 section 1, which prohibits assets items to be valued at an amount higher than the purchase or construction costs; nor are they bound by sections 2 and 3 of the same Paragraph (*). Paragraph 42 section 1 regarding private companies with limited liabilities (G.m.b.H) is also not applicable to those companies.

2- The regulations of 1 above are also to be followed for the opening balance sheet of companies whose constitutions are similar to those companies mentioned above.

(*): Paragraph 261, section 2 dealt with those assets the value of which could not be determined in the market or stock-exchange, such as work in progress as well as other unsalable assets such as machinery, in which case these assets were to be shown at an amount no higher than the purchase or construction cost.

3- In the above companies' opening balance sheets, if an item appears at an amount higher than the purchase or construction costs, after taking wear and tear into account, the difference must be shown separately in the balance sheet (*).

[It is important to note that in the absence of Paragraph 261 section 1-3 and Paragraph 42 section 1 the only dominant Paragraph concerning valuation which was still in force was paragraph 40 of the Commercial Code, which applied to companies other than those mentioned (i.e. Soletrader). This paragraph required businessmen to value their assets at the current market prices regardless of their original costs].

PARAGRAPH 5

1- In the opening balance sheets of the joint-stock companies, partnerships limited by shares and companies with limited liabilities, if, after deducting the items owed from the items owned, the resulting amount (net - assets) exceeds that of

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(*) For example: If the cost of a plot of land is 10,000 g.Mark and it is valued at 11,000 then this item will appear in the balance sheet as follows:

Land	10,000	
Additional value	1,000	
	------	11,000

the nominal capital, surplus must be shown either as a reserve on the balance sheet, or the capital is to be increased by the same amount of surplus (*).

2- If the nominal capital exceeds the amount of net assets, the difference is either to be shown on the debit side of the balance sheet as the 'capital depreciation account' (Kapitalentwertungskonto) or the assets should be increased by the same amount as the difference, or the nominal capital should be reduced by this same amount.

PARAGRAPH 6

1- The 'capital depreciation account' should not exceed 9/10 of the equity capital. The company is obliged to balance the capital depreciation account within three financial years. The reserve (surplus) is to be used for amortisation of the above account. The distribution of profits is not allowed so long as a capital depreciation account exists.

PARAGRAPH 10

After the conversion, the amount of equity capital for joint-stock companies and partnerships limited by

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(*): This was seldom the case in German companies.

shares should not be less than 5,000 gold Marks, and the value of a share should not be less than 100 gold Marks.

For private companies with limited liability the amount of capital should not be less than 500 gold Marks, whilst the contribution of any shareholder should not be less than 50 gold Marks.

PARAGRAPH 13

1- The board of directors (Vorstand) is required to report on the opening balance sheet and the way the conversion is made. This report must be approved by the supervisory board (Aufsichtsrat) and be submitted to a general meeting. In the report all essential circumstances concerning the revaluation relating to Paragraph 261 section 1-3 should be explained.

2- The general meeting can with a simple majority of votes appoint auditors to audit the opening balance sheet or the way in which the conversion has been carried out.

If the proposal of appointing auditors is rejected, shareholders owning over 10% of the equity capital can seek this in the court.

PARAGRAPH 17

At the foundation of new joint-stock companies, partnerships limited by shares and companies with limited liability, the equity capital should be in gold Marks. The amount of capital is to be as described in Paragraph 10.

PARAGRAPH 19

1- As a consequence of the conversion of the balance sheet into gold Marks, the resulting numerical differences are not taxable.

2- In the case of Paragraph 5 section 2 the amount of profits appropriated for the amortisation of the 'capital depreciation account' should not be drawn from the taxable income.

7.4.2 THE NEW TAX LAW OF 19th DECEMBER 1923

Eight days before the Decree of 28th December was passed, a new tax law was enacted. This shows that companies were expecting legal changes concerning the balance sheet and also demonstrates the dominance of tax law over German accounting practice.

For the purpose of this study two important articles, quoted from Schmidt (17), concerning the

income tax (Einkommensteuerbilanz) and the tax on capital are translated below.

7.4.2.1 The New Income Tax, Article I, Paragraph 34

Taxpayers, who are required by the Commercial Code to keep books of account, should for tax purposes, on 1st January 1924 prepare a statement of their assets and liabilities (inventory) and draw up an opening balance sheet in gold Marks.

For the assessment of the taxable income and the tax on capital, for the year 1924, the values of the balance sheets items are considered as historical costs (Anschaffungswerte). And furthermore they should be estimated at the minimum rate, if it is not otherwise stated in Article II of this Law, which provides for a higher valuation limit.

7.4.2.2 Article II, Paragraphs 2 and 3

For the assets valuation the following are permitted:

1- Lands are to be valued at their pre-war value

2- Other fixed assets (Betriebsvermoegen) are to be valued at their acquisition or construction cost prevailing at the end of the year 1913, reduced by adequate depreciation amounts.

3- Inventories, including raw materials, work in

progress and finished products, should be valued at the acquisition or construction costs of the assets as on 31st December 1923.

4- Investments (in securities), regardless of whether they belong to the taxpayer or not, are to be valued at the market price or ascertainable selling price as on 31st December 1923.

5- Money and debts in foreign currencies, regardless of whether they belong to the taxpayer or not, are to be valued at the rate of exchange on 31st December 1923.

6- As far as the values of sections 1 and 2 are concerned, the Secretary of Finance with the agreement of the Reich Committee (Reichsrat) is authorised to raise the pre-war values of an asset or group of assets if these values lag behind their values as on 31st December 1923, and if they are not of a temporary nature. On the other hand,if the prices of 31st December 1923 lag behind their pre-war prices, then the Secretary of Finance is authorised to reduce the pre-war prices to match the 1923 prices. If the pre-war prices are not determinable by the usual means, the Secretary of Finance is authorised to determine their values.

7- All values which are not expressed in gold Marks should be accordingly converted. The means of the

conversion is the dollar rate quoted from the Berlin Stock Exchange as on 31st December 1923.

8- The Secretary of Finance is authorised to assign, for the valuation of assets, instead of 31st December 1923 any other date between 16th November and 31st December.

It is worth noting that:

a- the Decree and the new Tax Law were designed to provide for the revaluation of the opening balance sheet items for the accounting year beginning in 1924 only, so that Paragraphs 261 and 42 were suspended for this particular purpose but not amended;

d- companies continued to their records and prepare their annual accounts in terms of the paper Mark which remained the only legal tender until its withdrawal in 1926, but they had now to publish their annual accounts in terms of the gold Mark only but not in both, paper and gold Marks;

c- the valuation rules of Paragraphs 261 and 42 were operational in preparing the closing gold Mark balance sheet figure of an account at the end of 1924. In determining this figure the total entry of transactions in paper Marks was divided by the figure of 1 billion and then aggregated to its opening balance expressed in gold.

7.5 The Construction of the Gold Mark Opening Balance Sheet In Practice

The questions of assets valuation and capital reconstruction were closely related. They received considerable attention from all the bodies concerned, particularly at the time when the German economy was nearly destroyed. Of course, different schools of thought arose regarding the criteria to be adopted in estimating the balance sheet values so as to have them reflect a company's financial position. Then the question arose as to whether these estimates were to be judged by their objective values (historical costs), their current values oF their earning capacity (Ertragsvalue). The main reason why these opposing currents of thought were declared was found in the interpretation of the only operative Paragraph concerning the valuation of assets, namely Paragraph 40 of the Commercial Code of 1897. This Paragraph required businessmen to value their assets and liabilities at their estimated 'current values' (Zeitwert) without specifying this term.

Professor Schmidt asserted that the upper value limit of an asset described in Paragraph 40 is doubtless the replacement cost or the reconstruction cost (18); and once these costs are attached to the balance sheet items we arrive at the reproduction value

(Tagesherstellungswert) of the whole enterprise in its present form, and the amount of capital which on that date is embodied in it (19). He described the abandonment of Paragraphs 261 and 42 as a victory in support of his theory of replacement cost. In this connection he wrote:

> This is an obvious acknowledgement of the line of thinking upheld by us, that the current value (replacement cost) is considered to be the basis of assets valuation ... and as advocate of the principle of separating appreciation and operating profit, I am very pleased (20).

Other German academics, among them Schmalenbach, asserted that the highest value limit of an asset as stated in Paragraph 40 was its historical cost and not its current value; and that as a consequence this should also be the highest value limit applied in drawing up the gold Mark balance sheet (21).

But in the light of the economic difficulties facing Germany towards the end of 1923 and the beginning of 1924, Schmalenbach agreed with other academics like Rosendorf, who advocated the idea of 'earning capacity' as the criterion upon which the value of a business was to be determined. These academics argued that in determining the value of the assets and hence the capital, the low productivity of German industry and the high cost of borrowing should be taken into account (22). For what did it matter that a company possessed

extensive works with modern and costly machinery if it could use only a part of its productive capacity? The unused capacity had no more than a 'scrap value, and consequently the value of works whose owners were not in a position to exploit proper capacity must be reduced in proportion (23).

On the other hand, the interest rate at the beginning of 1924 was approximately four times higher than that of previous years (24), and by reducing the capital by the appropriate amount it would be possible for companies to distribute reasonable and regular dividends to shareholders so that these dividends might not be too low in relation to the prevailing rate of interest. In the latter case the share prices should drop.

In practice, prior to the decree of 1923, businessmen gave the term 'current value' little consideration and interpreted it as being the acquisition or construction cost, for if an asset's current value exceeded its acquisition cost the difference was considered as profit. Also, the tax authority of the day accepted the objective value of an asset being shown on the balance sheet.

After the decree of 1923 it was certain that the acquisition or construction costs were considered in practice as a maximum value attached to assets in the

gold Mark opening balance sheet (25).

Among 1000 joint-stock companies and partnerships limited by shares which were investigated by Boppel, only 26 companies had declared their assets values above acquisition or construction costs (26). According to Boppel (27) another investigation made by Flechtheim into private companies with limited liability (G.m.b.H) showed that only 8 out of 200 companies had declared the value differences between the current and acquisition costs in the balance sheet.

It is quite clear from the above investigations that the practice after 1923 was still to adhere to the traditional method and reject the idea of current value accounting.

7.5.1 Valuation of Individual Assets

7.5.1.1 Fixed Assets

a) Undeveloped land: According to Boppel (28) only few companies, like Meissner Ofen and Porpzellan Fabrik had valued their land above the acquisition cost. Other companies had considered the values of 1913 as the opening values in the gold Mark balance sheet, while the majority had shown the lowest possible estimated replacement values. Some companies, like Eilenburger Motorenwerk A.G and Gebruederkeller A.G., had even gone

further to show their land at 50% of the estimated value or tax value.

b) Land and buildings: Boppel asserted that (29) banks, insurance companies and brewing industries had generally valued their lands and buildings below both current value san pre-war values For instance die Deutsche Bank valued its buildings in Berlin and 104 other towns at 1/3 of the acquisition costs, in which case they were below the estimated replacement cost on 1.4.1924. However, the majority of companies had shown their lands and buildings at an amount equal to the acquisition costs or that of pre-war values, less an adequate depreciation.

In arriving at the acquisition costs in gold Marks many companies had considered the value of 1913 or 31st December 1917 as starting points. Additions and deductions (excluding depreciation) which occurred thereafter were converted into their equivalent gold Mark values by means of a dollar exchange index relating to the year in which they occurred. The rate of depreciation which fluctuated between 1%-5% was deducted from the total balance and the rest was considered historical cost.

According to Geiler (30) companies, when they felt it difficult to estimate the value of lands and buildings, stated 2/3 of the estimated current values at the end of 1923, less an adequate depreciation.

c) Machines, equipment, fixture and fittings etc.: Only a few companies followed the valuation method adopted for lands and buildings in the valuation of machines, equipment etc., because of the difficulties in estimating their values. The majority of companies considered either the pre-war acquisition or construction cost in gold Marks less depreciation, or the estimated current values in gold Marks evaluated by technical specialists or experts. In connection with the latter means of valuation it is worth noting that these estimates were far beyond the reality, and the appointment of the so-called experts was only a formality. Professor Schmidt asserted that the replacement costs of machines in general were higher in 1923 than those of 1913. He advised companies to take advantage of the regulations which permitted the replacement cost as the highest value limit of assets to be stated in the new balance sheet. In his view, this was an opportunity which would never be repeated and should be utilised for the purpose of reflecting the true financial position of businesses, on the one hand, and the tax payment on the other; for depreciation charges against profits would be higher in the following years.

Only a few companies like Bierbrauerie Gebr. and Mueser A.G. followed Schmidt's advice, because there was

a tendency among businessmen to believe that conservatism should be applied to the question of assets valuation, and hence they did not value their machinery above acquisition costs. Of course, the experts who were paid by companies did not work against the company's wishes. Boppel asserted that the old machines were heavily undervalued and some companies only valued them at 1 Mark, on the grounds that the machinery was out of date and its replacement was inevitable.

The same valuation principle was true for other fixed assets like tools, equipment etc., which were usually written down to 1 Mark on the paper Mark balance sheet and were taken as 1 gold Mark in the new ones.

7.5.1.2 Inventories Including Finished and Semi-finished Goods and Raw Material

Schmidt supported the view of the law that the highest value limit for inventories should be the replacement cost, and argued that the time had come to eliminate the hidden reserves from all balance sheet items so long as the revaluation was not subject to tax (31).

Given that the prices in gold Marks of a wide range of commodities towards the end of 1923 lagged behind their costs (32), the majority of companies valued their stocks below their acquisition costs and built up a

large sum of hidden reserves for anticipated future losses. The same valuation was also applied to raw materials and semi-finished goods.

7.5.1.3 Investments

According to the regulation, companies were required to value their securities which had market or stock-exchange prices, at the prevailing prices on 1.1.1924, and those securities which did not have market prices were required to be valued at their purchase prices. Professor Kalveram advised companies not to come too near the highest value limit, for the revaluation would be regarded as historical cost. In the case of the prices of these securities falling below their declared values in the ensuing years, a loss would be the consequence (33).

The majority of companies revalued their securities according to their values as quoted on the stock-exchange, or rather, the assessed tax values (Steuerkurswerte) of 1.1.1924. Also, more than a few companies underestimated their securities as below the quoted prices and some of them, like Tetra A.G, went down to half the quoted prices. Some companies, among them the Deutsche Bank, valued their securities prudently and waited until July 1924, choosing the lowest of the quoted prices before they drew up their opening balance sheet.

As far as the unquoted securities were concerned, most companies valued them at their acquisition prices or below.

7.5.1.4 Monetary Assets and Liabilities

Cash, bank accounts, trade creditors, debtors etc. were valued as dictated by law: 1 billion paper Marks = 1 gold Mark = 10/42 U.S dollar. Cash and bank accounts in foreign currencies were first converted into paper Marks according to the coefficient of exchange rate between them and the Mark as quoted on the Berlin stock-exchange on 1st January 1924, and then into gold Marks by dividing the amount by 1 billion. Although this was the easiest way and was followed by the majority of companies, a few companies like Berliner Machinenbau A.G followed Kalveram's recommendation that the exchange rate quoted on the New York stock-exchange was the surest way (34).

Regulations concerning the valuation of long-term assets and liabilities such as long term loans, bonds and mortgages was first laid down by the Third Tax Law of 15th February 1924. According to this law companies were required to revalue their long-term assets at an amount not higher than 15% of their gold Mark values, and their long-term liabilities at an amount not lower than 15% of their gold Mark values. The gold Mark

values of these assets were to be determined by dividing the amount of long term assets and liabilities by the dollar exchange-rate related to the date on which they occurred.

According to Boppel in practice, companies almost without exception valued their long-term assets at 15% higher than their gold Mark values. Insurance companies generally were more conservative and valued their long-term assets between 7%-10% higher than their gold Mark values.

Long-term liabilities were generally stated in the gold Mark opening balance sheet at an amount between 15%-100% higher than their gold Mark values.

To sum up, valuation of the assets and liabilities was arbitrary and the majority of companies drew up their balance sheet in the way which best met their requirements; but it seems certain that extreme conservation was applied.

7.5.2 THE RECONSTRUCTION OF THE CAPITAL

The most important regulation concerning the reconstruction of capital was described in Paragraphs 5 and 6 of the Decree. In these paragraphs it was presupposed that a company's nominal capital existing at the end of 1923 had the character of gold value regardless of whether it was issued or increased prior to or during the inflation period, i.e. whether

expressed in gold Marks, paper Marks or both. Accordingly, a company's net assets were either higher, accidentally equal to, or lower than nominal capital.

1- Net Assets Higher Than Nominal Capital

According to Paragraph 5, the difference was to be considered as reserve, or to be added to the capital, or to be shared between the capital and reserve.

In the light of German experience one could imagine that such a requirement was of a theoretical nature and it was hardly to be expected that the net assets in gold Marks could exceed the nominal capital.

In a survey of accounting practice undertaken by Boppel (36) it was found that out of 479 joint-stock companies and partnerships limited by shares, 45 had declared, on average, a surplus of 10% of their nominal capital.

The survey also showed that none of these companies had used the whole surplus for increasing the capital, while most of them had used the surplus as reserve and the rest of them had shared the difference between the capital and reserve.

2- Net Assets Lower Than Nominal Capital

Paragraph 5 section 2 also offered three possible ways of determining the equity capital. These could be carried out by

a) setting out the difference between net assets and the nominal capital as 'capital depreciation account' which appears on the assets side of the balance sheet;

b) increasing the assets by the difference; and

c) decreasing the nominal capital by the difference.

a) The Capital Depreciation Account

The law permitted companies to establish such an account only when the difference between the net assets and the capital did not exceed 9/10 of the capital amount. On the other hand, it was also required that companies should amortise this account by means of potential profits within 3 years, during which no dividends would be paid until the account had disappeared. Schmidt 37 had expected that this requirement would receive only lip-service in German accounting practice, and held that it was practically impossible that companies, in cases where they would declare 9/10 of their capital as 'capital depreciation account', would be able to generate, within 3 years, profits equal to 900% of their capital amount; and he recommended companies to review their capital at the beginning rather than be obliged to do it at the end of the 3 years.

However, Schmidt's prediction was right. In practice, only private companies with limited liabilities (G.m.b.H.s) and middle-sized A.Gs adopted the capital depreciation account. In a survey undertaken by Boppel only 66 out of 1000 companies had shown a capital depreciation account on the gold Mark opening balance sheet; and by the end of 1924,22 of these companies had amortised this account not only by means of profits but also by revaluation of their assets. For instance, Chemischen Werke Gernzach A.G had reduced the capital depreciation account from approximately 524,000 Marks to 230,000 Marks before it was amortised through the profits of 1924.

b) Increasing the Assets Through New Contribution

This was an unnecessary and difficult method and only two partnerships limited by shares and a few family - owned companies implemented it.

c) Decreasing the Nominal Capital

This was the most reasonable requirement of the Decree concerning the reconstruction of the capital, and the most acceptable one to German accountants, because it supported the thesis that the measurement of capital is dependent on the valuation of a company's assets and liabilities. As was expected, the idea of capital reduction prevailed. Boppel (39) showed that 88%

companies (375 out of 430) reduced their capital, and established reserve, so that the new capital plus reserve were equal to the net assets. Many companies like Tietz (Kaufhof today) established a legal reserve equal to 10% of their capital and considered the rest as being the gold Mark capital (see p.312). The simplest way of reducing capital was found by reducing the nominal value of the shares to an amount not below that described by the law.

It is also interesting to examine the statistical figures compiled by Boppel (40) concerning the 430 companies that declared their net assets below their nominal capital and the percentage by which they reduced their capital:

In proportion 1:1	16 =	3,7%
Over 1 to 50:1	302 =	70,2%
Over 50 to 1000:1	86 =	20,0%
Over 1000 to 100,000:1	23 =	5,3%
Over 100,000 to 1 Milliard:1 (+)	2 =	0,5%
Over 1 Milliard: 1 (*)	1 =	0,3%
	430	100%

(+): These companies were established during the second half of 1923 .
(*): These companies were established on 18th November 1923.

7.6 FINANCIAL STATEMENTS OF LEONHARD TIETZ JOINT-STOCK CO. COLOGNE

As an example of the gold Mark opening balance sheet a financial report of Leonhard Tietz A.G. is translated below. The report was obtained by me from the archives of the University of Cologne. It include the gold Mark opening balance sheet as on 1st January 1924 as well as the reports of the Board of Directors and the Supervisory Board on the gold Mark balance sheet and the details of conversion.

In order to show the fantastic figures of the balance sheet items drawn up in paper Marks and how they were converted into gold Marks, I found it also interesting to translate the above company's annual accounts of 1923.

THE REPORT OF THE BOARD OF DIRECTORS

1- The Gold Mark Opening Balance Sheet

The published gold Mark balance sheet is drawn up in accordance with the provisions of the Commercial Code and the Decree on the gold Mark balance sheet as well as the regulations of the tax law.

The detailed process is as follows:

a) Lands and buildings have been estimated according to their current value. These estimation for every object are kept below

their pre-war values and acquisition costs.

b) Machines, furniture and equipment (Geshaeftsinventar) are taken down to 1 Mark (*) (Erinnerungswert) ('notional'vale).

c) Securities and investments: These items deal primarily with the securities of landed property companies which manage part of our property; and are preference shares, the rate of which is fixed at 7%. They have been estimated on 1st January 1924 according to current prices.

d) Stocks have been conservatively estimated according to market condition on 1st January 1924.

e) Cash, bank balances, debts, creditors and sundry moneys owing are estimated at their actual values on the date of the balance sheet.

(*) On the balance sheet of December 1921 the balance of this account was shown in paper Marks as follows:

Book value	1,850,000
Depreciation	850,000
Balance c/d	1,000,000

Whilst on the 31 Dec. 1922 the balance was as follows:

Book value	1,000,000
Additions	3,294,597
	4,294,597
Depreciation	4,294,596
Balance	1

f) Mortgages are estimated at their expected

appreciation value.

g) Employees' welfare funds are written up above the limit described in the regulations and we have revalued them at our discretion as 500,000 gold Marks.

2- The Course of Conversion

a) The calculation of share capital: After the conversion of the opening balance into gold Marks the total sum is as follows:

Assets	35,741,039,52
Liabilities	6,141,039,52
Net assets	29,600,000,-
Less legal reserve (*)	3,000,000,-
Share capital	26,600,000,-

The present share capital of the company amounts to 275,000,000 paper Marks. It also exceeds the total assets after deducting liabilities, i.e. the net assets.

The share capital, until now, has amounted to

250,000,000	ordinary shares each at 1000,- Mark
5,000,000	preference shares (A) each at 1000,- Mark
20,000,000	preference shares (B) each at 1000,- Mark
275,000,000	

1- Companies were required by law to appropriate 5% of their profit annually for legal reserves until 10% of the capital could be set aside for this account.

In view of the law and the wishes of the holders of preference share type (A) who have desired to reduce their number of shares from 5000 to 2000, the share capital expressed in gold Mark consists of the following:

25,000,000,	ordinary shares allocated in 250,000 shares at 100 Mark each
200,000,-	7% preference shares (A) allocated in 200,000 share at 100 Mark each
1,400,000,-	7% preference shares (B) allocated in 20,000 shares at 70 Mark each
26,600,000	

b) Proportional representation of votes: This has been till now apportioned as: for each

1000,- M ordinary share 1 vote, so that 250,000 shares allow	250,000 votes
1000,- M preference share A 30 votes, so that 5000 shares allow	150,000 votes
1000,- M preference share B 1 vote, so that 20,000 shares allow	20,000 votes
Total	420,000 votes

Since according to the new regulations the proportional votes should remain unchanged, the proportional votes assessed in gold Mark converted capital is:

100,- M ordinary shares 1 vote, so that on 25,000 shares	250,000 votes
100,- M preference shares A 75 votes, so that on 2,000 shares	150,000 votes
10,- M preference shares B 1 vote, so that on 20,000 shares	20,000 votes
Total	420,000 votes

Cologne, August 10, 1924
The Board of Director
Alfred Leonhard Tietz, and others

EXAMINATION REPORT OF THE SUPERVISORY BOARD

The Supervisory Board has checked the report submitted by the Board of Directors concerning the gold Mark opening balance sheet, and the balance sheet and the means of its conversion have been approved. It agrees with the proposals on the amalgamation of the capital.

The Supervisory Board

Cologne August, 1924 Theodor Hinsberg

Chairman

Balance Sheet as at 31 December 1923
(in paper Marks)

Lands &buildings:	20000000		Share capital:		
additions	600773134734832		ordinary shares	250000000	
depreciation	600783154734832	2000000	preference shares A	5000000	
Machines, furniture & equipment		1	preference shares B	20000000	275000000
Investments		1	Reserve funds		1722308000467439852
Inventory		3596492080000000000	Special reserve		504650000
Cash		373893370000000000	Mortgage		1257200
Bank		183011150000000000	Trade creditors		871019420000000000
Debtors		841769800000000000	Other creditors		1570020100000000000
			Employees' welfare funds		51800000
			Unpaid dividends		639135
			Retained earnings		70597203
			Profit		832088878648706612
		4995166400020000002			4995166400020000002

Profit and Loss Account

Expenses:		Inventory	5125572828415441444
Wages, salaries, rent, insurance premium, advertisement etc, of central and all branches	4292883167632000000		
Depreciation	600783134734832		
Profits	832088878648706612		
	5125572829415441444		5125572829415441444

The Gold Mark Opening Balance Sheet as at 1.4.1924
(in gold Marks)

Lands & buildings	20000000		Share capital				
Machines, furniture & equipment	1		ordinary shares	25000000			
			preference shares A	200000			
Investments	5295000		preference shares B	1400000	26600000	-	
Inventory	9047364	20	Reserve funds		3000000	-	
Cash	373893	37	Mortgage		3200000	-	
Bank	183011	15	Creditors		871019	42	
Debtors	891769	80	Other creditors		1570020	10	
			Employees' welfare funds		500000	-	
	35741039	52			35741039	52	

7.7 The Gold Franc Balance Sheet

In his book Stabilized Accounting, 1963, p. XXII, H. Sweeney wrote (41):

> But at that time (1927) French books and pamphlets on inflation accounting were beginning to appear. They were much easier to read than the German ones, whose ideas were more abstract (and even abstruse). The German language, moreover, was more difficult to understand .... And finally, the French literature, having benefited from the earlier experiments in neighbouring Germany, tended to be more mature, concrete, practical. I continued work on it, improving the new French material ....

The above statement seems to have made a certain impact on accounting literature in English and has misled even leading authorities like Tweedie and Whittington, who conclude that 'Germany and France in the 1920s had provided the basic work of the CPP model'. (The Debate on Inflation Accounting, 1984, p. 34.)

The purpose of this section is to show that the French work was a mere adoption of the German work, just as any country at the present time adopts any inflation accounting method suggested by other country; and thus this thesis denies any real contribution by the French theorists to the accounting literature in the field of inflation accounting. Four methods, all dealing with the gold franc balance sheet, will be discussed, and an example is attached in support of

the above statement. These methods according to Wasserman (42), represent almost the whole literature of inflation accounting in France from 1926-1927, and at that time provided the central discussion on inflation accounting there.

7.8 The Response of the French Theorists

During and after World War I France, like other developed countries, witnessed a period of inflation. This reached its peak in the years 1926 and 1927, when the index number of wholesale prices recorded 718 and 630 respectively compared to 100 in 1914; and consequently the franc depreciated in value against the currency of countries on the gold standard. Of course conventional accounting, which was the main feature of French practice, failed to serve adequately in such an environment and this led French theorists to suggest alternative methods.

Most of the French accounting literature which began to appear during 1926-1927 concentrated on the establishment of a supplementary gold franc balance sheet, maintaining that the basic annual balance sheet should be drawn up in paper francs (43). This might be due to the fact that the balance sheet was considered to be of prior importance during the 1920s and that most of the theorists were public accountants.

7.9 The Simple Gold Franc Balance Sheet

According to Wasserman (44), this system was widely employed by French enterprises which were opposed to the use of any more comprehensive accounting system.

The main feature of the method is summarised as follows:

a- Companies should continue to keep their records and draw up their basic balance sheet in terms of paper francs.

b- They should establish a supplementary balance sheet in terms of the gold franc at the end of the financial period only.

c- The conversion of the balance sheet's figures into their equivalent gold value in the supplementary balance sheet should be made by means of the coefficient of exchange rate between France and some gold standard country, generally the U.S.A.

The conversion process was to be carried out in the following two stages:

1- All items of the balance sheet acquired during inflation should be reduced to their equivalent gold value by dividing their paper figures by the coefficient at the end of the financial period.

2- Fixed assets which were acquired and capital which was issued prior to inflation were not to be subject to the conversion, for their values were assumed to be already expressed in terms of gold francs.

After the conversion process had been done the supplementary balance sheet would show the following:

1- All items of the supplementary balance sheet would be expressed in gold francs.

2- A 'gold depreciation' account, having no counter part in the paper balance sheet, would be shown on the assets side when total liabilities showed an excess over total assets. This account would disappear only when the business had made surpluses in excess of the amount of gold depreciation.

The French method was simple but suffered more disadvantages than the German one, which disadvantages can be summarized as follows:

1- The French method, unlike the German one, did not take into account the capital at the beginning of the accounting period and thus the operating results were not correctly determined.

2- The French method, by applying the exchange rate as a mean of conversion instead of a general price index as was suggested by the Germans, seems to be unrealistic, for the supplementary balance sheet would now be expressed in another currency (say, the dollar) which was also fluctuating in value.

3- In contrast to Schmalenbach-Mahlberg's joint work, the French method did not require the presentation of a supplementary profit and loss account.

7.10 The Method of Rafegeau and Lacout

In 1926 P.C. Raffegeau and A. Lacout published a book entitled Establissement des Bilans en Francs-or. They suggested that the opening as well as the closing balance sheet's items should be converted into their equivalent gold values, thus permitting the establishment of the profit and loss account and the determination of the operating results of the accounting period under consideration, and removing two of the disadvantages of the simple method already mentioned. The conversion process was to be carried out as follows:

The Opening Balance Sheet

Each item of the opening balance sheet acquired during the inflation should be adjusted by means of the coefficient of exchange as at the beginning of the accounting period, i.e. by dividing the figures by the coefficient to represent their equivalent gold figures. The difference between the paper and gold figures represents the amount which the previous financial period must show, and thus it should be carried to an account Raffegeau and Lacout called 'correction of

opening balance sheet'. For instance if, the opening balance of cash is 3000 francs and the coefficient stands at 3, then the gold value is 1000 gold francs and the difference of 2000 (3000 - 1000) should be transferred to the correction account.

Share capital issued and assets acquired prior to inflation need no correction.

The closing balance sheet is converted as shown in the simple method.

To sum up: the main difference between the method of Raffegeau and Lacout and the simple method is that the former, unlike the latter required the conversion of the opening balance sheet items.

A glance into Mahlberg's method which was translated into English by Sweeney , and Sommerfeld's examples of 1924, will suffice to show Raffegeau and Lacout's method was entirely based on the German methods.

7.11 Gold Franc Accounting

This method was suggested by two French accountants, Emile Delvalle and Gabriel Faure. The main feature of the method is that companies should simultaneously use two columns for gold francs and two for paper francs, allowing entries to be made to the gold and paper accounts simultaneously, and thus the

basic balance sheet is presented in terms of gold and paper francs. Both Delavelle and Faure proposed the use of the coefficient of the exchange rate for the purpose of conversion, but the difference between them was that Faure proposed the use of a daily exchange rate while Delavelle proposed the monthly average.

Thus the main difference between this method and that of Raffegeau and Lacout is that in the latter method entries were to be maintained intact in historical francs.

It is quite clear that the Gold Franc Accounting is similar to the plan for law suggested by Schmalenbach in 1922, except that the French proposed the exchange rate instead of a general index number.

7.12 The Method of Gael Fain

In his book entitled Comment se de'fendre contre inflation, 1926, Fain proposed a hybrid method, possessing some of the characteristics of the current purchasing power method developed by Schmalenbach (see Chapter 5) and the gold Mark balance sheet developed by Mahlberg, or as re-proposed by Raffegeau and Lacout. The main feature of the method is that companies continue to keep their records and present their basic balance sheet in historical francs; and in addition to present a supplementary balance sheet in terms of both

the gold franc and the value of the franc at the end of the period to which the accounts relate. Fain recommended that the conversion process in both cases should be carried out by means of the exchange rate between the franc and other currency based on the gold standard. In the opening and closing balance sheets the gold columns shown the same figures as in Raffegeau and Lacout's balance sheet. In the restatement columns, all non-monetary items of the opening balance sheet need first to be adjusted by the increase in the coefficient of the exchange rate used, and monetary items need no adjustment. The difference between the adjusted figures and their book values is either credited or debited (as the case may be) to a value-adjusted account, or as Fain called it a 'restatement account' which appears often on the assets side in times of inflation. The next step is to convert all items of the opening balance sheet into current purchasing power as at the end of the accounting period; this is usually done in the ledger accounts. And finally, all non-monetary items are converted into their values at the end of the accounting period.

To sum up: most of the French theorists followed the German theorists, but unlike the Germans they missed the point that the use of exchange rate as means of stabilising the accounts would result in stabilising the depreciated paper currency in terms of a so-called stablised currency which does not exist. This is

because the currency is always expressed in terms of itself, or in terms of gold but not in terms of the goods and services it buys. The stabilisation in terms of purchasing power unit, by means of a general price index, is a more realistic and acceptable method for reflecting the value of a currency.

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CHAPTER EIGHT

CURRENT VALUE ACCOUNTING

CURRENT VALUE ACCOUNTING

Introduction

The main object of this chapter is to discuss the current value accounting in the theory of Professor Fritz Schmidt. Schmidt was not the first advocate of 'current value', nor was he the first to recognise holding gains and losses, but he was one of the earliest writer if not the first to develop in 1921 the concept of physical capital maintenance upon which his systematic current cost accounting was based. German accounting literature shows that current value (Zeitwert) was debated, and it received considerable attention around the turn of century, from lawyers and then from business economists. It also shows that there were two groups which were concerned with this issue but which differed as to whether the selling price (Verauesserungs wert) or replacement cost (Tages - or Wiederbeschaffungswert) should be attached to the asset(s).

This chapter consists of two parts. The first will deal with replacement cost accounting, following the historical order of its evolution. There will be a brief review of the literature which advocated replacement cost as basis of assets valuation. then an outline of the work of Kovero who first recognized holding gains and losses in German accounting

literature, will be made. Finally, the work of Schmidt will be discussed in detail.

The second part of the chapter will concern realisable value accounting. Again, a literature review will be presented and after this the work of Sewering, the only advocate of realisable value accounting in Germany during the 1920s and perhaps thereafter.

Part 1

Replacement Cost Accounting

8.1 Historical Review of Replacement Cost Accounting

Prior to 1912 the main advocates of valuation at replacement cost were Hans Hauptmann and Friedrich Scubitz. Hauptmann in his book Die Buchfuehrung, published in 1892, held that:

> Stock should be valued at an amount that the businessman would pay to obtain similar stock at the date of stocktaking, plus all expenses involved in bringing it into the warehouse (1).

While Scubitz, in his book 'Methodische Einleitung zum Selbstunterricht in der doppelten Buchtuerung, published in 1902, agreed totally with Hauptman's ideas, he also required that besides stock other assets should also be valued at their replacement cost, when these assets were subject to material price changes. He

wrote:

> The value which is to be attached to the assets -in particular stock at the date of the balance sheet is neither the price at which an asset might be sold, nor its acquisition cost. The right way to price them is to find out their replacement costs today.(2)

Although Scubitz and Hauptmann made a serious attempt to recognise an asset's economic value, their attempt was limited to the balance sheet, with the effect that unrealised holding gains were regarded by them as a part of operating results. As a result, their ideas failed to gain acceptance.

Ten years after Scubitz' suggestion a new idea came, not from Germany but from Finland, suggesting that all assets should be valued at replacement cost but unrealized holding gains and losses should be recognized in the balance sheet . And with this suggestion a new school of thought was born in Germany. Ilmari Kovero was a Finnish (3) statistician (4). His book entitled Die Bewertung der Vermoegensgegenstaende in der Jahresbilanz der privaten Unternehmung was first translated into German and published in Germany in 1912 (5). He seems to have been among the earliest writers in German accounting literature to attempt to separate changes in the money value of the assets from operating results (6). Kovero's work will be presented in more detail later.

between 1912 and Schmidt's 'relative replacement

cost' in 1921 a number of German business academics started to show interest in current cost accounting, on the lines of Kovero, these men including Schaer (1914), Backofen (1918), Osbahr (1918), Prion (1920), and Geldmacher (1920).

It is also interesting to note that replacement cost received not only the academics' attention but also that of some Trade Associations active in accounting areas, e.g. the Verein deutscher Machinenbauanstalten, in 1921.

Although current value accounting was little practised even in periods of inflation, because of the attitude of German companies, tax laws, the dominance of the traditional method, etc, it has found support in academic circles ever since, even in periods of stabilizing prices and depression. Eminent among these academics have been Le-Coutre Altenloh (1924), Alfred Isaac (1924), Karl Hax (1926), Wilhelm Hasenack (1930s) and Sommerfeld (1930s).

By early 1970s Professor Sieben of Cologne had developed the net-physical capital maintenance concept (i.e. taking into account the gearing adjustment) which has had the recommendation of the I.d.W. in Germany since 1975.

8.2 Kovero's Replacement cost Accounting

In a recent article dealing with the historical background of current replacement cost, Mattessich writes:

> Apart from the fact that only publications can serve as evidence for any priority claim, the issue does not so much hinge on the question of who first conceived or even mentioned replacement cost for valuation purposes, but who first developed the idea of CVA systematically, thoroughly, and accessibly. Looking at it from this point of view, I have not yet encountered any convincing evidence that could deny priority to Schmidt and to some degree to Edwards and Bell (1961) .... (7).

In this section I shall show the turning point in the history of replacement cost accounting. which was deemed to be an accounting system irrelevant to the standard of the day, for unrealised profits (i.e. appreciation) might be declared as distributable if valuation at replacement cost were to be adopted. This turning point being the recognition of holding gains and losses, by the Finn Kovero, whose book was first translated into German in 1912. It seems also that he was very well aware of the Germany legislation and that he was directing his work to Germany in particular. This will be seen from his examples, some of which will be presented in this part.

8.2.1 The Basis of Valuation

Kovero believed that the main task of the balance sheet was to show the financial position of the business (8), and that it should provide data for economic and statistical purposes alike (9). In view of this task, Kovero concluded that in valuing the balance sheet items the only value which should be taken into consideration was the 'current acquisition value', or the current replacement cost (gegenwertige Anschafungswert) (10). He argued against historical cost data because it does not show the current value, and against the selling price because it may lead to liquidation value, besides it is uncertain (11).

Kovero also maintained that in exceptional cases, when the current cost of an asset is difficult to determine and when the fluctuation in the its money value was of no consideration, the asset can be shown at its historical cost.

8.2.2 The Treatment of Holding Gains and Losses

In Germany at the beginning of the century there was general agreement that appreciation should be treated as a part of operating results (12); therefore valuation above historical cost did not find favour in German accounting circles. To tackle the problem of

over-valuation Kovero recommended that changes in money value of assets held at the end of the accounting period should be transferred to an adjustment account, which was named by him the 'unrealised gains and losses account' (Konto fuer nicht realisierte Gewinne und Verluste) (13). To this account the increase in assets' value arising from revaluation over their historical costs or more recent revaluation was to be credited, while the decrease was to be debited. The credit balance of this account represented unrealised gains and was to be shown in 'unrealised gains' in the balance sheet beneath capital, while the debit balance constituted unrealised losses and were to be shown in 'unrealised losses' in the balance sheet above operating results. (see examples p.336). The reason why unrealised gains and unrealised losses were treated differently by Kovero was that he regarded the latter as real losses and hence unlike the former, as a part of operating results. At this stage one of Kovero's example quoted from his book pp. (168-169) is quoted below (14) :

Suppose that a plot of land was bought for 15,000 M during the year and

a) Its replacement cost at the end of the first year was 20,000 M, and

b) during the second year the land was sold for 19,000 M at the time its replacement cost was

13,000 M.

At the end of the first year Kovero regarded the difference between the replacement cost of the land and its historical cost (5000 M) as unrealised profit and so he credited it to the unrealised gains and losses account and debited it to the land account, the closing balance of which represented the opening balance of the next year. This is illustrated in the following ledger accounts and the balance sheet.

Land			
Cash	15,000	Balance c/d	20,000
Unrealised profits	5,000		
	20,000		20,000

Unrealised Profit			
Balance c/d	5,000	Land	5,000

Balance sheet year 1

Land	20,000	Capital	15,000
		Unrealized gains	5,000
	20,000		20,000

Immediately before the sale of the land during the second year there were unrealised losses involved, representing the difference between the replacement cost (13000 M) and the most recent revaluation (20 000), i.e. 7000 Mark. Kovero debited this amount to 'unrealised gains and profits' account and debited it to the land account. This can be illustrated in the following

ledger accounts.

Land				Unrealised Profit			
Balance b/d	20,000	Unrealised gains	7,000	Land	7,000	Balance b/d	5,000
		Balance c/d	13,000			Balance c/d	2,000
	20,000		20,000		7,000		7,000

At the time of the sale Kovero then debited land account with the balance of unrealised gains and losses and so he calculated the realised profit of 4000 as the difference between the proceeds and the historical cost. This last step can be illustrated in the following accounts

Land				Unrealised Losses			
Balance b/d	13,000	Cash	19,000	Balance b/d	2,000	Land	2,000
Unrealised losses	2,000						
Realised profit	4,000						
	19,000		19,000		2,000		2,000

On the other hand Kovero suggested other techniques for public companies e.g. A.G.s. which were required by law, inter alia, to show their

a- capital at nominal value,

b- assets at an amount not above their historical cost,

c- distributable profit separately.

In this techniques Kovero suggested the splitting of the 'unrealised gains and losses' account into

'unrealised gains' account (Konto fuer nicht realisierte gewinne) and 'unrealised losses' account (Konto fuer nicht realisierte Verluste). Unrealised gains arising from the revaluation of fixed assets and stock were to be transferred to the 'unrealised gains' account, which unrealized losses to the 'unrealised losses' account. On the assets side of the balance sheet fixed assets and stock were to be shown at their acquisition cost and beneath each of them the related changes in value were stated, so that their historical and replacement cost would be shown. And on the liabilities' side gains were to be shown beneath the nominal capital while unrealised losses beneath the operating results. Kovero also showed how this technique could be used to affect the distributable profit. His example (p. 165) relating to the valuation of stock is presented.

Units	Acquisition cost	Replacement cost	Unrealised gains	Unrealised losses
100	1,000	1,100	100	-
50	450	400	-	50
Total	1,450	1,500	100	50

Kovero made two suggestion for showing the stock on the balance sheet. These can be described numerically as follows:

a)	Acquisition cost		1,450
	Add the difference between unrealised profit and unrealised losses (100 - 50)		50
	Replacement cost of inventory		1,500

b)	Acquisition cost	1,450	
	Add unrealised profit	100	
		1,550	
	Less unrealised losses	50	
	Replacement cost	1,500	

The difference between the first type of calculation and the second has no effect on the determination of the value on the balance sheet but only on the distributable profit, since Kovero regarded unrealised losses as real losses and such losses were not declared in the former suggestion.

Examples of Kovero's Balance Sheet (16).

The following are two examples of this balance sheet which are in accordance with the law requirements as outlined above, showing how the distributable profits were effected:

Kovero's Balance Sheet p 214

Various assets		20,000	Various liabilities		40,000
Stock			Share capital		50,000
acquisition cost	43,000		Unrealised profit		5,000
price fall	3,000		Distributable profit:		
		40,000	realised profit	8,000	
			unrealised loss	3,000	
					5,000
Land:					
acquisition cost	35,000				
price increase	5,000				
		40,000			
		100,000			100,000

Kovero's Balance Sheet P 215

Various assets		20,000	Various liabilities		40,000
			Share capital		50,000
Stock:			Unrealised profit		7,000
acquisition cost	43,000				
price increase	2,000		Distributable profit:		
	45,000		realised profit	8,000	
price fall	5,000	40,000	unrealised loss	5,000	
					3,000
Land:					
acquisition cost	35,000				
price increase	5,000				
		40,000			
		100,000			100,000

In summary: Although Kovero did not develop a concept of capital maintenance, for he regarded unrealised holding gains and losses as transitory his recognition of holding gains and losses preceded that

of accountants in the English-speaking world, in Germany, France, the Netherlands and Japan, at least, and possibly in the rest of the world. And whatever the shortcomings of his theories, he appears at the moment to be the founder of the current cost accounting system.

THE WORK OF FRITZ SCHMIDT (*)

8.3 Introduction

This part is designed to illustrate the work of a pioneer thinker on replacement cost accounting - Professor Fritz Schmidt of Frankfurt-am-Main. His work on the subject was introduced in June 1921 in his famous book Die organische Bilanz in Rahmen der Wirtschaft, (the organic business balance sheet within the bounds of the economy). The second edition, June 1922, was extended as a result of the two accounting conferences held in November 1921 and January 1922, but the conceptual framework was not altered. The third edition, further extended and entitled Die organisch Tagesbilanz, was virtually a copy of the second, and was reprinted in 1951 and 1952, and is still in print.

The argument below will refer mainly to the second edition and to papers published between 1922 and 1929.

Although Schmidt's ideas were published at a time when Germany was witnessing a period of inflation, it is wrong to conclude - as several accountants (17) do -that

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(*) Fritz Schmidt (1882-1950) graduated from the commercial college in Leipzig in 1909 and became Professor at Frankfurt in 1914. He was editor and contributed to Journals, including some articles in English. He continued to teach until 1948 (Forrester, David).

his response in advocating the substitution of replacement cost for historical cost accounting was restricted to an inflationary environment. In fact, he suggested it for periods of stabilization and depression also, for he believed that replacement cost assured the maintenance of the capital in physical terms at all times. This will be clear from his examples quoted below.

Schmidt's ideas will, at certain points, be compared with those of Schmalenbach's. Also in this part I shall try to indicate where the theory of Edwards and Bell concerning the recognition of holding gains and losses was not original. The final section will illustrated how Schmidt's ideas were developed by Professors Sieben and Schildbach and became the recommendation of the Institute of Accountants (I.d.W.) in West Germany in 1975. An example will be provided showing the difference between Schmidt and Sieben - Schildbach.

8.4 The Concept of 'Relative Replacement Cost'

Schmidt recommended the use of replacement cost for all assets consumed during a period, as well as for all assets held at the end of the period. He used the term 'relative replacement cost' to distinguish it from absolute replacement cost. The latter took into account only the time-lag at the end of which assets

replacement cost at the time of consumption or balance sheet might vary from their acquisition cost. Schmidt's 'relative replacement cost' also took into account the changes, if any, in the cost of all elements involved in production during the time-lag concerned. (18).

To clarify this point, the following example (19) shows the difference between historical, absolute and relative replacement costs. It is assumed that an asset is produced through a combination of materials and labour, and that between the dates of production and sale (a) expenditure involved in the production rose, (b) technical advance occurred so that the same product could now be produced at lower cost, and (c) the following expenses and sale proceeds were as shown in the following table calculated in Marks. (Historical Cost = H.C, Replacement Cost = R.C).

	H.C. = R.C Quay-tity	Price	R.C. at the sale-date quantity	price	H.C. Profit	Absolute R.C. Profit	Relative R.C. Profit
Sale proceeds	-	-	-	-	50,-	50,-	50,-
Labour	1	10,-	0,9	12,	10,-	12,-	10,8
Material	8	3,5	7,5	4,-	28,-	32,-	30,-
Profit	-	-	-	-	12,-	6,-	9,2

For the determination of replacement cost for assets sold or held, Schmidt recommended that every

firm should measure using numerous special indices which could be constructed by the firm itself. (20)

Thus, replacement cost' in this Chapter means the relative replacement cost according to Schmidt.

8.5 The Task of the Balance Sheet

In German accounting literature there were different points of view relating to the question of whether the balance sheet had the task of clarifying a company's financial position, or should serve as a means of showing its operating results, or could serve both (21). Schmalenbach doubted that a balance sheet could fulfil the two functions at the same time. In his view the balance sheet failed to reflect a company's financial position, for

> through adding together individual assets and deducting liabilities one can not ascertain the value of a business and hence the value of the proprietor's capital invested in it, ... for the value of a business in all cases is the amount at which its future earning capacity can be capitalised, and this differs from the cost of establishing it (22).

The main reason why Schmalenbach made the above statement is that he was a senior advocate of historical cost accounting.

Although Schmidt recognised the importance of the 'earning capacity' (Ertragswert) approach in determining the value of a business as a whole, he acknowledged such an approach only when the profit was

based on replacement cost. He argued that the approach was theoretical, being seldom favoured in practice, (23) and was a misleading indicator if it was applied, for since the earnings (Ertrag) as calculated on historical cost basis were wrong, the present value would be wrong too. (24)

Schmidt also argued against the balance sheet in practice and held that 'what was once paid for assets, perhaps years ago, has very little significance, for a balance sheet which shows what the financial position was, rather than what it is, fails completely to understand the economic condition of the enterprise concerned'(25). For this reason he pleaded for the substitution of historical cost by replacement cost (Wiederbeschafungswert) or the re-production value (Tagesbeschafungswert). He asserted that replacement cost is the only value that should be attached to the balance sheet items, and once this is done, the summation of these items will indicate the amount of capital which will be necessary at the date of the statement to build up the enterprise in its present form. (26)

Although Schmidt acknowledged that Schmalenbach had made a great contribution to German accounting literature in emphasising the importance of the profit and loss account (27), he held that such emphasis would lose its significance if the profit or loss were based

on wrong assets valuation, namely historical cost, and that a correct profit is obtainable only through a correct assets measurement (28).

From the above discussion it is quite clear that Schmidt's attempt was to show that the role of the balance sheet was to fulfil these two main tasks simultaneously:

1- The ascertainment of a company's financial position through valuing all the assets at their current replacement costs, and thus

2- the ascertainment of the company's operating profits through eliminating all fictitious profit and loss and showing only real profit, as we shall see later.

It should also be remembered that Schmidt, had required a detailed analysis of the profit and loss account; but unlike Schmalenbach, he did not assign precedence to the profit and loss account over the balance sheet in the annual accounts, but regarded both statements as equally significant.

8.6 The Concept and Sources of Profits

For Schmidt the concept of profit and its sources are closely related. In his view, 'profit of an enterprise is only produced when between the beginning and end of an accounting period an increase in its real stock (reale Bestaende) has taken place' (29).

And the only sources of such an increase is the sale' (30). He distinguished between two types of sale, each differing in nature and orientation. He wrote:

Sale can be

1- The exchange of goods for money and from money to goods again (Equation = goods ---- Money --- more goods) or

2- The exchange of money for goods and from goods to more money (Equation = money ---- goods ---- more money) (31).

The first was assigned by him as being sale in commerce and industry (Umsatzgewinn), and the second as a speculative sale (32), though it is a feature of the nominal capital maintenance concept. (Both types will be explained in detail later). Thus, according to Schmidt ordinary sale profits (Umsatzgewinne) and speculation profits (Spekulationsgewinne) resulting from equations 1 and 2 respectively are to be regarded as current operating profits available for distribution since they represent an amount over and above what is needed to maintain intact the company's physical capital.

Moreover, Schmidt drew particular attention to the fact that an actual sale profit at the moment of its realisation - and this includes an individual sale - can be distributed (33); and only the realised

speculation profit (after the speculation sale in completed) can be disbursed (34).

To sum up, for Schmidt any gain which might be generated during an accounting period from sources other than sale is not regarded as a part of the current operating profit and is considered as undistributable.

8.7 The Distinction Between (Fictitious) Holding and Operating Gains and Losses

In the preceding chapter we mentioned that general practice had rejected replacement cost accounting on the ground that unrealised profits (holding gains) might appear as a real profit when comparison was made between the opening and closing capital. In this section we will show the excellent solution suggested by Schmidt for preventing these holding gains, realised and unrealised, from appearing as real profits, and how he treated the holding losses in the same way. And in this way we will arrive at the current operating profit (Umsatzgewinn) to distinguish it from the total business profit.

For Schmidt the value of a product is equal to its replacement cost at the moment of sale, and thus the replacement cost should be considered as the basis of profit and loss calculation (35). Accordingly there are three elements needed to arrive at the total business profit and hence the current operating profit. These

are:

1- the historic cost (A.C) of the product sold,

2- the replacement cost (R.C) of the product sold at the date of sale, and

3- the sale proceeds.

In the first place a comparison should be made between the replacement cost or productive cost of the product sold, and its acquisition cost. This step is important because there is a time-lag between the date of acquisition or manufacturing of the product and its selling date, during which the replacement cost can be higher than, equal to or lower than the acquisition cost.

If R.C. = A.C., the difference in value = 0;

If R.C. > H.C., the difference in value is fictitious profit, as it was called by schmidt, or holding gain;

If R.C. < H.C., the difference in value is fictitious loss, as it was called by Schmidt, or holding loss.

According to Schmidt neither of these two cases, the negative or positive difference is the result of the business activities, for they arise as a result of increase or decrease in the money value of the product (Wertaenderung am ruhenden Vermoegen). For him it was essential to separate the real profit from fictitious profit by deducting the difference (R.C.- H.C.) from

historical cost profit in times of rising prices; and to separate the real loss from fictitious loss by adding to the historical cost profit the difference (H.C.- R.C.) in periods of decreasing prices. The same result can also be arrived at by matching replacement cost with the revenue.

To illustrate this point, let us discuss Schmidt's example quoted below concerning period 2 and 7.(36)

Period 2		Period 7	
A.C. 95		A.C. 237.5	
R.C. 142.5		R.C. 190	
Sale 150		Sale 200	
Historic Cost Profit	55	Historic Cost Loss	37.5
Less Fictitious Profit (R.C.- H.C.)	47.5	Add Fictitious Loss (R.C.- H.C.)	47.5
Operating Profit (Sale - R.C.)	7.5	Operating Profit (Sale - R.C.)	10

According to Schmidt in Period I the 47.5 is fictitious profit, and 'if this were distributed to the shareholders it would be necessary immediately to provide a new capital of 17.5 in order to replace the asset sold'(37).In period II the change in value 47.5 is not a loss but a real profit (38), for only 190 is now needed to replace the assets consumed; and 'if the difference between original costs and selling price is given to the shareholders, the company will retain the

money that is not then needed for further production' (39).

Schmidt argued that:

> Differences in value between original costs (Selbstkosten) and current replacement costs (Ersatzkosten) have the character of value changes in capital, conditioned by changing current market prices for production goods. Therefore they logically belong in the accounting for capital and not in the accounting for operations (40).

Therefore he recommended that an account must be established to make allowance for such differences. Schmidt called this account the 'Value Adjustment Account' (Wertberichtigungskonto), to which holding gains are credited, and holding losses are debited, no matter whether these gains and losses are realized or not.

On the balance sheet the V.A.A. will appear on the liabilities side under the equity capital when the balance of V.A.A. is a credit balance and on the assets side when it is a debit one.

8.8 Schmidt's Example (41)

The example shown below is quoted without alteration, from Schmidt. In this example he divided the activity of a business into 9 holding intervals and it is assumed that the replacement and sale happen simultaneously.

Column 1 shows the periods. Column 2 shows the actual acquisition cost of the product and its replacement cost at moment of sale (both costs based on raw materials, labour, depreciation etc.). Column 3 represents the value adjustment account. It shows the difference between the replacement cost of the product sold and its acquisition cost at the moment of sale, i.e. holding gains and losses for each period.

Column 4 shows the profit and loss account which is based on matching the revenue with the replacement cost.

The following abbreviations are used:

A.C = Actual Cost
R.C = Replacement Cost
H.G. = Holding Gains (Wertzuwachs)
H.L = Holding Losses (Vermoegenswert)

periods	Cost Accounts		Adjustment Account H.L	Adjustment Account H.G	Profit and Loss Account	
1	A.C 95	R.C 95	-	-	R.C 95 Profit 5	Proceeds 100
2	A.C 95 H.G 142.5	R.C 142.5	-	47.5	R.C 142.5 Profit 7.5	Proceeds 150
3	A.C 142.5 H.G 47.5	R.C 190		47.5	R.C 190 Profit 10	Proceeds 200
4	A.C 190 H.G 47.5	R.C 237.5		47.5	R.C 237.5 Profit 12.5	Proceeds 250
5	A.C 237.5 H.G 47.5	R.C 285		47.5	R.C 285 Profit 15	Proceeds 300
6	A.C 285	R.C 237.5 H.L 47.5	47.5	-	R.C 237.5 Profit 12.5	Proceeds 250
7	A.C 237.5	R.C 190 H.L 47.5	47.5		R.C 190 Profit	Proceeds 200
8	A.C 190	R.C 95 H.L 95	95		R.C 95 Profit 5	Proceeds 100
9	A.C 95	R.C 95	-	-	R.C 95 Profit 5	Proceeds 100

If it is assumed that just before the fifth sale takes place the financial period has ended, Schmidt's method would show the profit and loss account as follows:(1)

Profit
and Loss Account

A.C of period 1		95	period 1	100	
A.C of period 2		95	period 2	150	
A.C of period 3		142	period 3	200	
A.C of period 4		190	period 4	250	
A.C of period 5		237		---	
		----	Total		700
		760	Balance c/d		285
Value changes of acquisition costs measured at sale dates to V.A.A.	142.5				
Changes in the acquisition cost measured at balance sheet date to V.A.A.	47.5				

		190			
Net profit		35			
		---			---
		985			985
		===			===

The above example clearly shows that the recognition of non-monetary holding gains both realised and unrealised was made by Schmidt. It also shows that Schmidt, for the purpose of determining the current operating profit, divided the sale activity into holding intervals and sale moments.

This is, therefore, conclusive proof that the current value model, as far as the recognition is concerned, was not originally Edward's and Bell's.

8.9 Speculation Profits

Schmidt distinguished between assets held for regular trading purposes (discussed in section 8.7) and

assets held for speculative purposes; and only for the latter assets did he take account of the way they were financed. He regarded holding gains (i.e. the difference between replacement costs and historical costs) as profits available for distribution only when

a) the speculation goods are financed with borrowed capital (Fremdkapital), (42) and

b) the speculation goods are sold and the proceeds are in excess of money debt and interest agreed upon (43).

Accordingly, profits resulting from speculation assets financed by borrowings are not the difference between the proceeds and the replacement costs of the assets sold, but between the proceeds and their historical costs plus interest.

On the other hand, Schmidt calculated profits resulting from speculation of assets financed with equity capital (Eigenkapital) in a different way from those financed with borrowed capital. He regarded speculation profits as the difference between the proceeds of sale and the adjusted historical costs (i.e. adjusted by a general index) of the assets sold. Schmidt's argument is as follows: In times of general increase in the value of goods and shares it is possible for a speculator with borrowed capital to gain because money-lenders lose in purchasing power..... It would be self-deception if the speculator with personal capital were to regard the appearance of a general increase in the

value of money as a gain.... It stands to reason the owner of speculative money will have preserved his assets only if he gets on average what he had before, both in purchasing power and principal (44).

Schmidt's Example (45)

Let the invested capital be 10,000, and interest at 10% for one year, the duration of speculation. Expenses will be neglected. Let the general index number move from 100 to 200, and the shares or goods purchased rise from 100 to 180.

1- Speculation with borrowed capital

Profit and Loss Account

Investment	10,000	Proceeds of sale	18,000
Interest	1,000		
Speculation profit	7,000		
	18,000		18,000

2- Speculation with personal capital

Profit and Loss Account

Investment	10,000	Proceeds of sale	18,000
Interest	1,000	Loss	3,000
Increase in value of initial capital from 100 to 200 to be in the value correction account	10,000		
	21,000		21,000

Let us compare Schmalenbach's method (i.e. C.P.P.) with Schmidt's only in the case where an investment is financed with borrowed capital, because the methods in the case of equity-financed investment are identical.

Investment Account

Balance b/d	10,000	Proceeds of sale	18,000
M.V.A.A.	10,000	P + L	2,000
	20,000		20,000

Creditors' Account

P + L	10,000	Balance b/d	10,000
Balance c/d	10,000	M.V.A.A.	10,000
	20,000		20,000

Money Value Adjustment Account

Creditors	10,000	Investment	10,000
	10,000		10,000

Profit and Loss Account

Investment	2,000	Creditors	10,000
Expense	1,000		
Net profit	7,000		
	10,000		10,000

It is clear from the above calculation that there is no difference in the results of profit calculation, except in the sources from which the profit is

generated.

Schmalenbach's method shows a gain of 10,000 on the money side because of monetary repetitions, and a loss of 2000 on the goods side because of holding non-monetary assets which did not rise in value as the general price level rose. On the other hand, and contrary to Schmalenbach, Schmidt's method shows that the gain arises from the goods side only. The gain from borrowing will be explained later, but at this stage it should be remembered that Schmidt's calculations like the above are applied to goods of a speculative nature only.

8.10 The Determination of Assets Value in the Organic Balance Sheet

The most important value for the organic balance sheet is the reproduction value (replacement cost) as at the balance sheet date (46). For Schmidt, 'the replacement cost of economic goods is the market price (in the buying market) for which one can obtain the economic goods in question on the day of real or assumed replacement' (47). Thus the elements of the organic balance sheet are:

1- monetary unit as a unit of measurement, and
2- replacement cost, as basis of assets valuation.

Schmidt distinguished between monetary and non-

monetary (Geldwerte und real) items. Monetary items such as cash debtors and creditors' accounts etc, have a nominal value and are already expressed in current value terms as at the balance sheet date, and hence no adjustments are required for them. Non-monetary items are usually subject to fluctuation, for there is a time-lag between the date of acquisition or revaluation and the balance sheet date, and hence an adjustment is needed to reflect their value at the end of the accounting period. Since we have already shown Schmidt's treatment of stock in the preceding section, this one will deal only with fixed assets and the problem of depreciation, including backlog depreciation.

8.10.1 Fixed assets

Schmidt distinguished between fixed assets which are not subject to depreciation (Anlagewerte ohne Abuntzung) such as land and water-power, and those which are so subjected (Anlagewerte die der Abnutzung unterliegen), such as machines, buildings etc. Changes in the money value of the former type have no effect on the profit and loss account but on the balance-sheet value; whilst in the later both the profit and loss account and the balance sheet value will be affected. In other words, the figure of fixed assets should be

revalued at their current replacement cost as at the end of the accounting period and depreciation adjustment should be made to the fixed assets which are subject to depreciation.

8.10.1.1 Fixed assets which are not subject to depreciation

Example:

Suppose that the capital of a business consists of a plot of land which was bought at the beginning of a year for 10,000. The replacement cost of the land at the end of the year rises to 20,000 and drops at the end of the next year to 10,000.

According to Schmidt the 'land account' and balance sheet are given as

1) Year 1

Land Account

Balance b/d	10,000	Balance c/d	20,000
Value Adjustment Account (V.A.A.)	10,000		
	20,000		20,000

Value Adjustment Account

		Land	10,000

Balance Sheet Year 1

Land	20,000	Capital	10,000
		V.A.A.	10,000
	20,000		20,000

2) Year 2

Land Account

Balance b/d	20,000	V.A.A.	10,000
		Balance c/d	10,000
	20,000		20,000

Value Adjustment account

Land	10,000	Balance year (1)	10,000
	10,000		10,000

Balance Sheet

Land	10,000	Capital	10,000

According to Schmidt the above calculations show that the change in the money value of the plot of land is neither a gain in the first year nor a loss in the second, because of the value adjustment account, the task of which is to prevent fictitious gains and losses from appearing as real. The major difference between Schmalenbach's C.P.P. system and Schmidt's R.C. system is that although both systems use the value adjustment account, the C.P.P. system makes allowance for changes in the abstract value of money (purchasing power) whilst the R.C. system considers changes in the money value of assets (specific price changes). Schmalenbach would have calculated in this way when the general price level rose from 100% to 200% during the first year, and dropped from 200% to 100% in the second.

8.10.1.2 Fixed assets subject to depreciation

This type of asset is bought and maintained for the sake of its part in operations of the company which acquires it. Of course such assets are subject to wear and tear (depreciation). In accounting it is universally agreed that if a company is to continue and if the capital invested is to be maintained intact, depreciation should be treated as a problem of allocation of costs in the operating statements, on the one hand, and on the other as a method of presenting the company's fixed assets in the balance sheet through allocating the expense over the useful life of the fixed assets. The critical problem is how to measure the depreciation charge, and whether this charge is adequate to replace the assets consumed during the year.

The major difference between Schmidt's method and the traditional one is found in the determining of the value of the fixed assets upon which depreciation is based; e.g. replacement cost in the former method and historical cost in the latter. For Schmidt the reproduction value as at the balance sheet date is the only correct value which should be attached to the fixed assets; and is an ultimate presumption of the presentation of a correct depreciation. (48)

Schmidt asserted that depreciation charges calculated on the historical cost of fixed assets will

not give the real measure of the cost of the assets consumed during the accounting period. The charge to the revenue will be low in times of prices rising above the original cost of the fixed assets and high in times of prices falling below the original cost. In the first case the profit will be overestimated (i.e. it will include fictitious profit) while the balance sheet will be underestimated, so that the company will be unable to replace the assets consumed during the year. In the second case the contrary will happen: the profit will be underestimated (i.e. include fictitious loss), while the balance sheet will be overestimated. For Schmidt the failure of traditional accounting to provide correct financial statements is due to the wrong principle upon which it is based .

Example:(49)

The example presented below is quoted from Schmidt's second edition. The columns b-c show his method, while the columns g and f show the traditional method.

	Replacement cost	Accumulated depreciation	Annual depreciation charges	Balance sheet value	Accumulated depreciation	Balance sheet value
Begin of year 1	10,000	-	-	10,000	-	10,000
End of year 1	20,000	2,000	2,000	18,000	1,000	9,000
End of year 2	30,000	6,000	3,000	24,000	2,000	8,000
End of year 3	40,000	12,000	4,000	28,000	3,000	7,000
End of year 4	50,000	20,000	5,000	30,000	4,000	6,000
End of year 5	60,000	30,000	6,000	30,000	5,000	5,000
End of year 6	50,000	30,000	5,000	20,000	6,000	4,000
End of year 7	40,000	28,000	4,000	12,000	7,000	3,000
End of year 8	30,000	24,000	3,000	6,000	8,000	2,000
End of year 9	20,000	18,000	2,000	2,000	9,000	1,000
End of year 10	10,000	10,000	1,000	-	10,000	-
a	b	c	d	e	f	g

While Schmidt shows that the annual depreciation charges are 10% of the current value of fixed assets as at the end of each year, the traditional method shows a constant depreciation charge over the whole useful life of the fixed assets, regardless of their revalued

figures (i.e. 10% of the original cost).

As regards the net book value of the fixed assets on the balance sheet, Schmidt's method shows it, for instance at the end of half its useful life, as having half its production value (30,000); while the traditional method shows half its original cost (5,000).

8.11 Schmidt's Treatment of Backlog Depreciation

In traditional accounting, backlog depreciation does not exist because revaluation of fixed assets is not recognised. It follows that the sum of annual depreciation charges is equal to the accumulated depreciation, at the end of any one year. In current value accounting, backlog depreciation arises because fixed assets need revaluation at the end of each accounting period; and the balance of annual depreciation charges of the previous year or years will be different from the current total depreciation of the revalued figure, in the year under consideration, in which case the latter figure should also be revalued. In the above example the balance of annual depreciation charges at the end of year 2 is 5000 (i.e. 2000 + 3000) while the current total depreciation is 6000 (30.2/10). Schmidt held that the accumulated depreciation of the previous year should also be revalued (50) and the difference should not be charged to current revenue but

transferred to the value adjustment account. Schmidt's idea can be clarified in the following accounts, according to this example:

Fixed Assets

Balance b/d year 1	10,000	Balance c/d year 1	20,000
V.A.A. year 1	10,000		
Balance b/d	20,000	Balance c/d year 2	30,000
V.A.A.	10,000		

Value Adjustment Account

Provision for depreciation	1,000	Fixed assets year 1	10,000
Balance end of year 2	19,000	Fixed assets year 2	10,000

Provision for Depreciation

End of year 1	2,000
End of year 2	3,000
V.A.A. (backlog)	1,000

Backlog depreciation can also be arrived at from Schmidt's equation as follows: (51)

Gross current value	=	Historical cost	+	Balance of V.A.A.	+	Backlog depre. balance
30,000	=	10,000	+	19,000	+	1,000

As far as the other prevailing ideas in treating

backlog depreciation were concerned, Schmidt was opposed to the recommendation of the Trade Association of Mechanical Engineering (1921), which required its members to charge the balance of the backlog depreciation of the previous year against the year in which they were recognised. He was also opposed to the opinion held by Schigut (1921), who calculated the annual backlog depreciation similarly to Schmidt, but who charged it not to the value adjustment account but to the current revenue; and Schmidt opposed the opinion held by others that the annual depreciation charge should be based not on current reproduction cost but on the future reproduction value.

Schmidt's opinion as against those above was that the annual depreciation charge based on current replacement cost is the amount which assures the replacement of the fixed assets consumed during the year, that only this amount should be charged against the current revenue, and that any amount below or over this amount will result in presenting a wrong current operating results. (52)

It is also worth noting that Schmidt suggested the immediate reinvestment, if possible, of the annual depreciation on the fixed assets consumed, so that backlog depreciation could be avoided (53). In this connection it is also worth noting that SSAP 16 permits the use of year-end depreciation, and thus its treatment

of the backlog depreciation is similar to Schmidt's.

To sum up: The organic balance sheet of Schmidt shows all fixed assets at their current replacement cost and the accumulated depreciation at the year-end, as well as the value adjustment account. The failure to recognize the backlog depreciation will inevitably result in the false presentation of both the fixed assets and value adjustment accounts.

8.12 Schmidt Versus the Adjustment of Monetary Values

At about the same time as the appearance of Schmidt's writings on replacement cost, Schmalenbach and Mahlberg invented the index method, which took into account the gains from borrowings and the losses from holding monetary assets in times of increasing prices. And, moreover, they regarded such gains and losses as a part of current operating results.

Although Schmidt recognised the fact that borrowers gain, and the owners of monetary assets lose, in purchasing power in times of increasing prices and vice-versa in periods of decreasing prices (54), he denied that such gains and loses have the same character as that of current operating results (Umsatzgewinne) (55), and held that they should be excluded from them. (56)

Schmidt argued in particular against the distribution of gains from borrowing. In his opinion

such gains are pure appreciations (Wertzuwachs) resulting from investing the borrowed capital in non-monetary assets (Realwerte) which rise in value because of the decline in the purchasing power of money, and thus the distribution of such gains is similar to the distribution of company's assets with the effect leading inavitabley to the weakening the company if not to its distortion.

He held that the adjustment of the borrowed capital is responsible for declaring appreciation as real profit and for this reason he was opposed to the adjustment of the borrowed capital (57). To illustrate:

Let us assume that goods have been bought for the needs of the business on credit at 1000, and from the date of acquisition to the date of the balance sheet no sale has taken place, expenses are ignored, and the general as well as the specific index has risen from 100 to 110.

Schmidt's method will show a value adjustment account as being the expression of the increase in the value of the goods (i.e. unrealised holding gain), While Schmalenbach's method will show this adjustment account as a distributable profit even before the realisation. The treatment of both methods are as follows:

Schmidt's Method

Goods				V. A. A.			
Goods	1100	V.A.A.	100	Balance c/d	100	Goods	100
		Creditors	1000				
	1100		1100		100		100

Balance sheet

Goods	1100	V.A.A. (as equity capital)	100
		Creditors	1000
	1100		1100

Schmalenbach's Method

V.A.A.				Creditors			
Creditors	100	Goods	100	P + L	100	Balance b/d	1000
				Balance c/d	1000	V.A.A	100
	100		100		1000		1000

Balance Sheet

Goods	1100	Creditors	1000
		P + L	100
	1100		1100

The major difference, then, between Schmalenbach and Schmidt is centred in the sources of profit. This means that according to Schmidt, profit can only be generated from the sale and comes from the assets side and thus no correction is needed for the monetary

assets; while Schmalenbach saw that profit comes from the money side as well, in which case a correction of monetary items is as important as the sale profits.

Let us further assume in the above example that the goods were sold just before the balance sheet date. According to Schmidt, the company should not declare a profit of 100, for the 100 still represents the realised holding gains. Thus Schmidt's idea (except in the case of speculative goods) supports the thesis that holding gains from borrowings, both realised and unrealised, cannot be a part of operating results.

It could also be concluded that in repaying the borrowings in less purchasing power means that the borrower has now more command on the goods and services if he has already invested the borrowings partly or wholly in assets which have risen in value. His holding gain represents only the increase in the assets value, but his real gain would be made only if the assets were sold at an amount in excess of their replacement costs.

On the other hand, those who in showing the sources of income insist on including gain from borrowing in the current operating statement, will in fact falsify this statement. It is also questionable whether such a practice will provide managers with relevant information for decision-making purposes.

8.13 Maintenance of a Company's Financial Position through Value-Balance (Wertgleichheit)

Schmidt held that the surest way of avoiding the financial risks which a company may face in periods of monetary value fluctuation is to equalize the monetary assets and the monetary liabilities on the two sides of the balance sheet . (58) Thus he recommended that all monetary assets should be financed with debit capital and all non-monetary assets with equity capital. He argued that if the non-monetary assets are financed with equity capital (Eigenkapital), the increase or decrease in the purchasing power of money will have no affect on the company's productive capacity. But the situation is different when these assets are financed with borrowed capital. The company may make unrealised holding gains or appreciation (Vermoegenswertzuwachs) at times when the value of money is decreasing, and unrealised holding losses (Vermoegenswertminderung) when money value is increasing.

In his example (p. 104) (59) Schmidt showed the following cases:

a) The non-monetary assets are financed with equity capital.

I (Normal value)			
Fixed assets	500	Equity capital	1,000
Inventory	500		

II (10 times value increase)			
Fixed assets	5,000	Equity capital	10,000
Inventory	5,000		

III 10 times value decrease			
Fixed assets	50	Equity capital	100
Inventory	50		

b) The non-monetary assets are financed with borrowed capital

I			
Fixed assets	500	Borrowed capital	1,000
Inventory	500		

II			
Fixed assets	5,000	Borrowed capital	1,000
Inventory	5,000	Value increase (as new equity capital)	9,000

III			
Fixed assets	50	Borrowed capital	1,000
Inventory	50		
Excessive debt	900		

The above example (case b) shows that the finance of a company's assets from borrowing (i.e. II) is advantageous in times of increasing prices but disadvantageous in times of decreasing prices. In case (a) the company has preserved its assets and is well off in both periods II and III.

On the other hand, Schmidt asserted that if the monetary assets are financed with borrowings only, the money value fluctuation is eliminated, for the losses in

the purchasing power of the money held will be offset by a repayment of less purchasing power (60). Schmidt's example (p. 105) is again shown:

I

1- Fixed assets	500	5- Equity capital	750
2- Inventory	250	6- Borrowed capital	250
3- Debtors	200		
4- Cash/production reserve	50		

II

1-	5,000	5-	7,500
2-	2,500	6-	250
3-	200		
4-	50		

III

1-	50	5-	75
2-	25	6-	250
3-	200		
4-	50		

According to Schmidt (61) in the above example, the monetary working capital (i.e. 3 + 4) (Geldbedurfnisse) needed in the normal operation is 250 units. In period II, when the prices of inventory have risen to 2,500 and in order to allow sales on credit and to pay for the increased wages, the company should now borrow an additional amount of 2,250 units. In period III the monetary working capital needed is now only 25 units, so a company is now in a position to repay 225 units. Clearly, if Schmidt's method of financing could be applied during an accounting period, then no monetary holding gains and losses would arise during the period under consideration, for the holding gains and losses would cancel each other out.

8.14 Schmidt V. Current German Thought i.e. Gross V. Net Physical Capital Maintenance Concept

Fifty years after Schmidt's writings, as a result of the phenomenon of increasing prices which swept through the industrial countries during the seventies, and of a suggestion made by German businessmen and industrialists (*), German accountants (among them Professor Sieben and Schildbach of Cologne) have attempted to develop the concept of 'Net-physical Capital Maintenance' (Netto-substanzerhaltungskonzeption) and have assigned the term "Gross physical Capital Maintenance" (Bruttosubstanzerhaltung) to the work of Schmidt (62).

The only difference between Sieben - Schildbach's 'Netto' and Schmidt's 'Brutto' is mainly centered in the fact that the former academics advocate taking into account always the gain from borrowings/structure of the capital, while Schmidt does this only in special cases.

1- In my interview with Professor Sieben in 1984, he asserted that the idea of 'gearing adjustment' was first suggested by these men as early as the 1970s, at a meeting attended by certain academics, among them Professor Sieben, before it was suggested by the academics themselves. It is also interesting to note that while German academics in the 1920s attempted vainly to persuade businessmen to adopt a method for inflation accounting, in the 1970s it was the businessmen who were showing strong interest in the development of new methods to cope with their current accounting problems.

Schmidt's concept is primarily concerned with the assets side of the balance sheet, giving the structure of the capital lip service only, except for speculation with borrowed capital and the value-balance 'Wertgleichheit' (intended primarily for the needs of business protection). On the other hand, Sieben - Schildbach consider the problem of the capital structure and the assets as equally important for determining the current operating profits. Again, Schmidt held that speculation profits from borrowings are to be regarded as a part of current operating profits and such profits can only arise from speculative assets. In contrast, Sieben - Schildbach go on to extend these types of profits to all assets financed from borrowings, regardless of whether they have speculative nature or not.

Apart from realised speculative gains, Schmidt regarded holding gains, whether realised or not and however financed, as undistributable and as a part of an all-inclusive capital reserve account (VAA).

Sieben Schildbach, however, hold that the gains from borrowings should be

a) separated from reserve by the ratio of gearing i.e. borrowed capital to total capital;

b) split into realised and unrealised holding gains from borrowing. The realised gains i.e through sales and depreciation will be added to the current

operating profit in the year under consideration while the unrealised gains will appear in a separate account called "unrealised holding gains from borrowings" on the balance sheet.

Thus, while Schmidt's method required the adjustment of cost of goods sold and depreciation, Sieben - Schildbach, in addition, require the gearing adjustment.

However, it could be concluded that Schmidt's idea as regards the speculation profit from borrowings and the value-balance is behind the method of Sieben and Schildbach, who write that 'Schmidt came vary close to the Netto-concept and in the case where the value balance is applied both concepts will be identical."

It is questionable whether the application of the gearing adjustment has an added advantage over Schmidt's method when a company's distributable profit will then be reported higher as soon as a loan is obtained during a period of inflation. It is also questionable whether these businessmen who suggested the gearing adjustment found it relevant to their needs.

Example: The example below quoted from Sieben - Schildbach, (pp. 586-590) shows and explains the numerical differences between their methods and Schmidt's.

A company was established at and reported the following:

Balance Sheet (real = nominal)

Land	100	Equity capital	400
Machinery	400	Debt	400
Inventory	200		
Cash receivable	100		
	800		800

For the accounting period to t 1, the following information is assumed:

Land : The replacement cost increases from 100 to 115.

Machinery : The replacement cost increases from 400 to 440; depreciation 20% on net replacement cost; re-investment in cash with an amount of depreciation imputed on the basis of replacement cost at the end of t 1, to maintain the machinery intact.

Inventory : Turnover five times a year; its purchase prices (cash) increase regularly from 200 to 210 in each sale period; the same quantity is held at the end of the period. Fifo assumption is used.

Sales proceeds : 2190 (cash)

Wages and salaries: 1,000 (cash)

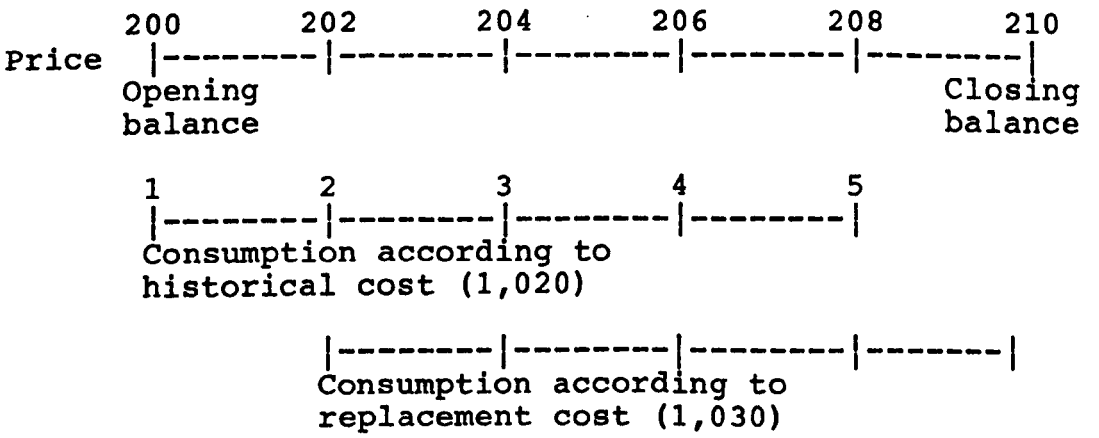
Interest expenses : At 10% on debt capital

1- Calculation on historical cost basis:

The results are shown in the following entries:

Balance Sheet (t 1), (nominal)				Profit and Loss Account to (t 1), (nominal)	
Land	100	Equity capital	400	Sales proceeds	2,190
Machinery	408	Debt capital	400	Materials	(1,020)
Inventory	210	Profit before		Salaries and wages	(1,000)
Cash		tax	50	Depreciation	(80)
receivable	132			Interest expenses	(40)
	850		850	Profit before tax	850

a) Inventory: The price movement and the material consumption for historical and replacement cost are shown in the following graph:



b) Machinery:

Opening balance	400
Less depreciation (400 x 20/100)	(80)
Add Re-investment (440 x 20/100)	88
Closing balance	408

c) Cash/Receivable:		
	Opening balance	100
	Add sales proceeds	2,190
	Wages and salaries expenditure	(1,000)
	Materials expenditure	(1,030)
	Investment in machinery	(88)
	Interest expenses	(40)
	Closing balance	132

2- Calculation by Schmidt's replacement cost method:

Balance sheet (t 1), (real Brutto)

Land	115	Equity capital	400
Machinery	440	MVAA (revaluation reserve)	65
Inventory	210	Debt capital	400
Cash	132	Profit before tax	32
	897		897

Profit and Loss Accounting t 0 t1

Sales proceeds	2,190
Materials expenditure	(1,030)
Wages and salaries	(1,000)
Depreciation	(88)
Interest expenses	(40)
	32

Description

Machinery:	Closing balance		440
	Depreciation (440 x 120/100)		(88)
	Reinvestment of the depreciation		88
	Closing balance		440
Revaluation reserve (MVA):	Land		15
	Machinery		40
	Inventory		10
			65

The difference between historical cost profit and replacement cost profit, i.e. 18 (50 - 32) is fictitious

or realised holding gains, which is already included in the revaluation reserve and has appeared on the profit and loss account, and can be analysed as follows:

Inventory (1030 - 1020)	10
Depreciation (88 - 80)	8
Realised holding gains	18

8.14.13 Calculation on Sieben - Schildbach's Netto-Basis

Sieben - Schildbach have presented (1973) two ways of using the gearing adjustment for determining the current operating profits. Each way is based on a different assumption: (63)

a)
The first assumption is that (in the above example) half of the assets including cash/receivable are financed with debt capital and the other half with equity capital, so that the proportion of one capital to another is 400 : 400 = 1 : 1.

Accordingly, the results are shown in the following entries:

The assets side is like Schmidt's method. The difference is only on the liabilities side.

Balance Sheet t1 (real Netto)

Land	115	Equity capital	400
Machinery	440	Revaluation Reserve	32,5
Inventory	210	Debt-capital	400
Cash receivable	132	Unrealised holding gains on debt-financed assets	23,5
		Profit before tax	41
	897		897

Profit and Loss Accounting t0 t1

Sale proceeds	2,190
Material expenditure	(1,025)
Wages and salaries	(1,000)
Depreciation	(84)
Interest expenses	(40)
Profit before tax	41

Description

The gearing ratio is 400/400 + 400 = 1/2. This means that only half the assets are to be revalued at replacement cost. It follows that the revaluation reserve should appear at half the amount declared by Schmidt's method (i.e. 32,5). The other half is considered to be holding gains from borrowing. Since the realization principle is taken into account by the Netto-method, half of the realised depreciation and material expenditure adjustments should be added to the current operating profit; while the unrealised holding gains from borrowing represents half the increase in value of land and of machinery after deducting the

depreciation adjustment, i.e. 1/2 (15 + 0,8 + 40) = 23,5.

1-	Materials expenditure 1/2 (1020 + 1030)		1,025
2-	Depreciation 1/2 [(400 x 20/100) + (440 x 20/100)]		84
3-	Revaluation reserve (15 + 40 + 10)		65
	Holding gains from borrowings (0,5 x 65)	32,5	
	Realised holding gains from borrowings 0,5 (8 + 10)	9	41,5
	Unrealised holding gains from borrowings		23,5

Thus, net profit (32 + 9) = 41

b) The second assumption is that monetary assets are not financed with equity capital, but with debt capital.

Thus the share of debt capital in financing the non-monetary assets will be 300, (400 - 100) and the gearing ratio is then 300/400. In other words,3/7 of the non-monetary assets is financed with borrowings, while 4/7 is financed with equity capital. In accordance with this assumption the following entries are shown:

Balance Sheet t 1 (Real Netto II)

Land	115	Equity Capital	400
Machinery	440	Revaluation Reserve	37
Inventory	210	Debt capital	400
Cash receivable	132	Unrealised holding gains from borrowing	20
		Profit before tax	40
	897		897

Profit and Loss Account t 0 t1 (real Netto II)	
Sale proceeds	2,190
Material expenditure	(1,026)
Wages and salaries	(1,000)
Depreciation	(84)
Interest	(40)
Profit before tax	40

Description		
Materials expenditure (3/7 x 1020 + 4/7 x 1030)	= 1026	
Depreciation (3/7 x 80 + 4/7 x 88)	= 84	
Revaluation Reserve (4/7 x 65)		37
Realised holding gains from borrowing 3/7 (8 + 10)		8
Unrealised holding gains from borrowing 3/7 (15 + 80/100 x 40)		20
		65

It is worth noting that calculation based on the second assumption (i.e. the introduction of the gearing adjustment) was suggested by the Hyde Guidelines in 1977 for the first time in this country, after the failure of ED 18 in not taking into account the capital structure; and with modification the gearing adjustment has been retained in both ED 24 and SSAP 16.

It is also worth mentioning that as a result of Sieben - Schildbach's suggestion, the gearing adjustment has been a feature of the recommendation of the IdW/HFA in West Germany since 1975, which suggests that at least for internal purposes, companies should calculate fictitious profit on the basis of the Netto physical maintenance (64).

Part II

Realisable Value Accounting

8.15 Historical Review

Although it is certain that valuation at selling price was advocated by Savary, one of the designers of the Ordonnance de Commerce of 1673, it roots might be traced to earlier times (65). In his book Le parfait Negociats Savary (66) regarded 'cost and selling price whichever is lower' as sound accounting principle, and it seems certain that his proposal found favour with the legislators of the Prussian Law of 1841 and German businessmen and lawyers thereafter. German literature shows that among the earliest advocates of selling price were Scheffler, Simon, and Wilmowski. Prior to the Commercial Code of 1884 Scheffler defined value as being of two types - an objective value and a subjective value depending on the kind of assets held. Assets for use in the business, which are the concern of the owner only, can have only objective value, and that is the historical cost. On the other hand, assets which are destined for sale because they are also the concern of a third party, should be considered as having a subjective value, and Scheffler believed that this subjective value is the selling price (67). Thus Scheffler advocated valuation at historical cost for fixed assets and other

assets not for sale, including raw materials and unfinished goods; while for stock he advocated selling price. Although Scheffler's ideas received little attention at that time (68), advocates like Simon and Wilmowski later distinguished between assets destined for use in the business and assets destined for sale, and recommended for the former, the historical cost. In 1886 Simon published a book called Die Bilanzen der Aktziengesellschaften , which reached a large public. (69). His idea was similar to Scheffler's, but unlike Scheffler he recommended that for articles destined for sale (i.e. stocks and investments) the realisable value (Realisationwert) should be taken, and not what articles would sell for in the future (70) .

In 1896 a book was published by B. Wilmowski, who recommended the lower of the 'selling price' and 'cost' to be taken for articles destined for sale. Although his recommendation, like Simon's, came too late - for the Company Act of 1884 had already provided for the rule 'cost or market, whichever is lower' - he seems to have been the first in Germany to suggest the priority of income statement over the balance sheet (71). German accounting literature shows that none of the advocates of selling price theory recommended that fixed assets be valued at selling price until 1925, when Karl Sewering published his book (Die Einheitsbilanz). He

held that all assets should be valued at selling price.

He wrote:

> Since we agree with the legal opinion that the ultimate aim of the balance sheet is to show the financial position, we therefore require for assets valuation, unlike Schmidt's current replacement cost, the current selling price, not to be confused with liquidation price, for it is the most suitable one (72).

Sewering's work will be illustrated in the next chapter and compared with Schmidt's.

Sewering's Realisable Value Accounting

8.16 The Concept of Profit

For Sewering there could never be a profit without a sale, so that the realisation principle was adhered to. Unlike Schmidt and Schmalenbach he did not develop a concept of profit, but advocated that of Schmalenbach. In his view, changes in the purchasing power of money should always be taken into account for profit computation, for he believed that such changes were the main cause of price fluctuation in general. Thus Sewering distinguished between the times stability or relative stability of prices, and inflation. During the former times, he pointed out, a profit is always the difference between the sale proceeds and the historical cost of an assets, while during the latter the adjusted historical cost should be taken into account. He was

opposed to Schmidt's concept of profit and held that there was no reason whatsoever to recognise changes in the money value of assets (Sachwerte) when the value of money was stable or in normal times when fluctuations in the value of money were of no consideration, so long as such changes did not come from the money side (73). For example (74), if the acquisition cost of an asset was 10,000 and its replacement cost was 11,000 when it was sold for 12,000 at a time when the purchasing power of of money was constant, for Sewering, the profit was to be 2,500 (12,500 - 10,000). He, in contrast to Schmidt, saw that the division of the total business profit of 2,500 into 1,000 realised holding gains (Konjunktursgewinn) and 1,500 operating gains (Betriebsgewinn) as meaningless from the profit computation point of view, but as meaningful from the managerial point of view. He wrote:

> It could be said that the separation of holding gains from operating results is of great importance for a company's conduct. This separation is only an internal matter of the company and it is only necessary to find an answer to the question of the income sources. For the computation of the amount of profit such a distinction is meaningless (75).

On the other hand, Sewering recognised the realised holding gains of 1,000 only when the general index had risen at same rate as the specific index of the asets sold, in which case the profit would be 1,500 (i.e. 12,500 - 11,000).

To sum up, Sewering in considering the difference between the sale proceeds and the historical costs or adjusted historical costs, adhered to the concept of historical cost profit.

8.16.1 The Recognition of Unrealised Holding Gains

Sewering held that changes in the money value of assets should not be considered as profit or loss. The question of unrealised holding gains is mainly dependent on the basis of assets valuation, for they represent the difference between the revalued figures of asets as at the end of the accounting period and their acquisition costs or their most recent valuation. And since Sewering distinguished between times of price stability and inflation on the one hand, and recommended a different basis of assets valuation according of their nature on the other hand, we can summaries his basic ideas in both periods as follows:

1) Periods of Stability

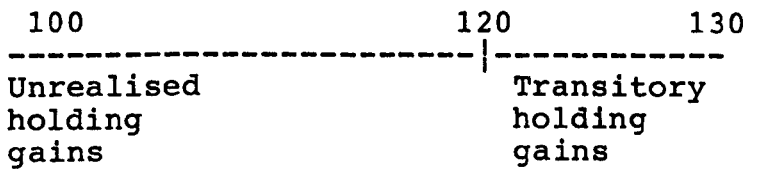
In this period Sewering recommended that only salable assets should be revalued at their selling price as at the end of the accounting period. The difference between the selling price and the acquisition cost or the more recent valuation was to be transferred to a special account called by him the 'value adjustment

account' (Wertberichtigungskonto). To this account the favourable difference was to be credited while the unfavourable one was to be debated. In his view the value adjustment account should have a transitory character and was to be shown in detail on the balance sheet as long as the asset was held, and to be eliminated from the balance sheet at the time the asset was sold. The reason why Sewering required this account to be shown in detail is twofold. First, he was opposed to considering changes in the money value of assets in times of price stability as having the character of value changes in capital or reserve, because an increase in these accounts could only be possible through the realised profits (76). Second, at the moment of sale, holding gains could be easily separated and carried to the profit and loss account.

2) Periods of Inflation

In such a period Sewering asserted that only the difference between the inflation-adjusted value and the historical cost was to be transferred to the capital reserve or to capital accounts, while the difference between the selling price and the inflation-adjusted value was to be considered as transitory holding gains waiting for realisation as in a period of stability.

For example, if the acquisition cost of a good was 100 and its selling price 130, and the general index had risen from 100 to 120, then the holding gains which were to be transferred to the capital reserve account would be 20 (100 x 120/100 - 100), whilst the 10 would be shown separately as value adjustment account on the balance sheet. This can be diagrammatically shown as follows:



However, Sewering in order to distinguish between capital reserve account and his value adjustment account, recommended that the latter account should be shown after the liabilities on the balance sheet. (see the balance sheet)

8.16.2 The Basis of Assets Valuation

Sewering, like Scheffler, distinguished between assets destined for sale and those destined for use. In general he recommended, (a) valuation at historical cost for the latter assets (i.e. fixed assets except land in times of price stability), (b) the adjusted historical cost in times of inflation, and (c) the liquidation value for high-risk companies; while for the former assets such as inventory and land he recommended

the selling price. He justified the adoption of these multiple valuation bases according to the nature of the assets. He asserted that it is meaningless to revalue the fixed assets, which are unsalable and bound up in the business either at replacement costs or selling prices; for valuation at current value would involve difficulties and subjectively , if not impossibility. In such a case the revalued figures would be incorrectly restates on the balance sheet and accordingly the depreciation charges would be either over or underestimated, so that the reported profit would be incorrect too. On the other hand, and contrary to fixed assets, the salable assets could be restate at their selling price without affecting the operating results.

It is clear that at this stage Sewering was aiming at a method which would be acceptable by the tax authority, i.e. in which the computation of operating results would be in correspondence with that of traditional accounting.

8.16.3 The Treatment of Salable Assets

Since Sewering recommended that assets subject to depreciation were to be valued at cost, only the examples of salable assets, namely land and inventory, are to be presented in this section.

1- Land

Example: (77)

The acquisition cost of a plot of land including all expenses was 50,000, and at the end of the year the selling price was 60,000. During the second year the land was sold for 62,000.

Since the land was unsold during the first year it would appear on the balance sheet at the end of the first year at 60,000 while the difference between the selling price and the acquisition cost would also be shown on the liabilities side. Thus the ledger accounts would be shown as follows:

Land				Value Adjustment Account			
Bank	50,000	Balance c/d	60,000			Land	10,000
Value adjustment account	10,000						
	60,000		60,000				

During the second year, when the land was sold, the value adjustment account would now be eliminated from the balance sheet by debating it by the difference of 10,000, because this account would have only a transitory character. Thus Sewering showed the following ledger accounts (78):

Land

Jan. 1, Balance b/d	60,000	June 15, Bank	62,000
P + L	12,000	June 15, Value adjustment account (VAA)	10,000
	72,000		72,000

V A A

June 15, Land	10,000	Jan. 1, Balance c/d	10,000
	10,000		10,000

P + L

Dec. 31 Land	12,000

However, in the case of the selling price of the land dropping below the historical cost at the end of the year, the balance brought forward appear at the selling price and the value adjustment account would also appear on the assets side.

2- Inventory

Sewering criticised Schmidt for requiring the replacement cost of the asset sold to be determined at the moment of sale, for such a determination would involve extra costs and work. For this reason and for simplicity he suggested that no correction was needed to the entries during the year, but a since correction should be made at the end of the year, or rather at the beginning of the next year, for the purpose of showing the inventory at its selling price on the balance sheet. Again, for Sewering the difference between the

historical cost of the inventory and its selling price was to be transferred to the 'value adjustment account'. Sewering's examples (79) are quoted below:

The sales figures of the inventory account amounted to 150,000 on the debit side and to 135,000 on the credit side. The acquisition cost of the closing inventory was 24,000 and its selling price 27 000.

Inventory Account

	150,000		135,000
Dec. 31 VAA	3,000	Dec. 31 Balance sheet account	27,000
P + L	9,000		
	162,000		162,000

Balance Sheet Account

Dec. 31 Inventory Account	27,000	Dec. 31 VAA	3,000

At the beginning of the next year

Inventory Account

Jan. 1 Inventory Account	27,000	Jan. 1 VAA	3,000

It is assumed that the closing inventory amounted to 17,000. Accordingly the ledger accounts would be shown as follow:

Inventory Account

	150,000		135,000
Dec. 31 P + L	6,000	Dec. 31 Balance sheet account	17,000
		Dec. 31 VAA	4,000
	156,000		156,000

It is clear from the above example that Sewering's aim was to maintain the concept of historical cost profit, for the profit according to the traditional method would also be 9,000. It could also be concluded that Sewering is not recognising the realised holding gains and losses but in taking into account the unrealised holding gains and losses, provided a solution to the problem of balance-sheet valuation rather than to that of profit and loss calculation.

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CHAPTER NINE

SUMMARY AND CONCLUSION

The movement of prices in both past and present times shows that the value of our monetary units was always unstable and they continue to be so, so long as it is not fixed in terms of the goods and services those units buy. This is not a new discovery, but it has become easier to understand since the nineteenth century, when modern economic and statistical historians succeeded in constructing an index number of prices, measuring changes in the value of money.

A brief survey of the movement of prices in some developed countries during the second half of the nineteenth century shows that these countries witnessed two periods of fluctuating prices. The first was of rising prices from 1849-1873 and the second was of falling prices which immediately followed the first period and continued until 1896. In spite of these facts, generally accepted accounting principles, which were developed in the last quarter of the same century to meet the needs of the widely spreading companies, and of the companies acts and tax laws, were wedded to the historic cost basis of valuation and the assumed stability of the monetary unit.

A study of the evolution of accounting reveals that the accounting principles and practice that have been generally accepted in the U.K. and U.S.A. have been very similar to those of Germany. The major difference between the latter country and the first two was centred

in the authoritative bodies that imposed these principles, which in turn shaped and are still shaping accounting practice in these countries, i.e. the accountancy profession in the U.K. and U.S.A. as against legislation in Germany.

In the United Kingdom, companies have neen required to present accounts which give a "full (in 1948, 'true') and fair view". The companies Acts did not define these terms nor indicate the basis of assets valuation and said little about how an accountant should arrive at the figures which were to be disclosed, and it was up to the auditors to report and the courts to determine whether the published accounts were 'full and fair'.

As a result of this flexibility the English auditing profession began to grow and increasingly to shape accounting practice, particularly from 1900, when it became legally necessary for all limited companies to appoint auditors. These auditors have always interpreted 'full and fair' accounts as based on historical cost. The accountancy profession in the U.S.A. has followed the same thinking even after the establishment in 1934 of a semi-judical body (the S.E.C.) to regulate accounting affairs.

In Germany, the major sources of accounting principles prior to World War I were the commercial and

tax laws and their interpretation by the legal profession. Consequently, other interested parties, including trade associations and academic and practising accountants, were unable to bring about any improvements in accounting practice, although certain academics attempted to do so.

German legislation distinguished between various forms of companies and provided for each of them a different basis of assets valuation; therefore several valuation conventions were recognised by law. The prudence convention or the 'lower value principle' was found in Paragraph 261 Sectios 1 and 2 of the 1897 Commercial Code, which required joint-stock companies (A.Gs) to present an audited balance sheet prepared by the Supervisory Board showing their assets at the lowest of all reasonable values, and an audited profit and loss account calculated thereon. The historic cost convention was found in Paragraph 42 of the Companies Act relating to companies with limited liability (G.m.b.Hs); and Section 3 of Paragraph 261, whereby joint-stock companies were allowed to show their fixed assets at historical cost even when their market values were lower. The German law also recognised the current value convention, although without giving a specific definition of this term (Zeitwert) i.e. whether it meant replacement cost or realisable value or the 'gemeine Wert' (the value to the owner). Businesses which were

subject to Paragraph 40 were, like G.m.b.Hs., not required to prepare an income statement nor did their balance sheets need to be audited. They also required to revalue their assets anew at each balance sheet date. Since the law considered unrealised holding gains as a real profit and as taxable income on the one hand, and the tax man accepted the objective value i.e. historical cost as the basis of assets valuation on the other hand, these companies seldom valued their assets at current value at a time of rising prices, only practising current value where it sank below the historical cost in order to minimize the taxable profit. It follows that German companies generally used the prudence convention, which enabled them to adopt secret reserves __ a feature of German accounting practice of the day __ in times of decreasing prices, and the historic cost convention in times of increasing prices.

Whereas the principle of monetary stability continued to be generally accepted in accounting circles in the U.S.A. and U.K. in spite of the post-World War I inflation, this was not so in Germany, where it was seriously questioned.

Most accounting literature in English, when referring to the German inflationary period - in particular 1923 - ignores the fact that inflation was sweeping not only Germany and some other European

countries but also the U.K. and U.S.A.

Compared to 1913, prices in the U.K. and the U.S.A.had increased by 50% in 1918 and had almost tripled by 1920 (see pp. 69-70). In spite of this fact no action was taken by the accountancy profession in either country to reconsider accounting conventions and practice, though they had more freedom to do so than the Germans, who had to face the obstacle of the law when they began to oppose the historical cost convention. As a consequence, it seems certain that companies' profits at that time were partly fictitious, and thus dividends must have been paid out of capital; thus it is hardly convincing that comapnies' accounts presented a 'true and fair view'.

In Germany, however, the phenomenon of inflation caused a revolution in the thinking of German accounting academics.

The financial crisis that faced Germany during and after the war was tackled with an outrageous financial policy adopted by both the government and Reichsbank. The problems of the large deficit in budget and the unfavourable balance of payments were answered by the issue of huge quantities of irredeemable paper Marks to meet the government expenditure at home, and to make up her payment balance by exporting milliards of Marks abroad. This policy caused the depreciation of the internal and external value of the Mark, perhaps with

the aim of evading the War reparation payment. However, it also led to the rapidly increasing prices, which created many new problems for businesses, which were required to continue preparing their accounts on the assumption of the stability of the Mark and to follow the unchanged valuation rules prescribed for them in the body of laws.

German academic accountants had done their best by 1921 to improve the quality of published accounts by suggesting different units of measurement: the gold Mark, the general purchsing power, and a different basis of assets valuation, i.e. replacement cost. The first accounting conference held in Frankfurt in 1921 was an excellent example of the awareness shown by German accountants of the damaging effects of inlfation on accounting. Although the conference was attended by more than 400 representatives of various bodies, the key figures present were the academic assountants, who already possessed the solution to the accounting problems, in the gold Mark balance sheet of Mahlberg, the GPP method of Schmalenbach and the Replacement Cost Accounting of Schmidt, all of which were underpinned by capital maintenance concepts.

The importance of the conference, however, was not its popularising of the new alternative methods but its exact identifying of the shortcomings of historical cost

accounting and the resulting fictitious profit.

Although there was general agreement among German academic accountants that companies were declaring fictitious profits and distributing their capital, they were divided in their opinions as to the definition of capital and hence the distributable profits, i.e. where a sharp line should be drawn between capital and income. The two groups engaged in this issue in 1921 had turned into two leading schools of thought, each of which, while adhering to its own concept of capital maintenance, was opposed to the nominal capital concept, i.e. maintaining the capital invested in monetary terms, which was the basis of traditional accounting in Germany. The first school, Schmidt and his adherents, advocated the concept of material or physical capital maintenance (materielle Kapitalerhaltung) i.e. maintaining the productive capacity in the form of assets. The second, Mahlberg and Schmalenbach, developed a new concept - the real capital maintenance (realle Kapitalerhaltung) i.e. maintaining the purchsing power of the capital invested, expressed in terms of purchasing power unit (Schmalenbach) or in gold Marks (Mahlberg).

The use of the capital maintenance in determining the distributable profit which is now the amount over and above what is necessary to maintain the capital at the beginning of an accounting period, was at the heart

of the development of the German accounting methods for inflation, and is still at the centre of the current debates.

The gold Mark balance sheet is a form of CPP method, but it has been paid only lip-service in the literature in English. Apart from in the publications of Sweeney (German Inflation Accounting, 1928) there have been very few references to the method and even then they have been very brief, if not misleading.

But in Germany the method was very popular among both academics and practising accountants, perhaps for its simplicity and ease of auditability. And enthusiasm for the method was not limited to the country of origin, but extended to France, where practising accountants, lacking an accounting method for inflation, suggested it under the name 'Gold Franc Balance Sheet' during the French inflation from 1926-1928. Thus it is not an exaggeration to claim that the French method was a copy of the earlier German suggestion.

The importace of studying the evolution of the Gold Mark Balance Sheet (1920-1923) is twofold:

1. Although the 'plan for a new law' was rejected by the German government, it was an encouraging gesture worth making, to oppose on the legal level that traditional accounting which still receives the endorsement of the law in most countries throughout

the world, in particular the developing countries, which in most cases are experiencing a higher rate of inflation than the developed countries. Thus the attempt made in Germany by Schmalenbach and his colleagues, though they failed, is an excellent example to follow.

2. The starting point for any proposed method for inflation accounting in practice should begin with the revaluation of a company's assets at their current values and hence the reconstruction of the capital, as if the company were newly established. This would be a very important step in countries with a longer duration of inflation combined with a higher rate, for companies here would have suffered capital losses.

   The laws of 28.12.1923 in Germany and of 15.6.1927 in Czechoslovakia are examples from post-World War I, and the DM Opening Balance Sheet Law of August 1949 in Germany is an example from post-World War II.

It should be remembered that there is a major difference between the Mahlberg-Schmalenbach method and that which was practised in compliance with the 'Opening Gold Mark Balance Sheet Law' during 1924, for the Law provided only for the opening balance sheet and not for the closing balance sheet as Mahlberg and Schmalenbach had suggested. The suspension of Paragraph 261 was temporary and for the purpose of revaluation of the

balance sheet items in terms of the new currency which had now 10/42 of the value of the dollar, both measured in terms of gold. Thus by fixing the value of the new currency as one billion i.e. $(1000\ 000)^2$ Marks __ the paper Mark being still considered legal tender until totally withdrawn in June 1925 __ the law without altering the basis of assets valuation adhered strongly to the stability convention upon which historical cost accounting is based. It follows that the conversion process at the end of 1924 was not carried out by an index number which was assumed to measure changes in the value of money, but was a mere process of dividing by the figure of one billion.

It is worth correcting here the erroneous statement that the gold Mark balance sheet suggested by Mahlberg was implemented in practice. This error is made by Tweedie and Whittington (1984, pp. 18-19), who write:

> The practical response of businessmen in these circumstances (the period of hyper-inflation in Germany) was to prepare additional balance sheets in gold-Mark equivalents, since the gold Mark was a relatively stable unit of value ... The fact that contemporary accounting practice favoured gold-based stabilisation (i.e. Mahlberg's [gold Mark balance sheet] method rather than Schmalenbach's [index method]) was probably due to the fact that in conditions of extreme hyper-inflation this was the most practical method....

On my visits to Germany I was very interested to learn whether, and if so how, companies implemented the

gold-Mark balance sheet method in practice. But I was told by Dr. Lutz, who at the same time was studying the biography and work of Schmalenbach, and contributed to the publication of the famous book Eugen Schmalenbach, Der Mann sein Werk. Die Wirking, 1984) that the method was not implemented in practice, except by a very few companies, in particular Leonard Tietz A.G. Koln (now Kaufhoff), and for internal purposes only. This assertion can be supported by the of absence of any German accounting text book referring to the implementation of the method; nor are there any such financial statements kept in the Cologne University Archives which were established by Schmalenbach in 1906 and hold a large number of financial statements dating back to 1916. This mon-implementation might be attributable to the Law of 1897, which considered the paper Mark as the only legal tender by which accounts should be drawn up, and to the attitude of businessmen who were opposed to methods other than the traditional ones familiar to them.

Unfortunately, errors can recur in the literature in English because writers in English may themselves relay on inaccurate texts in the language rather than return to the originals; and Tweedie and Whittington may have been misled by Sweeney, who asserted that

> Stabilization of balance sheet accounts in terms of the gold Mark was probably the best

> of the balance sheet equalization methods. It was the most commonly adopted by larger concerns. Such endorsement was significant. (German Inflation Accounting, p. 107).

In my opinion, the gold Mark balance sheet was not implemented, but different inflation accounting methods might have influenced large companies to adopt prudential reserve and dividends policies. (See Tietz AG Balance Sheet, p.311).

The gold Mark balance sheet was mirrored in the C.P.P. method. The first of Schmalenbach's writings on CPP method was published in his journal, the 'Zeitschrift fuer Handelswissenschafliche Forschung' in 1921, (pp. 401-417), and with this publication the systematic method of CPP was born.

Although the CPP method had never been practised, and had received little attention in the German accounting literature of the day, being a copy of the popular gold Mark method, it nevertheless found favour with the Frenchman Fain in 1927 (See Fain's method, Chapter 7), who on several occasions quoted Mahlberg and Schmalenbach (Wasserman, p. 26), and later convinced the American Sweeney in 1936, from whom it travelled to other countries including the U.K.

Although Sweeney's work was not original but based on Schmalenbach's (See Chapter 6, pp.244 -8), its contribution to accounting literature in English, in the suggestion of purchasing power instead of money as a

unit of measurement and of an adjusted historical cost instead of historical cost as the basis of valuation - this contribution was unprecedented.

But Sweeney's book made no impression on the accounting profession at that time. This was not only attributable to their attitude but also to the eminent academics of the day, in particular Sanders, Hatfield and Moore, who shared the profession's views. The booklet of these three academics (A Statement of Accounting Principles), 1938 adhered strongly to the principles of historic cost accounting. It was reprinted in 1959 by the American Institute of Accountants, in the belief that it was a highly valuable contribution to the discussion of accounting principles and that the standing of the authors would assure a wide and respectful hearing.

In the light of the increasingly recognised failure of conventional accounting in the U.S.A. the accountancy profession finally began to accept its limitations, and in 1963 the Accounting Research Study No. 6 was published by the AICPA and included recommendations almost identical to Sweeney's proposals.

It is doubtful whether Sweeney's stabilized accounting would have received much attention if the AICPA had not published studies based on his ideas.

In the U.K., although the limitation of historical cost accounting has long been recognised by the

accounting profession, it has taken the leading institute (ICAEW) a century to reconsider and review seriously accounting practice and principles; and when PSSAP 7 was published it was entirely based on a method suggested by Schmalenbach fifty years before to meet the needs of companies in the German inflationary environment, although at that time the method was not implemented and was criticised severely by Schmidt (See pp.241-3).

The similarities between SSAP 7 and Schmalenbach's method show that in both methods,

a) the underlying capital maintenance concept is that of maintaining the purchasing power of the capital invested;

b) the unit of measurement is the purchasing power;

c) the basis of assets valuation is the adjusted historical cost, which is the upper value limit of an asset shown on the balance sheet;

d) account is taken of gains and losses on monetary items; and

e) even the basic outlines are the same:

   I Companies should present and keep records on historical cost basis

   II A supplementary statement is to be prepared, showing the balance sheet items in purchasing power unit as at the end of the accounting

period

III The conversion of the historical monetary unit into current purchasing power unit should be by means of a general index according to its availability; so that SSAP 7 suggests the RPI as the best available in the U.K. for this purpose, while Schmalenbach suggested the wholesale price index.

In the conversion process both methods require the application of whichever is the lower of cost (expressed in monetary units of current purchasing power) and current market prices, to the relevant assets.

The only difference between the methods of Schmalenbach and SSAP 7 in the determination of the CPP values at the beginning and end of the accounting period, is that Schmalenbach regarded the price index for all non-monetary assets acquired prior to 1.1.1918 as 100 (The yearly average during 1917 was 177); and accordingly the adjustment of the opening balance sheet items was to be made by reference to the change in the index between 1.1.1918 and the opening date and the adjustment of the closing balance sheet made between 1.1.1918 and the closing date.

In the conversion process, while SSAP 7 requires that non-monetary items should be shown at inflation-adjusted values if they are lower than their net realisable value and provision is to be made if

necessary, Schmalenbach held that they should be shown at their reduced current market price, and the difference should be considered as profit or loss, as the case might be. Another minor difference is that in Schmalenbach's supplementary statement a value-adjustment account was shown below the capital, which was shown at the nominal value for legal purposes.

From the above similarities it is clear that both methods provide the same quality of information to the users of accounts, if not more by Schmalenbach, who required in 1921 the presentation of a detailed supplementary profit and loss account as well as the balance sheet, unlike the SSAP 7, which left the former statement as optional.

A glance into the main and supplementary balance sheets prepared on a CPP basis, reveals that both are based on wrong assumptions. The main statement is based on the assumption of stability in the monetary unit, while the supplementary statement, although it is drawn up in a constant unit of measurement, is based on the assumption that all non-monetary items rise or fall in value at the same rate as the general price index. Thus figures of the non-monetary items of the main balance sheet are meaningless, for they report on past events; while those in the supplementary balance sheet are artificial, for they move at different rates in the

market from the general index which includes consumption goods rather than production ones. An analysis of the profit figure reveals that two out of three adjustments, namely, depreciation and cost of goods sold made to the historic-cost profit, are artificial, for they have already been based on artificial figures. Moreover, the profit includes gains from borrowing which are regarded as distributable even before realisation. Thus the level of gearing affects the profit figure so that the higher the net monetary assets, the higher is the profit figure, and vice versa.

What information, then, does the CPP method provide for the managers to whom shareholders have entrusted their investments? Of course such statements, on which the managers rely heavily in the day-to-day activities of buying, producing and selling, fail to provide any assistance, for managerial decisions will be oriented only towards maintaining the purchasing power of the shareholders' capital rather than maintaining the productive capacity of the business. The method could, in fact, give an opportunity to unsuccessful managers to manipulate the profit figures simply by borrowing, with an eventual loss to the shareholders.

The main objective of Schmalenbach, however, was differently oriented from that of SSAP 7. He wanted to alert businessmen to the fact that they were computing fictitious profit, and consequently distributing

dividends out of capital, selling below cost and paying taxes out of appreciation. German academic accountants saw no solution to these accounting problems, as Schmalenbach wrote in 1920: "Our accounts are totally wrong and we don't know how to make them right". Given this lack of alternatives, Schmalenbach developed his method from scratch.

Considering the much greater severity of the 1920s inflation than the U.K. 1970s moderate inflation, Schmalenbach's method was a practical response, and as such in the German environment it was advantageous, even necessary. Most criticism of the philosophy of the CPP method is reduced when applied to Schmalenbach's time. In my opinion it was of little value, if not impossible, to distinguish between general and specific price changes at the time the method was suggested. For instance, the monthly average wholesale price index during 1922 __ before the period of hyper-inflation __ reached 36 in January, 63 in April, 100 in July, 566 in October, 1154 in November and 1475 in December, compared to 1 in 1913. It follows that a company would have needed to establish a statistics office for the purpose of measuring daily changes in specific prices __ an impossible task anyway. Thus managers were better served simply by relying on general indices which were published monthly and regularly rather than on specific

indices which were difficult to prepare and almost unavailable.

The accounting profession in the U.K. choose this method from many alternatives offered in the literature during the fifty years after Schmalenbach's suggestion, in spite of the obvious limitations which were identified, at the date of its inception, in Schmidt's criticisms, as well as in later criticisms based on Sweeney's writings. The profession went further to suggest it not only for information purposes as Schmalenbach did, but also as a statement of Standard Accounting Practice to be followed by listed companies.

1921 was the year in which German accounting literature first recognised not only the real capital maintenance concept but the physical one as well.

The failure of earlier writers on current value accounting was that they believed that accounting was intended to measure the capital at two points of time rather than to measure the profit between those two points. Thus an increase in the capital at the end of the accounting period over the capital at the beginning was considered as profit, regardless of when or how such an increase took place. In other words, these writers failed to distinguish between holding gains and operating gains.

My investigations suggest that Kovero in 1912 was the first writer who attempted to make such a

distinction, even though he failed to develop a physical capital maintenance concept, for he treated holding gains and losses as only transitory in nature. In spite of his work, Kovero is virtually unrecognised in the literature in English. Further investigation may reveal whether or not he wrote on the subject earlier than 1912 in Finnish, his native language, and whether he himself based his writings on earlier literature. This thesis has relied only on his writings in German. In this regard it is also surprising that he was not recognised by Schmidt, who further developed the same ideas and provided a systematic method of replacement cost accounting which has remained valid ever since.

It took 50 years for the work of Schmidt to be recognised in the literature in English, although he wrote two articles published in the 'Accounting Review' in the early 1930s. In my opinion the American writers, e.g. Sweeney and Edwards and Bell, in claiming priority within the development of accounting methods went simply unquestioned, because of the lack of interest in other nations' achievements, possibly due to language difficulties and/or a certain patriotic bias.

Most of our accounting literature considers Edwards and Bell's treatment of non-monetary assets as a unique contribution to replacement cost accounting, ignoring the fact that their work was not original but based

entirely on Schmidt, at the heart of whose replacement cost accounting is the recognition of the realised and unrealised holding gains and losses and the elimination of these gains and losses from the operating results. This distinction necessitates the calculation of all the cost elements of the assets consumed at the moment of their consumption i.e. sale, and the calculation of the unrealised holding gains and losses, i.e. the difference between the replacement cost as at the balance sheet date and at the acquisition or more recent revaluation date. Moreover, Schmidt did not accept the calculation of the 'absolute replacement cost' i.e. what an asset would cost in its existing condition, as was advocated by Geldmacher and Meissen, but proposed the concept of 'relative replacement cost', i.e. what the asset would cost if it were manufactured or bought at the moment of sale. And thus he took into account the possible technological and other developments during the accounting period.

Edwards and Bell not only copied Schmidt's ideas, but went further to mislead the readership in the following statement made as a footnote to page 27 of their book, The Theory and Measurement of Business Income, 1961.

> One key element which would appear to be missing is a concept of 'current operating profit'. Manufacturing operations are to be kept strictly on a historic cost basis;

> changes in the current cost of inputs are nowhere discussed. In our terminology, gains realized through use of assets whose price has risen while held by the firm are , in Schmidt's framework, included as a part of manufacturing or operating profits. While Schmidt's work therefore leaves a great many questions unanswered, ... it is an interesting early attempt to get at some of the basic issues involved.

Schmidt's examples, which are quoted unchanged in this thesis (pp.348-9), are an answer to the invalidity of their claim. It is also worth noting that Edwards and Bell, unlike Schmidt, omitted the treatment of backlog depreciation; and Professor Mattessich in his article of 1986 suggest a bias in favour of Edwards and Bell when he writes:

> Another question (raised in a letter to me by Professor Bell) concerns the important problem of backlog depreciation over the several periods. The following illustration .... is offered by Schmidt. It not only gives a comparison between CVA and acquisition cost, but also indicates that his backlog depreciation seems to be handled properly.

However, the area of Edwards and Bell's contributions is a mere combination of Schmidt's and Schmalenbach's ideas which led to the 'Real Term System' or real CVA, or the real financial capital maintenance concept.

The originality and achievement of Schmidt can also be demonstrated by comparing his proposals with those of the Sandilands Committee. Although there are differences between them in the area of assets valuation, i.e. Sandilands' 'value to the business' or

mixed values as against Schmidt's replacement cost or single value, the great similarities outweigh the differences, which seen in practice to be minor. The use of the 'value to the business' concept will result in the application of replacement cost in all the six possible cases resulting, except where an asset is worth using but not replacing or selling, i.e. RC>EV>NRV, where the value is its 'economic value'; and where an asset is awaiting sale without replacement i.e. RC>NRV>EV, in which case the value is its net realizable value.

On the other hand, the Sandilands Committee, unlike Schmidt, was of the opinion that the historical cost of stock based on the FIFO convention would provide a reasonable approximation to its value to the business. However, the Committee left the valuation of stock to be reconsidered by the accounting profession, which in its issues of ED 18 and SSAP 16 required the valuation of stock to be the value to the business. The similarities between Sandiland's and Schmidt's proposals show that in both methods:

a- the unit of measurement is money;

b- the capital maintenance concept is that of maintaining the business's productive capacity or physical assets;

c- the basis of assets valuation is the current market

price, the upper value limit of which is the replacement cost;

d- cost of sale and depreciation adjustment are required where no adjustment of monetary items is required, and thus the operating results are generated only from the sale activities;

e- realized and unrealized holding gains and losses are transferred to an undistributable reserve account;

f- backlog depreciation is based on year-end fixed assets values, and is to be transferred to the capital reserve account;

g- and finally, the most important feature is that current cost (Sandilands) or replacement cost (Schmidt) should be the only form of published accounts, and thus the historical cost-CPP based system is rejected out of hand.

Schmidt (Organische Bilanz, 1921, p. 157) asserted that if a company held monetary assets through a period of rising prices there would be a loss involved, represented by a reduction in the purchasing power of that money; and if it had monetary liabilities there would be a gain involved, represented by the repayment of the debt in less purchasing power. In his view neither the gains nor the losses should be regarded as a part of operating results, for they are pure adjustments and hence have the character of value changes in the

capital. Thus, such gains and losses should be recognised not in relation to the operating results, but in relation to the financial risks. As the surest way to avoid the financial risks which might face companies during periods of fluctuating prices, Schmidt suggested the value-balance approach (Wertgleichheit) which was based on the following rationale: If the borrowed capital is confined to financing the monetary assets only, there will be no gains or losses in purchasing power involved, for these gains and losses cancel each other out.

On the other hand, Schmidt included realised holding gains in his operating results only in the case where the borrowed capital had been invested in appreciating assets for speculation purposes. This gain was computed not by reference to the change in the general price level but to the difference between the sale proceeds and the acquisition cost plus interest, for the debt would be extinguished by payment of nominal monetary units. Schmidt took into account the change in the general price index only in the case where the speculative assets were financed by equity capital.

The gearing adjustment originated in Germany, when from the beginning of the debate on physical capital maintenance the latter seems to have found strong favour in business and accountancy circles. The gearing adjustment is also at the heart of the net-physical

capital maintenance concept developed by Sieben and Schildbach in 1973, and became the feature of the accounting standards published in West Germany, the U.K., and New Zealand thereafter. Given Germany is the country of origin, the assumed rationale can be seen in the following German statement:

> 'If external funds are committed to monetary assets the related inflation gains and losses cancel each other out. If external funds are, however, invested in non-monetary assets then it is assumed that the latter will also be replaced using external funds and thereby leaving the risk position unchanged. Accordingly the consumption of externally financed non-monetary assets can be measured in the income statement by using historical cost'. (Coenenberg and Macharzina, 1975, p. 61).

The above statement shows clearly the influence of Schmidt on current German thought.

As far as the treatment of monetary items is concerned, German thought is based on Schmidt's value-balance concept. And as far as the treatment of non-monetary assets financed from borrowing is concerned, German thought is based again on Schmidts 'speculation profit' concept, i.e. the profit is the difference between sale proceeds and the historical cost plus interest. In other words, while Schmidt confined speculative profit to being calculated on a historical cost basis, the net physical maintenance assumes that permanent assets, so long as they are financed by borrowed capital, have a speculative nature, thus

generalizing the Schmidt's concept of speculation profit to these assets too. Therefore the gearing adjustment merely aims at reporting higher profits at the expense of the reserve.

From the above it is quite clear that the basic idea of gearing adjustment is based on Schmidt's ideas. This could also be concluded from Sieben and Schildbach, who assert that Schmidt came very close to the net physical capital maintenance. But it is erroneous to conclude as Tweedie and Whittington do (Debate on Inflation Accounting, 1984, p. 30) that 'Schmidt developed the basic idea of the gearing adjustment beyond speculative assets. In fact, Schmidt was opposed to the inclusion of gains from borrowing, for such gains when distributed would affect the productive capacity to which he strongly adhered.

However, the disagreement on the way gains from borrowing should be calculated in the U.K., U.S.A., New Zealand, Australia and Germany reveals the lack of a common conceptual frame work for this purpose, which is to increase the reported profit figure by some accounting means, i.e. the gearing adjustment. This controversy supports the argument that gains from borrowing should be treated as pure adjustment, and not as a part of operating profit, and this gives weight to Schmidt's view of over sixty years ago.

Finally, it is worthwhile to answer a note making a recent comparison made between Schmalenbach and Schmidt.

Mattessich compares the stature and influence of Schmalenbach and Schmidt in Germany and Europe and writes as follows (with my underlining added): (1)

> It is characteristic of the gentle nature of Schmidt, and perhaps of Shmalenbach, that it never came to an open confrontation between the two. Schmidt seems to have been always very careful to remain in offensive, although occasionally he did refer, though cautiously, to his disagreement with Schmalenbach ..... Schmidt's position towards Schmalenbach (senior to Schmidt by nine years) must be understood in the light of the latter's eminent reputation in European accounting and business administration. It might not be an exaggeration to say that, in a way, Schmidt had to live in the shadow of Schmalenbach. The latter's charismatic personality, and the fact that in the thirties and even in the fifties, Schmalenbach's ideas were much easier to apply in actual practice than those of Schmidt, may be the key to three important questions. Why was Schmalenbach's major work more popular than Schmidt's? Why was Schmalenbach's Dynamische Bilanz translated into English (by Murphy and Most in 1956) while Schmidt's visionary work remained untranslated and is still hardly known in North America? .....

These comments and questions are misleading, and can be answered as follows:

1- We have already outlined in Chapter 4 that at the accounting conferences held by the 'Society of Economic Development' (Gesellschaft fuer wirtschafliche Ausbildung) in November 1921 in Frankfurt, and January 1922 in Berlin, Schmalnebach was the chairman, while

Schmidt was a member of the Index Committee. We have shown that the Committee of Conference gave Mahlberg and Schmidt the task of proposing alternative new methods for inflation accounting. We have also shown how Schmidt's proposal that the correction of accounts could only be possible by means of valuation at replacement cost using special indices for every individual enterprise was rejected in favour of Mahlberg's proposal on the 'gold Mark Balance Sheet', which was exactly what Schmalenbach had in mind.

However, the choice between calculation methods and index numbers was hotly debated (2), and Schmidt's bitterness can be felt in what he wrote:

> I have fought the gold Mark balance sheet with index computation since its inception, not in the sense that I do not recognise its advantages over the traditional method, but because it is, at best, capable of representing only wrong accounts as does traditional accounting in times of the so-called stable monetary unit. Schmalenbach and Mahlberg could not possibly achieve more (3).

Thus Schmidt and Schmalenbach came into open confrontation at least twice within two months.

2- Besides the above quotations and that presented by Mattessich (4), space does not allow here the quotation of the whole section, i.e. 'Income Measurement' according to 'Indexation Method', pp. 147-164 of Schmidt's second edition, 1922, in which he bitterly criticised Schmalenbach and his index method (both

paper and gold Mark). Moreover, similar attacks can also be seen in most of Schmidt's writings from 1922 onwards where they concern valuation at historical or adjusted historical cost, and even in his article published in English, where he does not refer to Schmalenbach by name (5).

3- It is a surprising conclusion to draw, that the "charismatic personality" of Schmalenbach gave an added advantage to his reputation and that hence this reputation might have been responsible for the translation of his work into English.

Surely it is an irrelevance and an under-estimation of his work to conjecture that the "charismatic personality" of this great thinker was operational to the growth of his reputation and popularity in his country or outside. It was demonstrably the quality of his work and his promotion of those new ideas, in particular his decimal 'Model Chart of Accounts' (Der Kontenrahmen) in 1927, which found favour and acceptance in Germany, Europe and even in Japan (6).

In spite of Schmalenbach's stature, it is misleading to suggest that Schmidt had to live "in his shadow". The plain fact is that Schmalenbach's ideas were in correspondence with the prevailing accounting thought and practice during the thirties and forties, which adhered strongly to the principles of historical cost of which he was one of the senior advocates. It

does not follow that Schmidt was a lesser Schmalenbach. He established a quite independent school of thought which attracted a number of brilliant accountants of the day __ notably Hax, Sommerfeld, Hasenack, and Isaac. His following increased rapidly, particularly during the sixties and seventies in Germany, and with modification his ideas have been incorporated into the recommendation of the I.D.W. in West Germany.

The two men were equally popular in the academic circles of their day, and both contributed greatly to German accounting literature, whatever their influence has been elsewhere.

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4- Mettessich, R. :Op- cit. p.

5- Schmidt, Fritz :Is Appreciation Profit?, The Accounting Review, Vol. 6, 1931, p. 4.

6- Professor Sieben of Cologne mentioned in discussion that the University is visited from time to tome by members of academic accountants from Japan, where there is a considerable interest in the work of Schmalenbach, at one time a Professor at this University.

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