Recording an Empire: An Accounting History of Imperial Chemical Industries Ltd 1926 - 1976

Jeff Pearcy

Published by
The Institute of Chartered Accountants of Scotland

First Published 2001
The Institute of Chartered Accountants of Scotland

© 2001
ISBN 1 871250 86 2

This book is published for the Accounting History Committee of
The Institute of Chartered Accountants of Scotland.
The views expressed in this report are those of the author
and do not necessarily represent the views of the Council of the
Institute or the Accounting History Committee.

No responsibility for loss occasioned to any person acting
or refraining from action as a result of any material
in this publication can be accepted by the author or publisher.

All rights reserved. No part of this publication may be reproduced,
stored in a retrieval system, or transmitted, in any form or by any
means, electronic, mechanical, photocopy, recording or otherwise,
without prior permission of the publisher.

Printed by Bell and Bain Ltd, Glasgow

Research Reports
Refereeing Process

The Accounting History Committee considers it is essential to apply a rigorous refereeing process to all stages of its research reports. The refereeing process operates by sending the research proposal to two independent referees (one academic and one practitioner), who thereafter remain in close contact with the project and are further consulted on the academic and technical standard of the eventual publication.

Panel of Academic Referees

Name	**Institution**
Professor J R Edwards	University of Wales College of Cardiff
Professor T Lee	University of Alabama
Professor M Moss	University of Glasgow
Professor C J Napier	University of Southampton
Professor L D Parker	Flinders University of South Australia
Professor R H Parker	University of Exeter
Professor G Previts	Case Western Reserve University
Professor S P Walker	University of Edinburgh
Professor P Weetman	University of Strathclyde

The Committee on Accounting History is grateful to all those who participate in the refereeing process.

Contents

Preface

This book has been written because during my career in ICI I was often puzzled about the antecedents of some of the hallowed ICI accounting procedures. After I retired I decided to find out more about these. In the course of doing so I discovered many things about ICI in its first fifty years which illuminated the attitudes of past years and some which threw a reflected light forwards to modern concerns. My particular interest was in accounting and in this area one has only to mention goodwill and reserve accounting.

ICI have been most generous in allowing me to browse at will through their archives and to talk to former colleagues. However, I must emphasise that my researches have inevitably been circumscribed by the accidents of history - many documents have been routinely destroyed - and by limitations of my own time and willpower. Any interpretations are my own, and in no sense an official ICI view. Equally, any errors are my own.

My grateful thanks are due to many former colleagues who have contributed their recollections and contemporary documents. I would like to mention in particular Albert Frost and Fred Hillebrandt, both former ICI Finance Directors, and the late Bertie Ogle, formerly Chief Accountant and Deputy Treasurer. For Divisional information many gaps were filled by Alan Spall, Norman Lawton and George Beale (Dyestuffs), Brian Walsh and Clifford Day (Paints), Norman Wood (Pharmaceuticals), Mac McDonnell (Fibres), Peter Barker and Fred Turnbull (Agricultural), Peter Kennington and Arthur Fryer (Mond), Brian O'Driscoll and Eddy Innes (Nobel), Gordon Barker, Peter Pritchard, Peter Collins and Bert Cooper (Plant Protection) and Don Hindson (Plastics). The late Sir William Slimmings and also Arthur Morison, past partners of Thomson McLintock & Co, kindly read the draft and contributed their recollections from their days as auditors. The project would have been stillborn without all this help. My thanks

are also due to Trevor Harrison, formerly General Manager - Planning, who first gave me the green light, and to Jean Ellis and Louise Donald who successively smoothed my path in arranging meetings and handling the voluminous first draft.

I have to thank ICI for permission to reproduce photographs and to quote from the archives and from Reader's 'Imperial Chemical Industries - a History'.

Finally, I have to express my sincere thanks to The Institute of Chartered Accountants of Scotland and its Accounting History Committee for agreeing to this publication.

Jeff Pearcy

Chapter One

A Brief History

Imperial Chemical Industries Ltd (ICI) was registered on 7 December 1926. Its formation was the biggest merger yet seen in British industry. It created an effective monopoly of the British chemical industry, and immediately ICI became a major player on the world stage.

How it came about, and how it progressed (and, sometimes, faltered) in its first quarter century is very well and fully described in Volume 2 of *Imperial Chemical Industries - A History* by W J Reader (1975). This report carries the story forward for another quarter century so that it covers the first fifty years, but from a particular standpoint: it is about ICI's accountants and their work. The accountants did not work in a vacuum. An accounting system takes its shape from the shape of the operation which it serves and to write a history of accounting in ICI is impossible without also writing in some sense a history of ICI - hence the title. For the years 1926 to 1952 the framework in which the accounting was carried out has been covered by Reader. Accordingly, it is in the main only those events during that period which directly affected the accounting that are described in this report. However, for the benefit of those who have not had the opportunity to study Reader the main events have been summarised and the story carried on to 1976.

The Imperial dream

ICI was formed by the merger of the four largest British chemical companies:

- Brunner Mond & Co Ltd;
- Nobel Industries Ltd;
- The United Alkali Co Ltd; and
- The British Dyestuffs Corporation Ltd. (British Dyestuffs)

It was inspired by two men, Sir Harry McGowan (Nobel) and Sir Alfred Mond (Brunner Mond): the story of how they planned it en voyage from New York to Southampton on *RMS Aquitania* is an oft-told tale.

With Nobel (explosives) and Brunner Mond (alkali) the dominant forces, the emphasis from the outset was on the heavy chemicals side, and especially on Brunner Mond's grandiose plans for ammonia synthesis (for fertilisers) at Billingham, County Durham. United Alkali was ripe for rationalisation within Brunner Mond's alkali world, and British Dyestuffs were accepted into the fold with encouragement from the Government.

The word 'Imperial' in the title was deliberately chosen: Nobel (with du Pont and the Germans); and Brunner Mond (with Solvay *et* Cie) had long standing world-wide agreements with competitors to regulate markets. They both believed that this was the proper way to manage competition in an orderly manner. The British Empire was their domain.

Sir Alfred Mond made clear at the first Annual General Meeting the broad policy ICI was following in its international relations - a policy which survived until the Second World War.

> *We have friendly relations with Solvay's and Du Pont's. The old idea of the heads of great businesses meeting each other with scowls and shaking their fists in each other's faces and engaging in trying to destroy each other's business may be very good on films, but it does not accord with any given facts. The alliance of great companies operating on huge scales with every kind of interest and working in harmonious co-operation renders it possible to have exchange of information as regards methods of business and new ideas, and we all do better by working in that manner than by following the old-fashioned idea, which made every one in the same business a kind of enemy. We have laid it down as a cardinal fact that we are the guardians of the national safety in the way of the production of chemicals, and that we are the guardians of the development of the chemical industry of this country and the Empire. The British Empire and Great Britain are one and indissoluble.* (Chairman's speech at Annual General Meeting, 31 May 1928)

Already before the merger Nobel had started to diversify away from the sluggish explosives industry into uses of nitro-cellulose for leathercloth, paints and lacquers, and into non-ferrous metals primarily for the motor industry. Brunner Mond had not moved as far as Nobel, but as well as the Billingham project it and United Alkali already had interests in electrolytic caustic soda and chlorine and in acids.

British Dyestuffs had been formed essentially as a defensive amalgamation to combat the strength of the Germans in dyestuffs and fine chemicals generally, but was not well endowed with cash.

The dominance of Nobel and Brunner Mond in the merger was emphasised from the beginning, with all the executive directors coming from these companies. Sir Alfred Mond became Chairman and Sir Harry McGowan President: these two were the joint Managing Directors 'with all the powers of the Board'.

Why merge at all? The reasons were very clear: to establish a British chemical industry which could speak on equal terms with the Germans, I G Farbenindustrie (IG); and with the Americans, du Pont and Allied Chemical and Dye. By means of international agreements ICI would have exclusive rights in the British Empire, leaving Europe to the Germans (subject to the soda ash rights of the Solvay group, headed by Solvay *et* Cie in Belgium) and the US to the Americans. Long drawn out negotiations, however, with the IG during 1927 came to nothing. The IG wanted to dominate the world - and in America an extension of the earlier Nobel-du Pont axis into ICI was achieved only at the expense of the Brunner Mond-Allied Chemical relationship: the shareholding in Allied was sold. The outcome, therefore, of these protracted manoeuvres was simply a continuation of the Solvay agreements on alkalis and the signing in 1929 of an agreement with du Pont to share process and patent information.

Depression and cartels

Compared with the UK's basic industries of coal, cotton, heavy engineering and shipbuilding, ICI rode well the effects of the world depression of 1929-31. Nevertheless, the effect was severe: the number of UK employees had risen to 57,000 in 1929 from 33,000 at the time of the merger, but fell to 36,000 by 1932 (thereafter the number grew steadily to a peak of 131,000 in 1951: in 1976 it was 125,000). The price of ICI ordinary shares fell from 33/6d in 1929 to 9/10½d in 1931. Capital expenditure was cut from £11 million in 1929 to under £1 million in 1932. In 1931 British Dyestuffs lost nearly £200,000 on capital of £5.5 million, and Billingham, on capital of £22 million, made only £45,000.

Apart from Billingham, ICI's recovery from the depression was relatively quick: by 1933 sales and profits were higher than ever before. The recovery was helped by a partial change in direction at Billingham from fertilisers to oil-from-coal - economic only because it utilised some surplus fertiliser plant and, after much negotiation, it had Government protection.

Economic nationalism, however, held sway - a prime example being Nazi Germany. In these circumstances imperfect solutions were found in a network of international agreements to regulate competition, share markets and control output covering all the major chemical products. Behind a protective tariff barrier British Dyestuffs research gained strength, enabling it to bargain strongly in the negotiations which led to the dyestuffs cartel with the German IG, the Swiss IG and Kuhlman (French) which was signed on 26 February 1932. The dyestuffs cartel sat alongside the world-wide Nitrogen Cartel of 1930, the IHP agreement (relating to oil-from-coal) of 1931, the Solvay and Alkasso (US) alkali agreements inherited from Brunner Mond and the du Pont relationship inherited from Nobel.

The pattern, therefore, was set down to 1939: under the control of Mond and McGowan, ICI would supply the chemical needs of the UK and the British Empire. Europe would be left to IG and Solvays, US to du Pont, and as far as possible supply to the rest of the world would be matched to demand. There were some producers, such as the Japanese, who would insist on competing, but if possible they would be bought off.

War

Gathering international gloom led in 1935 to the decision by the government to start rearming. In turn, this decision impacted on ICI. Agency factories were financed by the government and constructed and managed by ICI for modest fees. Between 1937 and 1939 18 factories were set up and before the end of the war the total reached 25. As well as this activity ICI made direct and indirect sales to government which, in 1941 for example, exceeded sales to other customers. The profits, however, were moderate and were heavily taxed, so that there was no benefit to ICI's net income.

Many of the products involved were in ICI's normal range such as explosives, ammonia, chlorine, *etc*, but some were new, like light alloys, polythene, 'Perspex', agricultural chemicals, pharmaceuticals and poison gases (of which some were made but none used).

There were also developments overseas. Canadian Industries, ICI Australia and New Zealand, and African Explosives and Chemical Industries all set up new plants to meet war-time demands.

ICI also played a big part in the early stages of developing an atomic bomb, before the work moved to the US. ICI also put up a case for undertaking the development of nuclear energy but perhaps fortunately for ICI, the government turned this down.

Research and technology

A modern chemical company must be alert to rapid changes in technology. This is often thought to be a recent phenomenon. However, Sir Alfred Mond had this to say in 1929 about a visit to the United Alkali works at Winnington:

> *The old familiar friends which I have always adored and loved so, the dear old great big steam engines and blowing engines and plant of that kind which were moved backwards and forwards and used to be my childhood's joy, have disappeared. Twenty-five engines have been replaced by one small and apparently insignificant electric*

blower, which, for a very small part of the capital and working cost, does the work which those great and impressive machines used to do ... . (Chairman's speech at Annual General Meeting, 18 April, 1929).

Curiously, the process of gathering power into the centre which was evident in so many activities did not have much impact in the field of research until 1934, when a Research Committee was set up to oversee ICI's research effort. True, there were research budgets and Mond wanted ICI to go in for research on a large scale, but there was no overall group view despite the fact that expenditure had grown from some £350,000 in 1928 to £750,000 in 1931 and was to reach £1,000,000 in 1937.

Along with the increase in the total, the balance changed, with gradually more emphasis on dyestuffs, plastics and organic chemicals generally. One of the earliest major decisions, however, by ICI had been to press ahead with fertiliser production at Billingham based on synthetic nitrogen: in 1927 plans were laid which would involve capital expenditure of £20 million. Alongside this venture, Mond put his weight behind agricultural research - which would naturally show the need for much greater use of synthetic fertilisers in Great Britain and the Empire! According to Professor Sir Frederick Keeble, head of this activity, 'we have built up an imperial general staff for agricultural research'.

Before the war the seeds of the future technological revolution were just discernible. For example, behind a protective tariff barrier and a cartel agreement, British Dyestuffs flourished in the Thirties. But the strength of the IG's patents inhibited progress on new dyestuffs and the Division branched out into other markets such as rubber chemicals, resins and lacquers, agricultural pesticides, pharmaceuticals and (unsuccessfully) photographic films.

Plastics were another growth area. Thermosetting plastics - 'Bakelite' and urea formaldehyde - were attractive to ICI because they were based on existing products of Billingham, and there was a growing demand for them in the Thirties. As early as 1927 there were proposals for ICI to 'control the plastics industry within the Empire', but these came to nothing. Finally in 1933 ICI bought Croydon Mouldrite Ltd. The setting up of the Plastics 'Division', really a co-ordinating committee, followed. Then 'Perspex' was invented, however, typically in those pre-war days its marketing was surrounded by defensive agreements for existing products with Triplex (safety glass) and Pilkingtons (glass) and it was only the coming of the war which allowed it to take off. Polythene was invented at Winnington in time to be useful in the war, but was for a while guarded jealously there. By the end of the war PVC had also been developed, and the bringing together of these products gave Plastics Division a sound base.

ICI's production, however, was still biased towards the 'heavy' end - alkalis, explosives, fertilisers, and coal took precedence over oil as fuel and a raw material.

Post-war planning started as early as January 1942, when a Post-War Committee was set up. Many new products were already there, or were on the horizon, after the war, and most of these were organic. This burgeoning demand for heavy organic chemicals was already foreseen in 1938, but the only concrete outcome at that time was a co-operation agreement with Distillers, signed in 1939.

The years after the war through to 1976 saw the switch to oil for fuel and as the raw material for many of the exciting developments in plastics, fibres, chlorinated compounds and organic chemistry generally. In 1943 the outline of post-war development was beginning to take shape, with requirements for hydrogen, ammonia, synthetic phenol, *etc* for, for example, nylon polymer. The principal requirement was for large quantities of the basic building blocks - acetylene, ethylene and propylene, collectively known as heavy organic chemicals because of the tonnage involved. Electrolytic chlorine was also needed. The Wilton site near the mouth of the Tees met all the requirements for access to salt deposits, cheap fuel, and nearness to the sea for imports and exports and for effluent disposal. Two decisions in 1945 underlay the decision to go ahead at Wilton - that ICI should use oil as its main organic raw material and that it should put up its own cracker rather than relying on the oil companies. Both decisions were reinforced by the 1945 Budget which withdrew the 'inconvenience allowance' which had sustained the

Distillers company's production of alcohol and also the import duty on hydrocarbons used for chemicals.

Wilton Works was opened on 14 September 1949. The typical look of a chemical plant was transformed. Instead of coal fired boilers, dust, smoke, steam, noxious fumes and bubblings and hissings from mysterious vessels enclosed in brick buildings there was the new shiny image exemplified at Wilton - more like an oil refinery with stainless steel pipework and vessels open to the air. Not all changed, however, the Solvay towers at Winnington would have been familiar to Brunner and Mond, and the massive carbon arc carbide furnaces of General Chemicals Division were post-war erections.

Along with the changes in processes came the scaling up. Plastics production, for example, was measured in hundreds of tons before the war. This became thousands in the 1940s and tens of thousands later. It became the technical orthodoxy that to compete on a world scale one must have world-scale plants - and on the whole, the bigger the better. The investment in a single plant could be tens of millions of pounds. ICI's competitors were working on the same lines, and with the apparently limitless growth in demand there was an international race to build up capacity - with dire results when a recession came.

Another newcomer was computer control from central control rooms, with only an occasional maintenance man visible on the plants. This depended on improved instrumentation, which in turn helped the accountants: in chapter ten we notice that both Billingham and Paints Divisions only achieved accurate costings when plant records were improved, and attempted standard costing at Leathercloth Division did not overcome the hurdle of deficient records.

Growth

Before the war growth was patchy. The troubles at Billingham are noted later, and on top of these came the depression. Appendix 4 charts the size of ICI in terms of capital, sales and profits, from which it will be seen that the big expansion came after the Second World War.

The Billingham problem was that having spent a lot of money to make the fertilisers, ICI found it could not sell them. In the UK there were entrenched interests such as those of the corn chandlers, who wanted the highest profit for themselves. Overseas there was world-wide over-capacity, exacerbated by the inter-war depression presumably. We have seen how cartels were the partial answer to the problems.

When war broke out ICI's business was governed by some 800 agreements. Three cartels regulated world trade in nitrogen, dyestuffs and hydrogenation products. Alkali was governed by the ICI/Solvay agreements, the US Alkali Export Association and the Russians. Underpinning them all was the Patents and Processes agreement with du Pont. All except the du Pont agreement were swept away by the war, largely because of the involvement of IG one way or another.

Before the war ICI had thought that, doing no business within the US, it was immune from attack under the US anti-trust laws. It received a rude shock in 1939 when officers of ICI New York were summoned to give evidence about the nitrogen cartel. On that occasion ICI got off lightly, but opinion was also moving against cartels in the UK. In 1944 the government proposed that they should be examined to see whether they operated against the public interest. In 1944 the US also moved against the du Pont agreement and the joint ICI/du Pont companies in Canada and South America. The lengthy case resulted in the termination of the Patents and Processes agreement in 1948 and the break up of the joint companies. The cornerstone, therefore, of ICI's - and before that, of Nobel's - foreign policy was swept away.

The war did three things: it had freed ICI from the shackles which had bound it to the British Empire; it had revealed new fields to be conquered (the development of polythene is a good example); and it had held back ICI because of the demands of the war effort.

With the war over, the divisions faced huge demands for all their products, old and new. The large divisional plans for post-war expansion, added to the need to finance the enormous backlog of maintenance, were causing concern to the Capital Programme Committee in 1952 because of their calls on cash. The future of all the Divisions was reviewed and, for example, in discussions with Alkali Division the possibility was canvassed of setting it up as a separate company which could borrow in its own right. Serious difficulties, however, were envisaged in its future relationships with the rest of ICI. Another possibility would be to announce that ICI was not prepared to go on meeting the whole UK demand for alkali indefinitely - this announcement was in fact made for sulphuric acid and chlorine. On the whole the conclusions, however, were to carry on as before.

McKinsey & Co, the management consultants, noted in their report on ICI in 1962 that turnover had multiplied in real terms by two and a half times since the war, and within this, turnover outside the UK, which was 30% of the total in 1947, had grown to 46% in 1961. By 1976 it was 61% out of turnover which had multiplied by a further two and a third times.

The aftermath of the war, however, was still being felt as late as 1953. It is recorded:

> *Trading in a number of important raw materials, including non-ferrous metals, sulphur-bearing materials and certain oils, was returned from Government control to private enterprise ... the abolition of steel control was a great help to the Company's construction programme.* (ICI Annual Report, 1953)

By contrast, the cold war was having its impact:

> *... more than 5,000 members of the Industrial Civil Defence Service are now in regular training in the Company's factories.* (ICI Annual Report, 1953)

Overseas

When ICI was formed, Nobel and Brunner Mond already had experience of economic nationalism. Successful export businesses encouraged demands for local manufacture, and if, for whatever reason whether small scale, lack of local resources, *etc*, the local manufacture was not competitive then there followed devices such as import duties and quotas. The exporter was, therefore, forced to set up local manufacture or lose his trade altogether. The problem was severe. ICI's exports in the 1930's were about one third of total sales, mainly, alkali, fertilisers and dyestuffs. In the aftermath of the depression the world became more protectionist and nationalistic so that there was more pressure to develop indigenous manufactures. In 1935 ICI, reluctantly, decided that it had to consider erecting more plants overseas. The British Empire was still the focus and the Chairman announced plans to erect plants in Australia and India.

By 1937 about 8% of ICI's capital employed was in overseas manufacturing plants in Canada, South Africa, Australasia and South America, jointly owned with du Pont in the case of Canada and South America and with De Beers in South Africa. This was a small proportion compared with approximately 22% tied up in exports, mainly manufacturing plant in the UK but also merchanting companies abroad. Profits on this exporting business were minimal.

The manufacturing companies in South Africa, Australia and Canada were based initially on explosives but gradually developed as 'mini ICIs' but without exports. It was understood that du Pont and IG would keep out of ICI's way in the Empire if ICI stayed out of the US and Europe. South America was fair game for all three, but it was ICI and du Pont together who set up manufacturing companies in Brazil and Argentina.

The advent of the Second World War meant that ICI's efforts were largely concentrated on the war effort. Exports were maintained so far as possible, but of course the pre-war links with various companies in Continental Europe, and in particular with IG and the explosives companies, were severed. After the ending of the war in Europe contacts were re-established, but there was the tricky question of whether ICI's former partners were in any way involved in collaboration with the enemy. The Overseas Controller wrote to the Department of Overseas Trade in March 1945 to try to clarify that ICI were not responsible for checking this, and he attached to his letter a list of companies in which ICI had a shareholding. The only manufacturing companies which ICI owned 100% were Fermeture Eclair in France, making slide fasteners, and Bickford & Co in Austria, making slide fasteners and safety fuse.

This exchange of correspondence enabled the Secretary to write to Divisions encouraging them to resume their contacts but to be careful not to enter into any long-term commitments without referring to Head Office. In fact, as early as 1943 the Board minuted that 'a much broader connection between Solvay and ICI was worth very careful consideration as a means of strengthening the position of both companies in the confused conditions which would prevail after the war'. A draft agreement was to be prepared which would have to be harmonised with the du Pont and other agreements. The post-war climate, however, was different: the pre-war collaboration with du Pont, IG and others had ceased.

ICI, however, did not immediately abandon its pre-war policies. In the Chairman's statement in the Annual Report for 1945 Lord McGowan, commenting on recent American proposals, said:

> *In the past the Company has been a party to various international agreements: some involving an exchange of patent and process knowledge in defined fields; some involving purely marketing arrangements; and others involving a combination of the two. In general, the Board is of the opinion that there is room, and indeed need, in international trade for arrangements of all these types, according to the particular circumstances involved. It does not subscribe to the view that agreements involving a division of markets and terms and conditions of sale necessarily have a limiting effect on the total volume of world production and trade.* (ICI Annual Report, 1945)

In fact, co-operation with Solvay's still proceeded. In 1949 the joint ICI/Solvay policy was minuted. There would be technical collaboration on the ammonia/soda and mercury cell processes. The commercial policy would be to maximise the consumption of alkali, where there was already local manufacture by one party, they would have priority in development, but where local manufacture was not well developed the other party could participate.

Even as late as 1961 there were earlier pre-war long-term arrangements that needed tidying up. In 1921 Nobel Industries had acquired an interest in Union Espanola de Explosivos SA, a Spanish company which produced potash fertilisers. In 1931 ICI had become their sole selling agent in the British Empire and Syria. After the war there was no reason to keep the investment, but it was not until 1961 that it became practicable to sell it. Also in 1961 the remaining shares in International Nickel Company of Canada, bought by Nobel, were sold.

In the early 1950s the segregation of the joint ICI/du Pont interests in Canada, Brazil and Argentina was being implemented, with du Pont taking the nylon, 'Cellophane' and polythene plants in Canada, explosives in Brazil and rayon, nylon and cellulose film in Argentina. These countries, plus Australasia and (jointly with De Beers) South Africa still contained almost the whole overseas manufacturing activity. There were some plants in India, Pakistan and the US, but out of total Group fixed assets of £264 million, £235 million (89%) were owned by the Company in the UK. By 1976 the UK proportion of assets employed had fallen to 62%.

ICI was slow to move into Continental Europe. The reasons are hinted at earlier. Before the war, there were agreements with the Continental manufacturers of explosives, dyestuffs and alkalis that ICI would keep out of Europe. These agreements went by the board in the war, but the pre-war attitudes still persisted afterwards. For example, Alkali Division renewed their contacts with Solvay's and although the pre-war formal arrangements were not revived, there was a reluctance to encroach on what was still seen to be Solvay territory. Frost recalls that, as a member of the Alkali Board, one of the last things he said to them was that there would have to be a change of attitude - they must be in Europe. (Albert Frost, a barrister, carried forward the tradition of Finance Directors who came from the Inland Revenue).

The full recognition that the UK plus Continental Europe was effectively one market was slow in coming. Manufacture on the Continent was mainly established by ICI building its own plants rather than by acquisition. Nevertheless, by 1962 exports to Western Europe equalled exports to the Commonwealth and by 1976 sales in Continental Western Europe were second only to the UK.

In contrast to Europe, expansion in the US was founded on acquisitions. ICI acquired its first plant in 1950 when it bought 70% of Arnold Hoffman & Co Inc, a dyestuffs manufacturer. The real expansion, however, started with the acquisition of Atlas Chemical Industries in 1971. Atlas had a large and growing pharmaceuticals business as well as other chemicals and explosives businesses. ICI had to agree to divest itself of the explosives business because of US anti-trust worries, although it seems unlikely that the business was big enough to threaten to become a monopoly. It may be that there were lingering suspicions from the old Nobel days. (ICI, in 1990, got back into explosives in the US by buying back the Atlas Powder Company.)

The allocation of capital expenditure gives an indication of the predominant manufacturing centres: in the period 1945 to 1953 only £25 million (12%) out of the £213 million capital programme went overseas, whereas in 1976 the sanctions for expenditure on fixed assets were split:

	£ MILLION	%
United Kingdom	268	52
Continental Western Europe	56	11
The Americas	147	28
Other	45	9
	516	100

People

There were initially fears on the employees' side that the merger, with its attendant rationalisation, would create widespread unemployment, but these fears were not realised. In 1927 and 1928 only 1,934 employees were displaced out of some 40,000. Brunner Mond had a long tradition of paternalism to its employees, and Alfred Mond carried this over into ICI. A system of Works Councils was set up, where management and employees met round the table at each works. Then there were General

Works Councils for groups of factories and a Central Works Council where the representatives met the Directors. Despite the fact that discussion of wages and conditions of work was taboo, this system did allow the highest and the lowest to mingle and undoubtedly helped to preserve the good industrial relations traditional in Brunner Mond.

Other actions which helped were the publication of the monthly ICI Magazine, the offer to employees of shares at a discount and the Staff Grade scheme whereby workers with five years service were given better security of employment.

On the management side there was a sharp contrast between the public school atmosphere at Brunner Mond, deliberately nurtured in the Winnington Hall Club in order to attract graduates into the industry, and the more workaday attitudes in Nobels, United Alkali and Dyestuffs. This contrast persisted for many years despite some dilution as people moved around the Group, and it was really only well after the Second World War that it finally wore off.

Despite these differences at the periphery, general personnel policy and, in particular, wages, salaries and conditions of service, was controlled from the centre in the shape of the Central Labour Department and Central Staff Department. The preponderant force, however, of Brunner Mond and Nobel meant that it was mostly their managers who found their way to the top.

After the war it became steadily more difficult to justify the differences in treatment of 'staff' and 'workers'. Workers clocked on whereas staff did not. The workers' standard week was 48 hours compared to the staff week of 40 hours. Staff were entitled to more paid holidays and the pension fund was better for the staff than for the workers. It would take many years to eradicate these differences, but the seeds were sown during the war. It was also becoming more difficult to resist official recognition of the unions, and ICI bowed to this pressure after the war.

The Employees' Profit Sharing Scheme is described in chapter four because it brought with it some new accounting conundrums, but other matters touched only marginally on the accounting. This is not to deny their importance: the introduction of the Weekly Staff Agreement aimed at breaking down job demarcation; the development of joint consultation with the monthly staff; the formation of a single Central Personnel Department; and many other initiatives showed that the concern for employees was genuine.

At the time of increasing inflation, high taxation and wage freezes in the late 1960s and early 1970s the problems of motivating staff were acute, to the extent that staff were declining promotion because they would get nothing out of it. ICI decided that it had to expose the problem. The politically inspired requirement to report the numbers of staff earning over £10,000 *pa* was used to demonstrate that whereas in 1967, when the number was first reported, there were 55 such staff, in 1976 after allowing for inflation the corresponding number was nil.

Closely related to concern about staff, but wider in its scope, was concern about the environment. This embraced safety at work, safety of products for the users, and avoidance of pollution both from the products and the effluents. ICI's two laboratories in Cheshire and Devon, which specialised in these matters, received frequent mention in the annual reports.

Textiles

The textile industry had always been important to ICI as consumers of dyestuffs, alkalis and various other chemicals. When ICI, however, started to make synthetic fibres - first 'Ardil' and then nylon and 'Terylene' - it came into closer contact.

ICI had a long-standing customer in Courtaulds and before the war it was understood between them that ICI would keep out of fibres and Courtaulds would keep out of chemicals. ICI, however, was working on 'Ardil' in 1937. Courtaulds rightly decided it did not interest them and eventually, but not until after the war, ICI gave it up. Nylon then appeared in the late thirties and, in 1939, the formation of a joint company was agreed - British Nylon Spinners (BNS). Development, hindered by the war, started in earnest in 1945 with the sanctioning of some £7 million capital expenditure. The critical point leading to eventual breaking with Courtaulds came when in 1944 ICI agreed with The Calico Printers Association to develop 'Terylene', for which the first production plant was proposed in 1950. The actual breakdown, however, was delayed and relations between ICI and Courtaulds were yet to go through various vicissitudes.

A storm blew up in 1961. Courtaulds and ICI had since 1940 been joint owners of BNS, which had turned out to be a highly profitable company. There were, however, continuing rumblings of discontent. ICI supplied the polymer to BNS at prices which gave only a modest return on capital, and the break in the chain from raw materials to spun fibre was seen as obstructing technical progress. Courtaulds were inhibited in their own developments, in particular of Nylon 6, and were envious of ICI's exclusive possession of 'Terylene'. Discussions over a long period failed to solve the problems and finally ICI made an offer for Courtaulds, giving the shareholders the option of taking Ordinary stock or convertible loan stock.

Unfortunately for ICI, Courtaulds, which had been seen as something of a slumbering giant, was able to show that its profit decline had been arrested and it was now on an upturn. Chambers had been negotiating with their Deputy Chairman, but now there was a boardroom revolution. They mounted an emotive defence and ICI finished up with only some 38% of Courtaulds. The situation was now apparently worse than before, but ICI had gained a useful bargaining counter and ultimately, in 1964, it was agreed that ICI would give up its shareholding and Courtaulds would quit BNS. ICI also agreed as part of the deal to pay Courtaulds £2 million a year for five years 'towards its future capital expenditure in the nylon field.'

The whole affair was not only unfortunate for ICI but for Chambers as well. In Frost's opinion he was the best Chairman ICI had. He had brought back capital budgeting which had lapsed during the war, and he looked ahead to the time when ICI would be fighting for markets and profits instead of enjoying the post-war luxury of allocating its products to customers. It has to be remembered, however, that most of the ICI executive directors were past chairmen of divisions, and they had to make a big adjustment on becoming directors of a public company. A bid for another large public company was a new departure, and it was seen by many as a personal initiative by Chambers, as Chairman he had, in any case, to bear the brunt of the publicity.

During the 1960s ICI was becoming increasingly worried about the state of the UK textile industry, because depression in that industry hit both ICI's traditional substantial trade in dyestuffs and alkalis and its new interests in nylon and 'Terylene'. ICI decided that it had to involve itself in trying to help modernise and rationalise the industry, and it set itself on a course which was going to lead to much trial and tribulation.

In 1963 money was invested in English Sewing Cotton to enable it to buy Tootal, more money was put into Viyella to acquire British van Heusen, and yet more into Carrington & Dewhurst. The story continued in 1964 with investments in Klinger Manufacturing and Lister: by the end of that year the investments totalled £26 million. The policy continued until in 1969 it began to crumble when there was a sharp downturn in the industry.

The first major result was the acquisition of Viyella International Ltd, a company in which ICI had invested in 1963 and sold out in 1967; it had a reasonably steady profit record through to 1969 and net assets of £28 million. At the same time ICI had been advancing money to Carrington & Dewhurst Ltd, which in 1968 had embarked on an ambitious expansion programme. It too had a reasonable profit record through to 1969 although there was an ominous loss in the German subsidiaries. Viyella managed still to make profits in spite of the downturn, but Carrington & Dewhurst was hard hit, to such an extent that it ran into losses and exhausted its borrowing powers.

In September 1970, therefore, a merger was proposed of Viyella and Carrington & Dewhurst which the shareholders of the latter company could hardly refuse. The government were worried that ICI was establishing a monopoly position in textiles. It made a condition that ICI would reduce its 64% shareholding in the combine to 35% as soon as practicable and if this had not happened within a year, to exercise not more than 35% of the votes. ICI also gave assurances that it would not interfere in the management of Carrington Viyella, and in particular not influence its choice of fibres. ICI was, therefore, left in the uneasy position of having a large 64% subsidiary which it could not control, as well as having to pump more money in to try to save the German subsidiaries.

In 1971 more money was put into the acquisition of Qualitex Ltd (which had merged with Klinger in 1969). It was already making losses and a provision of £18 million was made against the investment. At the same time the £39 million goodwill arising from the BNS acquisition was written off.

With world-wide over capacity and pressure on prices, conditions were still difficult. Ultimately, the textile investments were sold and ICI's own fibre manufacturing activities reconstructed. It took a long time for these things to happen, and heavy losses had to be borne. In 1976 provisions of £36 million were set up, and even then fibres were not out of the wood.

Metals

In this report there is little discussion of the metals business. There are two reasons for this: first, to quote from Reader's *Imperial Chemical Industries - A History*: 'Metals Division had never fitted easily into a business concerned with the chemical industry. The technology was different, the labour relations were different, the whole atmosphere in which the business was carried on was different, and Metals had always been run more or less as an independent enterprise'. It can be added that the accounting, too, was different.

The second reason is that at the time of writing IMI, the former Metals Division, had been an independent public company for many years, with no connection with ICI, and had developed into a world-wide group in its own right.

The suggestion that Metals should be turned loose had been made before the war. From time to time, and especially when ICI was short of money, there was a recurring concern that ICI had more than enough to do in managing its chemical affairs. There was also a growing feeling in Metals Division that its link with ICI was a hindrance rather than a help. It was not until 1962, however, that the first step was taken by forming the Division into a separate company, Imperial Metal Industries Ltd (IMI).

This caused 'considerable and very prolonged argument' with the auditors about the comparative 1961 figures in the company accounts. The auditors wanted the comparative figures to be amended, but they were eventually persuaded that explanations in the notes would be sufficient.

For the time being IMI remained wholly owned, but in 1966 10 million Ordinary shares, 10.4% of the capital, were sold to the public. One accounting effect of this was that IMI, now being a listed company, had to publish its results. Moreover, this had to happen not later than the publication of ICI's own results, which would include IMI. IMI was, therefore, put under considerable time pressure. Its first announcement, for 1966, was dated 15 February 1967, when it was able to report profits after tax of £3.46 million, exceeding the forecast of £3.09 million made when it went public. In 1975, however, the profit had grown to £8 million.

In 1977, by which time ICI's holding had been reduced to 62.8% because of issues for acquisitions, the whole of ICI's shares were offered for sale. The IMI Group was now very large: it had over 100 subsidiaries; made sales of £400 million and pre-tax profits of £30 million; and employed 32,000 people. The prospectus said:

> *ICI shares the confidence of IMI in the future development and expansion of IMI's business, but ICI has decided that it should further concentrate its activities in the chemical and related fields and that it would now be in its best interests to sell this investment and to redeploy the resources realised of approximately £64.5 million in the mainstream of its business.* (Offer for sale of IMI shares, October 1977)

From Imperial to multinational

From the beginning ICI was big business, both nationally and internationally. In its early days it had to face the tribulations of the depression and it was just emerging from that when the war came. By the end of the period, however, ICI was firmly established in the world. In 50 years it had grown enormously:

	1927		1976
	£M	Equivalent £M of 1976	£M
Sales	27	226	4,135
Assets employed	73	612	3,519
Employees	47,000		192,000

In 1961 Lord McGowan, very much the founding father of ICI, died, but his vision of a world class chemical manufacturer based in the UK lived on.

Chapter Two

Part 1: ICI Organisation

We have already noted that to be of any use an accounting system has to match the organisation of the entity which it serves. Any business organisation is different from any other, and ICI was in its origins as unique as any. Before we begin, therefore, to study the accounting, we shall look first at ICI's organisation.

1926 to the 1930s

The initial organisation and later changes in ICI to 1952 are documented in *ICI - A History* by W J Reader and accordingly they are only briefly described here. The general theme until after the Second World War was control from the centre. Two quotations are worth repeating. The first comes from a report by J G Nicholson in 1936 (Nicholson was McGowan's right-hand man on the commercial side):

> *So long as the Chairman dictates the selling prices, so long as ICI controls its finance, so long as the Groups are dependent on an ICI purchasing organisation, the Groups cannot regard themselves as solely responsible for their profit and loss account. This investigation ... has disclosed that Groups tend to allow their own profit and loss account to affect their judgment with regard to ICI as a whole.* (Reader, p.235)

The second quotation, again from Nicholson, this time in 1943, shows that little had changed:

> *The Groups were tempted to be influenced by their own immediate Profit and Loss Account, without sufficient broad-minded consideration for the future.* (Reader, p.365)

Before going any further we must pause on the word 'Group'. In ICI it has, over the years, meant at least four different things. The first use of it came in 1929 when the decision was made that it was not practical to run all the companies directly from the centre, and Groups of companies were set up, each with a 'unit' company which would take over the other companies in the Group. These Groups, the forerunners of the Divisions, were Brunner Mond, General Chemicals, Dyestuffs, Lime, Billingham, Leather Cloth, Metals and Explosives (the Salt, Paint & Lacquer and Plastics Groups were added later in the Thirties). Then in 1944 its meaning changed when related Divisions, as they were now called, were brought together into six Groups, each with a Group Director on the main ICI Board.

The third use of the word came in 1963 with the advent of Control Groups. These were committees of the main Board each charged with looking after three Divisions. Alongside these three meanings there was the whole ICI Group of the parent company and its subsidiaries[1].

To go back to the beginning, two of the four founding members already had a history of amalgamations and takeovers, although the reasons for them were different. United Alkali was a defensive coalition formed to combat Brunner Mond's low-cost soda ash. By contrast, Nobel had been a hugely prosperous company which had absorbed other explosives manufacturers and branched out into non-ferrous metals, paints and leathercloth.

Much of the initiative for the formation of ICI came from Sir Harry (later Lord) McGowan of Nobel Industries. Given the dominant position of McGowan in the merger it was natural that Nobel's habit of firm detailed control from the centre was adopted in ICI. Commercial activities demanded central control because international commitments, which included market sharing by quotas and price, had to be fulfilled. Brunner Mond in a lawsuit brought by Lever Bros had suffered the disastrous consequences of slipping up. Similarly, much of the accounting systems and policies came from Nobel. In this atmosphere the factories were looked to for low-cost production and their costs were closely scrutinised in the centre. They had no significant powers otherwise, even though many had formerly been separate companies controlling their own destinies.

If Nobel was the dominant force in the merger, what voice did the other three parties have? Brunner Mond was a prosperous company with a strong engineering tradition and enlightened personnel policies. It had recently embarked on the oil-from-coal project at Billingham, of which it had great hopes. Sir Alfred Mond (later Lord Melchett), the reluctant chairman of Brunner Mond, became Chairman of ICI and the other executive Directors of ICI came equally from Nobel and Brunner Mond.

United Alkali was faced with mounting competition from Brunner Mond, and its interest in the merger was purely defensive.

The British Dyestuffs Corporation was the beggar at the feast and its esoteric manipulations of small batches of many different products was strange to the others. It dealt in pounds when the rest dealt in tons and was left, very largely, to carry on in its own way.

Sir Alfred Mond made a special point of the strong central control in his Chairman's speech at the first Annual General Meeting (AGM):

> *We have now complete controlling interest in 40 manufacturing and trading concerns and a large measure of control over more than 30 other companies. We have succeeded in obtaining a complete, close, direct, and, I might almost say, daily, executive control over those companies in finance, in management, in labour and in policy generally.* (Chairman's speech at first Annual General Meeting, 1928)

Central control was established at the start, when on 8 December 1926, an Executive Committee was set up to manage the business. This Committee was headed by the Chairman, Sir Alfred Mond, and the President and Deputy Chairman, Sir Harry McGowan.

Sir Josiah Stamp, formerly the Secretary of Nobel, became a Director, and W H Coates, also from Nobel, was the first Treasurer. Stamp had gone to Nobel from a distinguished career in the Inland Revenue, and Coates likewise had an Inland Revenue background. They were the first of a long line of recruits from this same source. In 1929 Coates was to become the first person to hold the title of Finance Director, continuing in this position until he became a Deputy Chairman in 1948, not long before his retirement in 1950.

A curiosity of this early organisation was that the powerful Finance Committee, of which Coates was the Secretary, was responsible for accounting, finance, costing and investments, but the 'Treasury', *ie* the Treasurer's Department, responded to the Chairman of the Executive Committee. In 1931 this moved to the Finance Committee. Although costing came within the purview of the Finance Committee, it was the Technical Director who was responsible for cost and production statistics. To quote Reader: 'The Finance Committee was McGowan's inner cabinet.'

The centralised control extended to the main commercial activities of buying and selling. A central purchasing department was set up and selling prices were controlled in detail from the centre. In the 1930s the procedure was that the Groups recommended selling prices for approval by the General Purposes Committee or McGowan: 'Whenever time permits, my approval for the variation proposed is obtained through Mr Nicholson' (Reader, p.236). In the same way, one of the earliest actions by the Treasurer's Department was to take control of the cash.

In addition to having their sales and purchases controlled, the subsidiaries also had the distribution of their profits arranged. By an agreement dated 27 June 1927, the trading profits of Brunner Mond, Castner Kellner, Chance & Hunt, Electro Bleach & Byproducts and United Alkali were pooled and applied in paying external interest, the Chance & Hunt preference dividend and 10% on new manufacturing capital. Any balance was to be shared in proportion to the companies' profits for 1925.

This agreement lasted until 1937 (it would have been cancelled in 1931 but for the Chance & Hunt minority shareholders). The problems caused by the existence of minorities and external debentures are evidenced by the simplifications following the cancellation. The cyanide plant and half the sodium plant at Billingham had been operated by the Cassel Cyanide Company under a lease from ICI (General Chemicals) and the other half of the sodium plant by Castner Kellner under another lease. General Chemicals could now take them over. The West Bank power station in Widnes was also transferred from General Chemicals to Castner Kellner.

A similar arrangement was made in 1930 whereby the profits of ICI Metals, Elliotts Metals and British Copper Manufacturers were pooled.

From 1934 the chemical pooling agreement sat alongside and was eventually superseded by a selling pool agreement between British Alkali, General Chemicals, Fertilisers & Synthetic Products (sulphate of ammonia was excluded), Lime and British Dyestuffs. The object of the pool was to throw into the trading profits of Fertilisers & Synthetic Products enough profit to cover its current and past tax wear and tear allowances and losses, totalling £4.1 million. The arrangement was agreed informally with the Inland Revenue, with no publicity. The pool was terminated in 1942, its object having been achieved.

By 1930 there were doubts about the role of the groups being limited to production. Coates was debating the merits of what he called the 'comprehensive' principle as against the 'limited' principle, *ie* managing a business as against managing production only. This arose from a suggestion from the Alkali Group that not all the members of the Board should receive information about its profits. Coates favoured the comprehensive principle, but the time was not then right.

Right through to the end of the war there was little change in the organisation which had been set up in 1926. According to Reader:

> *The framework of 1926, patched and cobbled, was forced with increasing difficulty to serve purposes unimagined when it was set up ... decisions on the grouping and control of activities within ICI which, on purely rational grounds, might have been taken, and perhaps should have been taken, at any time from the mid-1930s onward, were in fact delayed until the mid-fifties, the sixties and even, in some cases until 1971.* (Reader, p.461)

McGowan in charge

One factor in inhibiting change was the dominance of Lord McGowan. Lord Melchett died in 1930 and McGowan became the sole Chairman and Managing Director. His service agreement stated that his duty was 'to undertake ... the general direction of the business ...'. A new organisation underlined his supremacy, all the main Committees - Finance, General Purposes, Central Administration - and Head Office officials answered to him.

The directors, however, became unsettled. McGowan's long continued policy of retaining large investments, particularly in General Motors, was under attack and more generally he was accused of taking decisions without consulting the Board, even to the extent of making new Board appointments. Matters came to a head in 1937 when it came to light that he had been speculating heavily and was on the verge of bankruptcy. He survived, nevertheless, as Chairman although not as Managing Director. This office was replaced in 1938 by a Management Committee comprising the executive directors plus two lay directors. McGowan would no longer give executive instructions, but he chaired this Committee!

Besides the Management Committee a Groups Central Committee comprising the Group Chairmen plus the Secretary and the Treasurer had been set up to co-ordinate the Operating Groups and advise the Management Board, however, it was not told ICI's profits. As if this was not enough, there were also seven functional committees each chaired by an executive director. Under war-time pressures what actually happened was the devolvement of decisions back to the Groups and, with the executive directors overloaded with committees, the appointment in 1940 of three Deputy Chairmen who were free of committee responsibilities.

In 1942 the policy decision was taken to liquidate the main Group companies and turn them into Divisions of ICI Ltd (a number of the minor subsidiaries had already been liquidated) (ICI Board Minute 9175, 12 November 1942). According to Coates, this move would clarify and simplify the whole legal and financial procedures, give economies in time and expense, give greater flexibility and result in employees' unity - all staff and workers would become the servants of one company, and it would reduce secrecy: 'the smokescreen of subsidiaries' would be done away with. Full implementation of this decision was not accomplished until 1946.

One newcomer to the organisation was the Office Administration Department, set up in 1943. Originally concerned with traditional office methods, and such things as attempting to standardise ICI's typewriters, it was in due course to mutate into Central Management Services and become very involved in computer developments.

By 1944 the 1938 organisation was crying out to be overhauled and it was now replaced. The operating groups, now renamed divisions, were brought together in six larger groups each represented on the main Board by a Group Director who was responsible for its performance. There were also seven functional directors heading the central departments. To run this organisation ICI was faced with an ageing Board, and in 1943 the Chairman and Deputy Chairmen met to consider possible candidates. Between 1943 and 1947 eight new executive directors were appointed, of whom no less than five came from United Alkali. Dyestuffs at last got a seat on the Board when C J T Cronshaw was appointed in 1943. A unique appointment was that of S P Chambers direct from the Civil Service in 1947. He had made his mark in the Inland Revenue, rising to be Secretary and a Commissioner of the Board of Inland Revenue before being appointed Chief of the Finance Division of the British Element of the Control Commission for Germany. His influence on the organisation began to be felt in 1949 when, as Finance Director, he became chairman of the newly formed and powerful Capital Programme Committee.

The Division Boards were also ageing (in 1944 their average age was 52), and there were similar big changes in their composition.

Then at last, at the end of 1950, McGowan ceased somewhat unwillingly at the age of 76 to be Chairman of ICI.

UK - post 1950

In 1954 a committee of the Board was set up to examine the position of the Deputy Chairmen within the Board structure. It reported that no more formal definition of the position was needed.

This examination caused Chambers to give some thought to the organisation of the Board and its committees, and in September he issued a note to the Board in which he pointed out the differences in practice from one function to another. These ranged from finance, where regular Finance Director's conferences were held, to commercial, where the Commercial Director never held a conference. He wrote:

> *These rather untidy arrangements for consultation and for the co-ordination of policy would not matter if the subjects for consideration at the meetings were more clearly defined, and if the number of meetings and their arrangement did not involve a disproportionate amount of time.* (S P Chambers to the Chairman, 8 September 1954)

He suggested that these functional conferences should be replaced by a regular series of Deputy Chairman's conferences which, apart from *ad hoc* matters, would review over a year the whole of the Company's activities on a planned basis.

In the mid-1950s a Divisional Organisation Committee was active. Among the data it collected was a statement from the Treasurer dated 7 March 1957 comparing the salient figures of turnover, profit, capital and personnel for each division with the corresponding figures of some ten years earlier. In total, turnover had trebled whilst trading profits had risen over four times; capital had more than trebled and numbers of personnel had increased by a third:

	1943-48 £ m	1955 £ m
Turnover-1948	105	326
Trading profit-1943	11	45
Capital-1948	131	425
Personnel (000s)-1945	81	106

[A later table, prepared in 1963, showed that ICI's UK output had almost trebled between 1948 and 1962, compared with an increase of 60% for UK manufacturing industry]

There were also, over the years, major changes in the proportions of capital employed in the various UK manufacturing activities:

	1927 %	**1952** %	**1976** %
Heavy chemicals	50	32	16
Explosives	23	9	2
Fertilisers, hydrogenation, *etc* ...	18	24	33
Dyestuffs, *etc*	4	17	16
Metals	4	12	10
Paints, lacquers, leathercloth	1	3	4
Plastics	–	3	8
Fibres	–	–	9
Plant protection	–	–	2
	100	**100**	**100**

One organisational change was the recognition in 1955 of the importance of fibres by the introduction of another group, Group F, which unlike the others comprised only one manufacturing division.

Then in 1957 it was decided that a new division, Heavy Organic Chemicals, should be hived off from Billingham Division to recognise the growing importance of these materials. The Divisional Organisation Committee also recommended that United Alkali should take over the

Lime and Salt Divisions within about two years. The changing balance of activities shown in the above table was gradually being reflected in the divisional organisation.

Chambers followed up his earlier 1954 proposal in 1960, after he had become Chairman. His objective was to reduce the burden of paperwork falling on the directors by reducing the number of regular meetings which they were expected to attend. He concluded that as the result of his proposals:

> *The reduction in the number of meetings at which most Executive Directors are expected to attend is substantial ...* (Chairman to ICI Board, 25 July 1960)

Scheme of organisation - 1960

The ICI Board and the senior executives below Board level worked within a Scheme of Organisation. Chambers' proposals were incorporated in the scheme adopted on 8 December 1960, which was a document of some twenty pages compiled by the ICI Secretary and issued over his signature. It laid down the functions of the Board and each of the Directors and of the Board officials (the Secretary, Solicitor and Treasurer). The Board would 'determine the broad policy of the Company and exercise such controls as will satisfy the Board that that policy is being carried out.' In particular, the Board would control finance, senior personnel, standards of salaries and wages, external contacts, the broad lines of product development and manufacturing both at home and overseas, standards of achievement, and finally organisation and communications.

The Board would meet regularly once a month, and two weeks before each Board meeting there would be a Chairman's conference. There was also a Deputy Chairmen's conference once a month, but this was discontinued in 1963 and instead there was instituted a Chairman's weekly meeting with the Executive Directors.

The Scheme listed fifteen different regular reports to be submitted to the Board, including: annual reports for each Division and overseas area; budgets for publicity, research and trade subscriptions; monthly and quarterly statistics of home and export trade; and quarterly statements of profits and capital expenditure for the Company and each Division (note that statements of ICI Group profits are still not mentioned).

There were also listed eight standing committees of the Board, the most important being probably the Capital Programme Committee. This committee could sanction capital expenditure proposals up to £250,000, or £1,000,000 if in an approved budget. The Overseas Director and the Group Directors could sanction £100,000 or £250,000 if budgeted. The other Functional Directors were limited to £50,000.

The Scheme went on to lay down remits, in earlier years these had been called Charters. The Chairman did not have a remit. He would 'endeavour to keep himself free from detailed discussions ...' and would be 'freely available for consultation by any director.'

The functional directors comprised Commercial, Finance, Overseas, Personnel, Research and Development, and Technical. Of particular interest is the Finance Director's remit. His main responsibilities were to advise and assist the Board in the formulation of the general financial policy of the Company, and to ensure that the policy was implemented. He had power to make short-term investments and arrange bank advances, but (at his own request) his authority for capital expenditure was limited to £50,000. He would be responsible for reports to the Board of profits and capital expenditure.

The Treasurer was responsible directly to the Finance Director. He was charged with controlling all accountancy and costing affairs at Head Office and in Divisions and, through the Taxation Controller, the taxation and rating affairs. Responding also to the Finance Director were the Heads of the Investments, Insurance and Intelligence Departments.

It will be noted that the Treasurer, along with the other Board officials, namely the Secretary and the Solicitor, had no formal authority outside the UK, although his position gave him considerable influence.

The eleven Divisions and Wilton Works, which was treated as a Division, were grouped into six groups, each with a Group Director responsible for the direction, management and efficiency of his Group and for acting as a link between the Divisions and the Board. There were

Group Committees comprising the Group Director and the Chairmen and Managing Directors of his Divisions, which would meet quarterly to consider future programmes and policies, but would have no executive responsibilities.

Then for each Division there was a Division Board which was collectively responsible for running the Division within the general policy of the Company. The Board's powers, however, were limited: it could not incur capital expenditure of more than £50,000, or £100,000 if in an approved budget; it could not borrow money or invest funds; and it could not engage staff, except as authorised from time to time.

As well as the Group Committee meetings there was for each Division an annual Division conference which made a detailed examination of its affairs, including its capital expenditure budget, which was followed by a report to the Board. There were similar Overseas conferences.

Problems, which were later to become acute, were already emerging. The executive directors had group, functional and territorial responsibilities and these could conflict, especially when the UK Divisions began to be held responsible for the world-wide performance of their products and at the same time the overseas territories were also held responsible for the performance of their territories.

Reorganisation again - 1962

ICI was still growing apace, and new philosophies of management were emerging. ICI's committee-dominated structure was looking increasingly outdated and cumbersome. The new organisation had only been in place for two years when in 1962 McKinsey & Co, the management consultants, were brought in to study ICI's UK organisation. They made a lengthy investigation, talking to numerous people at Head Office and in the divisions. The main thrust of their conclusions was that the divisions should be given more freedom to run their businesses and that individual responsibilities should be more clearly defined, for instance, the responsibility for managing a division should rest with the Division Chairman, not the Division Board.

Other comparative studies were made with du Pont and Union Carbide, with their co-operation. McKinsey's had recommended various changes in Division boundaries. In April 1963 the Board decided that the alkali and general chemicals divisions should be merged to become Mond Division (in effect, merging Brunner Mond and United Alkali) and that responsibility for Plant Protection should move from General Chemicals to Billingham, which would become the Agricultural Division. These changes took effect from 1 January 1964[2].

Going back to 1963, in July a Board Organisation Committee was set up (ICI Board Minute 20053, 25 July 1963) to study the results of the various investigations and make recommendations: McKinsey's consultancy had already been terminated.

In its first report in October it emphasised the distinction between direction and management, the Board should direct and the Division Chairmen should manage. More attention should be paid to forward planning at all levels, and there should be more delegation, with individuals having clear remits.

The Committee thought that there should be a system for monitoring the Divisions' performance which would be separated from the Treasurer's Department's accounting functions. It recommended: setting up Control Groups; a study of Treasurer's Department's 'involvement in financial affairs'; costing systems to be reviewed; and a tighter working capital control.

These various recommendations were duly implemented. One notable result being the demise of the Technical Department and its replacement by a Planning Co-ordination Department, with a broad remit to provide technical and techno-commercial information to the Board and to put forward and implement ideas for studies. Possible areas were thought to be the position of the Company in the World chemical industry, what businesses and what countries the Company should be in, and how to get there.

One recommendation, which was not implemented, was the appointment of a Controller who would not respond to the Treasurer.

At this point it is worth repeating what the Board said regarding the functions of the Control Groups:

> *Three Divisions will account to each Control Group, which will hold periodic meetings with the Chairman of each Division, and his senior advisers, at which the Division's plans, budgets and results will be considered. Each of the three Executive Directors serving on a Control Group will act as a Division Liaison Director in respect of one of the Divisions responding to the Control Group. In this capacity he will have a broad knowledge of that Division's business and personnel. He will also be the Director with whom in particular the Division Chairman may informally discuss problems and proposals.* (ICI Annual Report, 1963)

Relations between Treasurer's Department and Divisions

The recommendation of a study into the Treasurer's Department's involvement in divisional financial affairs was implemented by setting up a panel chaired by N J Freeman, the Head of Insurance and Investments Departments, with M G Davis, an Assistant Treasurer, J Pearse, Finance Director of the Dyestuffs Division, and J A Lofthouse of Nobel and S D Lyon of Agricultural, both of whom were to become ICI Directors. The Panel's remit focussed on a paragraph in the Board Organisation Committee's Report which read:

> *Divisions have often asserted that there is more detailed involvement by the Treasurer's Department in Division financial affairs than is necessary for essential control and co-ordination purposes.* (Board Organisation Committee, October 1963)

This mild comment has to be interpreted in the light of the parliamentary language used in ICI as a fairly severe criticism, and it was taken as such by the Department.

The Panel reported in April 1964, and its report largely exonerated the Department. The Board Organisation Committee in its report dated 8 September 1964 commented:

> *The Panel was at pains to make it clear that, in their view, there was little to justify the assertion which had been made. It made the point that if involvement greater than wished for by the Divisions*

had occurred, this was the result of previous Company policy, and not something for which the Treasurer's Department should be criticised. It accepted this and was satisfied that by virtue of that Department's own efforts to date, together with implementation of the steps now being taken for loosening still further previous ties between Treasurer's Department and the Divisions, there should be no occasion for criticism in the future.

The policy was stated:

The Treasurer's Department involvement in Divisional financial affairs should be concerned only with matters on which the ICI Board consider that an ICI view is essential or where a particular financial or accounting operation can be dealt with more economically or efficiently by centralisation.

One other outcome was the setting up on 8 September 1964 of a Panel to recommend standard definitions. The Committee commented:

There are different views as to the need for a standardised system of costing throughout the Company. Some simplification of the costing system may be desirable but, in general, there is no grave disadvantage in the Divisions following whatever system suits them best for their particular internal management purposes. There must be, however, standardisation of information and data, uniformity of definitions and of recording information throughout the Company. (Board Organisation Committee, 8 September 1964)

The Panel was also instructed to make recommendations for the codification and standardisation of all statistical and accounting data, but in the event they restricted themselves to definitions (see page 237).

The selling organisation

In 1964 the Committee turned its attention to the UK selling organisation. Traditionally selling in the UK had been organised centrally, with a system of Regions covering the country and administered from London. This pattern reflected the original view that it was the job of the Divisions to make and of the Centre to sell. The Divisions, with encouragement from the Board, were now saying that if they were to be responsible for their trading results they had to be allowed to run their selling. After a lapse of over 30 years Coates' 'comprehensive' principle was winning through.

The Committee set up a Panel under Lord Courtown, Head of Office Administration Department, 'to explore and develop the hypothesis put forward by the Board Organisation Committee ...'. It had to bear certain principles in mind, namely that a fundamental requirement was to have a selling system which met the needs of, and satisfied, ICI's customers. There was a problem, however, in meeting this requirement. On the one hand, Divisions had been given a clear responsibility for profit making and for the organisation of their affairs. On the other hand, the products and customers of many of the Divisions overlapped and it was essential to co-ordinate ICI's effort. 'In a nutshell, the Committee hopes to achieve the best of two worlds ...'. The Committee had suggested an allocation of Divisions' products into three categories. Category 1 contained those products which had least overlap namely: Pharmaceuticals; Nobel's explosives; Agricultural's agricultural products; and Fibres. Category 2 was intermediate and comprised Paints and Plastics. The remainder with the most overlap fell into Category 3, these were: Agricultural's industrial products; Dyestuffs; HOC; Mond; and Nobel's chemical products.

The Panel reported tactfully that 'It has not been possible to obtain complete identity of views within the Panel or between Divisions and Regions.' It dutifully supported, however, the Committee's suggestions, although the Committee decided to merge Categories 1 and 2.

One consequential recommendation was that the staff of the sales departments should be transferred to the divisions whose products they were selling, but in each area there should be a sales manager responsible for co-ordination.

'The conclusion reached should not be taken to reflect on the regional sales effort about which there has been no criticism. The main reason for the changes proposed is the increased emphasis now placed on Division accountability.'

The Panel evidently encountered the most difficulty with Category 3. Mond and Dyestuffs had the biggest interests and were keen to have the staff and the control. The other Divisions were doubtful: would their interests be properly looked after? The Panel included in its report some consolatory words about the need for divisions to respect the total ICI interest.

Conveniently, the existing sales departments fell naturally to one or other of the divisions under the new dispensation, with only minor areas to be looked at more closely.

The Panel moved on to consider administrative services in a second report dated October 1964. Again, it was told to observe certain principles:

- procedures of Company-wide application should be standardised, otherwise important information required by the Board and others might either be unavailable or incapable of comparison;
- Category 1 Divisions should generally provide their own services; and
- shared services should be provided by services managers who should be personally responsible for them to the Regional managers. (Board Organisation Committee, 1964)

The Panel commenced by pointing to the economies which had already been made - 170 clerical staff (16%) over three years. It then turned to credit control and noted that the Central Sales Ledger Section at Northwich was being computerised, with a target date of September 1965. It would then be possible for credit control information to be routed to the divisional sales managers instead of the regional credit control sections. Divisions with the major interest in a customer would become responsible for credit control and would bear any bad debts. The Treasurer would continue to be consulted if extended credit would take a customer's account above £50,000 and would continue to have a watching brief over overdue accounts and cash flow.

Divisions would assume responsibility for product sales statistics and Central Sales Ledger for customer statistics, leaving little for the existing statistical sections in the regions.

In total, these changes represented a critical departure in UK marketing and heralded a movement, which gathered force over the years, towards focusing all operations on the needs of the market.

Other functions

Another activity to engage the Board Organisation Committee's attention in 1964 was distribution. However, in this case the move was towards the Centre rather than away from it, the suggestion being that a Central Distribution Department be set up. Despite some worry about taking away from the Divisions' autonomy, it was concluded that there was a good case for a central department to pull together activities which were fragmented, to give a total ICI view.

Purchasing too came under the microscope. Following their general thrust, the Committee recommended that only when there were definite advantages should purchasing be done centrally. Examples were phosphate rock, fuel, petroleum products, and general and engineering supplies. The arrangements should be agreed between the Divisions and the Purchasing Controller, and the cost of the central department should be charged out in proportion to the work done for each division, the allocation being promulgated to the divisions.

Finally, the Committee turned its attention to the Head Office organisation. The functions of Head Office Departments would be split between corporate (*ie* performed by virtue of the Company's legal existence or in assisting the Board) and non-corporate. The Departments were declared to be no longer instruments of control.

The various changes were reflected in 1965 when the Scheme of Organisation was further revised. The Treasurer's remit became considerably longer. He was now the chief financial officer of the Company, responsible to the Board (note, not the Finance Director) for the observance of all statutory and other legal requirements in relation to the financial and accountancy affairs of the Company as a whole and of its UK subsidiaries. He was made specifically responsible for preparing the ICI Group accounts as well as those of the Company. It was now he, rather than the Finance Director, who had the responsibility for investing cash, raising finance, and generally carrying out the Board's financial policy, both home and overseas. Among his list of duties, he had to ensure that information about financial matters needed by Division Chairmen and others was made available to them.

However, the new freedoms of the Divisions were soon to be curtailed. In 1966 ICI ran into an acute cash crisis as a result of its heavy capital spending and disappointing profits. A Costs Improvement Committee was given the urgent task of seeking profit increases and cost reductions. The crisis was surmounted, but in the following year it was decided that the Control Groups should be responsible for the general direction of the Divisions, and for monitoring their performance and co-ordinating their activities. Division Chairmen were to provide the information needed by the Control Groups for them to maintain an effective continuing review. Similarly, the Overseas Policy Groups were to inquire into, assess and give guidance on policy concerning the plans, capital programmes and performance of the overseas companies.

But the wheel turned yet again, and come the 1970s it was decided that the Control Groups had gone too far towards managing the Divisions: their name was changed to Policy Groups and they were in future to be more concerned with the overall policy of the Divisions as part of the Group policy.

Overseas - post 1950

The organisation for the overseas companies was for many years less detailed and formal than the UK organisation. There were two, later three, overseas Directors who divided up the world between them, assisted by a department in London who looked after the merchanting companies and were a channel of communication with the manufacturing companies. ICI had Directors on the Boards of the major companies, but the companies in Canada, Australia and South Africa were not wholly owned, and even where they were, the local people had their own ambitions (Atlas Chemical Industries of the USA, acquired in 1971, was a case in point). Consequently it was necessary to work by persuasion rather than instruction. For example, it was not until 1967 that overseas capital budgets were introduced.

Nevertheless, when Control Groups were established in 1963, Overseas Policy Groups were also organised, and there were conferences with the overseas managements. The overseas activities were growing fast: the number of overseas subsidiaries and associates grew from 83 in 1960 to 222 in 1966. Communications were also improving, and gradually world-wide outlooks developed. This was particularly marked in Pharmaceuticals, with a very high proportion of export business and local pressures to set up manufacture. Paints were early in the field with overseas factories. Movement was slower at the heavy chemical end, partly because traditional products such as alkalis had been made in the larger Empire countries for years and competitors were well established elsewhere.

In 1960 a committee was set up to consider ICI's manufacturing policy in continental Europe. It has been noted in chapter one that ICI was slow to move in that direction. Now, a European Council was formed, with the status of a Division, to co-ordinate developments (ICI Board Minute 18803, 14 July 1960). Then in 1965 ICI (Europa) Ltd was formed and the Board instructed that its management accounts were to be divided up and incorporated in the respective Division results for Control Group reports - the Continent was moving closer to the UK. In 1970 there was a further move, when it was decided that the UK capital programme should include Western Europe, with ICI Europa being monitored like a Division.

In retrospect, it was the reorganisations started in the 1960s which took ICI down the path towards a Group organisation which fitted the modern technologies and markets. The changes did not all come easily: ICI's people were forced to realise that a job with ICI was no longer necessarily a job for life.

Conclusions

It is still remarkable how one man can dominate a large industrial organisation for good or ill, despite all management training. One such was McGowan, first in Nobel and through into ICI in 1926 and on to 1937. Consequently all roads led to him and the Board was his Board. In 1937 came the revolution, but he still had power until his retirement in 1950.

To avoid more dictatorships and to cope with continuing growth the Board resorted to committees, but in war-time conditions these were ineffective and after the war new management theories began to prevail, in particular the cult of the individual.

There were still problems in managing a multinational with inter-related product centres crossing with geographical boundaries. Some attempt was made to remove conflicts between the production centres by re-aligning their boundaries, but the question still remained: which took priority, the product or the territory? Linked to the doctrine of individual responsibility this was an intractable problem because two strong personalities would inevitably be at loggerheads. It is nowadays hard to think of a multinational which is not product-dominated, given the huge resources required for research and production, and the speed of modern communications - but this does not necessarily please the people in the territories.

In an era when the urge to merge was fashionable and one group could be producing anything from shoes and ships to sealing wax, ICI was early to embark on hiving off the Metals Division (but did not learn the lesson when it came to investing in textiles). Further major moves in demerging did not come until after 1976, but it was becoming clearer that the manufacture of basic heavy chemicals was always going to be cyclical. Without the benefits of agreements of some kind to regulate international competition, good profits were always going to be hard to come by.

Endnotes:

[1] I have tried to make clear from the context which meaning of Group is being used.

[2] We can conveniently note here some later changes in Divisions. In 1964 when ICI took over British Nylon Spinners two units were formed, ICI (Fibres) Ltd and the Fibres Manufacturing Division, one to sell and do research, the other to manufacture. These were merged into the Fibres Division in 1971. In 1971 Organics Division was formed also to succeed Dyestuffs and take over the chemical interests of Nobel Division. Explosives were moved into a separate company with an old name, Nobel Explosives Ltd. Nylon polymerisation was moved from Dyestuffs to Fibres and 'Terylene' intermediates from Fibres to Heavy Organic Chemicals (which was renamed Petrochemicals). Finally there came a development which foreshadowed major changes in the future: an Inter-Divisional Policy Group was set up to co-ordinate aspects of the businesses of the Mond, Petrochemicals, Plastics and Europa Divisions which interacted.

Part 2: Accounting Organisation

This part focuses mainly on the financial accounting organisation. Management accounting is dealt with in chapter ten, and Divisional systems in chapter eleven.

Financial control centralised - but not costs

In the Chairman's address at the 1933 AGM he commented on the system of financial control:

> *General financial control is centred in the Finance Committee of the main Board, which meets regularly to deal with all financial matters and to make any necessary recommendations to the Board.*
>
> *The accounting and costing systems throughout the Groups have been unified as far as possible so that results and statistics are summarised for prompt consideration. The ability of the management, both local and at Head Office, to make a rapid survey of current costs of manufacture fulfils the first essential in the control of expenditure and in the proper and fair regulation of selling prices. This part of the organisation is also of the utmost value in guiding your Board in its policy of concentrating manufacture at the most appropriate points, and in the study of new developments or ventures.*
>
> *Capital expenditure of all kinds is controlled both by annual budgets prepared at the beginning of the year, and subsequent specific consideration of each item. The budgetary system also extends to expenditure on Staff and Labour Welfare and on Research Work. All expenditure on new machinery and plant is subject to critical examination, after the new or extended manufacture has been running six months, to check the estimates of results, whether profits or economies, against actual performance. [This statement*

was too complacent: it was always hard to find the resources for looking backwards, and such audits as were done were not very revealing].

Constant watch is kept on the liquid position of the Company. This is facilitated by our system of centralised control of all cash.

In this way, there is always available sufficient data for the preparation of reliable statements of the progress of the Company as a whole, and for the Board to be kept fully informed at its regular monthly meetings.

I trust that this brief outline of our system of financial control will satisfy you that this side of the management is properly and efficiently organised. (Chairman's speech at Annual General Meeting, 1933)

We have seen in Part 1 that the Nobel emphasis on finance was carried over into ICI with the setting up of a small high-powered Finance Committee. The Treasurer, who was the chief financial officer below the Board, was its Secretary. This Committee included financial accounting matters in its remit, and the Treasurer was responsible for the preparation of the ICI accounts. He had his department in Millbank and he had functional responsibility for the subsidiaries' accounting. Although the Committee also concerned itself with production costs, these initially did not come into the Treasurer's sphere; there was a separate Costing Department responding to the Technical Director. It has to be remembered that at that time in most businesses 'costs' were generally regarded as something separate from 'the accounts'; costings of products were calculated as an independent exercise from the preparation of the profit and loss account. The accounts department might give some assistance in things like rates per ton for depreciation and overheads, but there was no integration of the two sets of data. Chartered accountants received no training in management accounting until after the 1940s.

The Treasurer became responsible for profit and cash forecasts, but until well after the war these were directed primarily towards the

Company's profits and finance, not towards the management of the operating units.

From the start, all the subsidiaries naturally had their own fully-developed accounting systems. They were instructed to submit standardised returns to the Centre so that the Finance Committee could keep up-to-date with the trend of profits. We shall have more to say about these returns later: they did include information about product profits, but there is little evidence that the Finance Committee took much note of these. However, we have already seen the strong hold over selling prices which McGowan took in association with J G Nicholson, and we may perhaps speculate that he took a personal interest in the product profits and costs.

Profit information was closely guarded. In 1932 the then Treasurer (P C Dickens) obtained the Finance Committee's agreement that small finance committees could be set up by the Groups to consider their profits, but the Group Boards would only see the figures at Board meetings and they would be collected afterwards. Philip C Dickens had succeeded Coates as Treasurer in 1929: a science graduate and qualified accountant, he was an exception to the influx from Nobel, having joined the Brunner Mond organisation as Secretary at Billingham.

In 1938 there was a general reorganisation of Board committees aimed at curtailing McGowan's supreme power. As part of this, he no longer chaired the Finance Committee, which became one of several executive committees chaired by the relevant functional Director - in this case, Coates.

Finance Director's remit - 1944

In the post-war reorganisation which took place in 1944, the Finance Director was made responsible for carrying out the financial policy of the Company. This had not happened without some discussion: F W Bain had proposed that the Finance Director should be replaced by a committee presided over by the Chairman, because the finance function would be so pre-eminent - in effect, a reversion to the pre-1938 position. Coates had disagreed: because of the importance of finance, there must be a Finance Director. The Treasurer could never have the same standing because he was not on the Board. He considered that 'finance had been the servant of the Company's objectives and not their master.'

The Treasurer was made responsible for controlling all accountancy affairs (at Headquarters and in Divisions) and for operating the Headquarters Treasurer's Department. A Cost Controller, answering somewhat vaguely to the Treasurer, was responsible for the control of all costing affairs and for operating the Headquarters Costing Section. We shall have more to say about this when we come to management accounting. Also appointed was a Taxation Controller, responsible to the Treasurer for the taxation and rating affairs.

This was not the first mention of the word 'Controller'. A paper inscribed with the name of Todhunter and dated 25 October 1926 sets out the proposed functions of a 'Financial Controller'. He would be responsible for four Departments, namely Costing, Investment, Accountancy and Taxation. He would have quite a list of duties, including presenting statements on Sales, Surplus of Floating Assets, Merger Cash position, Statistics of Dividends, Profits *etc,* reviews of Accounts and the Consolidated Balance Sheet. He would also watch the course of foreign exchanges, advise on the finances of new developments and settle all auditors' fees. He would draft the Balance Sheet and Directors' Report, prepare budgets of capital expenditure and advise on their financial aspects. All financial officers, *eg* accountants, costing officers *etc* stationed at the various works or offices would be entitled to report to him direct without prior reference to the officer in general control of the office or factory. Finally, he would study the introduction of a system of budgetary control for the various products and factories.

Most of these activities did in fact end up in the Treasurer's Department. It will be noticed that only the very last activity is directly related to management accounting.

In the subsidiaries and divisions, the Chief Accountants responded functionally to the Treasurer but operationally to their local Board. To begin with, only David Drummond at Brunner Mond was on the local Board, but others were appointed as time went on. In 1944 the Board decided that the finance (and other) functions should be represented on the local Boards. This did not necessarily mean that the local Chief Accountant was himself appointed to the Board - but he would attend the meetings.

Advisory Panel on finance

In about 1970 a new body was set up. Its title was the Advisory Panel on Finance and it was chaired by the Chairman, with the Finance Director, three other executive and one non-executive Directors as members. It functioned, as its name suggests, as an advisory body for the Finance Director and it was not, therefore, a successor to the old Finance Committee, which had been used by McGowan to dominate financial policy. It regularly considered such things as the forecasts and financing operations before they went to the Board, and it could be used as a sounding board on any matter of concern to the Finance Director, such as new accounting policies. It was also used from time to time by the auditors for the discussion of material points which had arisen in the course of their work.

In October 1974, for example, the Panel met to consider: the latest cash forecast (it thought that the Divisions' forecasts were over-optimistic); the effect of inflation on plant construction costs and whether the effects of inflation should be more fully disclosed in the Annual Report; the possibility of financial participation by the Government; and the general position reached in the Ninian North Sea oil field development.

Treasurer's Department

The Treasurer's Department was one of the first to be set up, and right from the start the emphasis was more on cash and finance than on costing and management accounting. This is not surprising when one reflects that the Nobel attitude had always been that finance was the main concern of the Treasurer, and costs had been regarded as a technical matter. The Costing Section initially reported to the Technical Director and did not become part of the Department until about 1930. But it was a bias that was to bedevil the reputation of the Department in the years to come.

There was a strong financial accounting team, largely coming from Nobel, and throughout the period the Department continued to be strong in this and in finance. Also, the operating units were, and continued to be, strong in costing. The Treasurer had from the start a functional responsibility for the accounting staff in the operating units, and had a major say in the appointments of the senior staff.

Well down the line his influence was felt. Albert Frost recalls that he was the Treasurer when the Haslam job assessment system was introduced in the early 1960s, and he had a big battle because the system awarded points for decision making, and the junior accounts staff were apparently not making decisions - they were merely doing things right.

A system of departmental reports was inaugurated in the early days and the first Treasurer's Department report, for 1927, is indicative: the first subject in it is Banking. It is recorded that the five principal English banks would become official bankers to the Company, but the Union Bank of Scotland would also act because they had for many years acted for Nobel. In contrast Martins, who had been giving accommodation to Synthetic Ammonia & Nitrates Ltd, were excluded because 'that bank had been unwilling to bear a fair share of the total overdraft facilities required'. As soon as the banking arrangements were in place the subsidiary companies were 'asked' to remit the balance of their bank account to the centre each weekend.

The second subject covered in the report is investments. Nobel, in particular, had substantial investments, notably General Motors, and again all the records were centralised in Head Office and regular reports on them made to the Finance Committee. This system was in operation as early as August 1927.

Inevitably, in a capital intensive industry, capital expenditure had to be controlled from the start. Budgets of capital expenditure were called for and requests for permission to commence projects had to be submitted to the centre on a Form A - a form which was still in use 50 years later (but the details had changed).

After dealing with the important matter of cash, the report turns to accounting matters. Standardised costing regulations (unsurprisingly, not applicable to Dyestuffs) and four-weekly profit and loss accounts were instituted, as also standard financial accounts on merger forms.

Yet another inheritance from Nobel was the Taxation and Rating Section which centralised all the taxation and rating computations and negotiations. (The Income Tax liability for the companies owned 75% or more totalled £651,640: in 1976 the Group tax charge was £214 million).

A Central Accounts Department was set up to keep the books of Imperial Chemical Industries Ltd - inevitably, it grew out of the Nobel Industries customs. Central systems were established to cover banking, payments to suppliers, inter-company settlements, monthly salaries, foreign exchange, *etc*. The first edition of instructions to subsidiaries, entitled Treasurer's Notes, covering these subjects among others was issued in 1928.

The report concludes with a reference to special work undertaken by the Treasurer and his senior officials which had been very time consuming - but gives no clue to what this work was.

Apart from the subsidiaries' accounts departments, in 1928 a central ledger section was formed at Winnington to handle the sales ledgers for Brunner Mond, United Alkali, Lime, Billingham and Dyestuffs. Typically, it is recorded that Metals handled their own, and Dyestuffs had a different customer code. This section was functionally responsible to the Treasurer, in that its ledgers formed part of the ICI Ltd accounts, but its day by day work of recording and collecting debts was closely involved with the selling organisation. This arrangement was to continue throughout the period.

Purchasing was centralised (as it had been in Nobel) and so was the payment of suppliers' accounts, in the Central Purchases Accounts Section. The invoices were certified locally and originally sent to the Purchasing Department, who vouched them for payment. From about 1930 the certified invoices went direct to the Central Purchases Accounts Section.

Organisation charts of the Treasurer's Department were published from time to time. At the beginning, apart from the Sections mentioned previously, there was the Merger Accountancy Section which put together the published accounts and the consolidated accounts and a Profits and Forecasts Section which compiled the actual results and forecasts of profits and cash for the Board. Then a separate Foreign Exchange Section was established to deal with foreign currency receipts and payments, and an Overseas Sales Accounts Section which handled the current accounts with overseas subsidiaries and agents and debtors for direct exports.

The Treasurer was supported by one or more Deputy and Assistant Treasurers and the Chief Accountant, who also had his Deputy and Assistants. The Deputy and Assistant Treasurers were concerned primarily with finance, although there was from time to time considerable overlap between the Deputy Treasurer and the Chief Accountant, depending on the personalities of the day (both Alan Steward, who was successively Chief Accountant and Deputy Treasurer, and Sydney Weysom as Deputy Treasurer were forces to be reckoned with). The Profits and Forecasts and the Taxation and Rating Sections and a number of accountants in an Overseas Finance Section responded to the Treasurer, and all the other Sections responded to the Chief Accountant.

Treasurer's Department in 1976

At the end of the period the organisation had not changed enormously although some titles had. The old Profits and Forecasts Section had now become the Management Accounting Group, which had assimilated the functions of the Management Accounting Data Department - this change is dealt with under Management Accounting. The Corporate Accounting Group was the new name for the Merger Accountancy Section, and Group Sales and Purchases Accounts combined the former Central Sales Ledger Section and Central Purchases Accounts Section. A newcomer on the scene was the Cash Management Group, now on the Treasury side of the house, which was an enlarged and more sophisticated version of the old Foreign Exchange and Cashier's Sections.

The alert reader will have noticed that there were in fact three sections concerned with the annual accounts: Merger Accountancy who were primarily responsible; Central Accounts, who kept the Head Office books; and Profits and Forecasts, who produced the reports to the Board. Central Accounts' responsibilities overlapped with Merger Accountancy because they held the current accounts with the divisions and subsidiaries and their Forms T2 and T3 (respectively the internal 'merger' standardised balance sheets and profit and loss accounts) were the 'official' Company accounts. When the main subsidiaries were liquidated in the 1940s and turned into divisions these were theoretically just branches of Head Office. An internal note relating to the 1957 accounts reflects an attempt to streamline things: 'It has been the practice in the past to incorporate in the Head Office Trial Balance the Divisional Balance Sheet items in replacement of the Current Account balance with Head Office - this will no longer be done.' Some overlaps still remained, however.

In a similar way, there were overlaps between Merger Accountancy and Profits and Forecasts. Merger Accountancy produced the Company and consolidated accounts in their legal published form whereas Profits and Forecasts produced the Board reports showing the Company profits by operating unit. Successive Treasurers were worried that to combine Merger Accountancy and Profits and Forecasts Sections would be risky, because the one provided a check on the accuracy of the other. The advent of computers added to the pressure to streamline the systems (Merger Accountancy Section was computerised in 1973), but the overlaps were not finally eradicated until after 1976, by amalgamating all three sections.

In 1959 the Finance Director took under his wing a newly formed Investments Department, which would keep records of all the Pension Fund and Company investments. But the Treasurer still had executive financial responsibility for the Company investments, an uneasy relationship which depended on good co-operation between the staffs of the new Department and Central Accounts Section.

We can conclude by taking note of a paper which was presented to the Treasurer's Conference in 1975. Its subject was the 'Efficiency of the Accounting Service' and it was written by Trevor Harrison of Plastics

Division - he was later to be the Chief Accountant, metamorphosing into the first Controller, and then ICI Chief Financial Officer (*ie* Treasurer) before moving on to become the General Manager - Planning.

He surveyed the numerous changes which had occurred in the past 5-7 years, including the introduction of Product Group, European Matrix and International Product Group organisations, with concomitant demands for accounting information; closer association of planners with the accountants; increased legislation; computer developments; tightening of timetables; new thinking in accountancy; and the need to reduce costs. He also referred to changes in attitudes of staff, with more interest in representation among middle and junior staff and broader education of qualified staff.

Accountants were now much more involved in decision making, but this brought with it new demands on them and on the management information systems.

Harrison concluded that ICI accountancy was expensive, a contributory factor being lack of standardisation. Timetables were probably as tight as they could be and more attention had to be given to managing the staff, especially the qualified staff.

The Conference members were generally agreed that the increasing demands for information from the accountancy function were bringing it near to breaking point. The subsequent development of the Controllership function in the Centre, working closely with the operating units, doubtless eased the crisis.

Conclusions

The Chairman's address at the 1933 AGM reflected very clearly McGowan's philosophy of central control of cash and finance. He also claimed that costs were controlled centrally, but really there is little evidence of this. The reports on costs appear to have been primarily used to keep a check on selling prices and to ensure that the rules of the numerous cartels were not infringed. It must be remembered that McGowan's background was commercial.

After the Second World War the accounting organisation took a long time to change. This has to be set down, in part at least, to the continued recruitment for senior financial posts from the Inland Revenue and of Head Office accountants from auditing. No matter how good they were at finance, they did not have the experience of management accounting which was building up in the divisions. There was a dichotomy between Head Office at Millbank, London and the divisions reflected in the nickname 'Millstone House', and it was only towards the end of the period that the gap began to close.

Chapter Three

Financial Accounting

This chapter traces the origins of ICI's systems for compiling the Company and ICI Group accounts, and how they developed over the years.

The basic systems, which were set up when ICI was formed, remained remarkably unchanged for 50 years. E G Minto, who was pivotal to their design in 1927, would have met them as old friends in 1976. He initiated the introduction of standard merger accounting forms, quite separate from the subsidiaries' legal accounts, which gave all the information needed to prepare the Company and consolidated accounts and to show the contributions of the main products to the total profit. There were indeed significant changes in accounting policies, as described in chapter four, but these only affected the content of the reports, not their structure.

Alongside the financial accounting systems there grew up towards the end of the period a parallel system of management accounting (dealt with in chapter 9), and eventually the two systems were to be integrated. But for nearly all of the 50 year period management accounting in the modern sense hardly existed at the centre.

The published accounts which were the fruit of the system did, however, change markedly. ICI's first annual report and accounts took up just four sides of paper whereas the 1976 version extended to 44 pages and included Group accounts, a funds flow statement and inflation-adjusted accounts plus a plethora of background information.

Preparations

The story of financial accounting in ICI starts, as so many other things do, with Nobel. Nobel already had a system for handling the complicated accounting resulting from a merger and this system was immediately adopted when ICI was formed. The expertise was derived in a large part from the formation of Explosives Trades Ltd in 1918, which brought together in one management the greater part of the explosives industry in the United Kingdom.

Nobel was unusual in that it issued a consolidated balance sheet as a separate exercise from the official annual accounts, and prepared at a leisurely pace. The balance sheet for 31 December 1925 was signed by the joint auditors, Peat, Marwick, Mitchell & Co and Thomson McLintock & Co, on 14 September 1926, three days before the AGM (their report on the legal accounts of the parent company was signed on 18 August 1926). It showed total assets of £23.5 million of which £4.1 million was 'Patents, Processes and Goodwill', in fact, almost entirely goodwill. There was over £2 million in cash and £9 million in investments, of which £4 million was investments in Associated Companies, some of these would nowadays be classed as subsidiaries. Long-term debt amounted to £2.5 million against shareholders' funds of £18.8 million, so it was a very strong balance sheet. Interestingly, the consolidated balance sheet included a provision for the proposed final dividends but the legal accounts did not. In addition to the published accounts there were manuscript accounts in more detail with schedules attached, running in all to twenty pages, all written out in beautiful copperplate handwriting.

The published report and accounts (*ie* balance sheet) of British Dyestuffs Corporation for the year to 31 March 1926 was similarly skimpy. The balance sheet showed £2 million of cash out of total assets of £5.3 million, but this was after a chequered history. The company was formed in 1918, under strong pressure from the Board of Trade, to merge British Dyes Ltd and Levinstein Ltd. There is a modern sound to the arrangement in that the Government effectively had a Golden Share. In consideration for putting in £1.7 million capital the Government could veto any changes to the Articles of Association, prevent foreign ownership and nominate two directors, who had powers of veto and control over the company's affairs. The company was unprofitable and the restrictions were onerous. In 1925 proposals were put forward for a reconstruction which involved writing off £2.8 million out of the company's assets of £9 million, paying off the Government's investment of £1.7 million for £600,000 and writing £1.7 million off the Ordinary shares (Circular to shareholders, 13 November 1925). The company did manage to show a profit of £173,000 in 1925/26.

Although they come well before ICI was even dreamt of, the first report and accounts of the United Alkali Company are worth a glance. They cover the period of 14 months ending 31 December 1891 and were presented to the first AGM on 24 March 1892. They too take up only four sides of foolscap, but they do include a profit and loss account as well as a balance sheet - not that the profit and loss account is very informative, since it shows only the gross profit as a credit and debits for preliminary expenses, directors fees, interest and 'General Head Office expenses, including Directors' and Office Salaries, Rent, Rates and Taxes, Income Tax, Bank Interest, Books and Stationery, and all incidentals'. Although the report says that the directors are satisfied with the first fourteen months' working and with the position and prospects of the company, and the retained profit for the period was £190,000, the balance sheet shows cash of only £163,000, less than was needed for the dividends recommended. Fixed assets were £7.5 million out of total assets of £9 million, and the retained profit had to cover provision for depreciation. The audit report, signed by no less than four firms, is worth quoting in full:

> *We have examined the Books and Accounts of the Company for the fourteen months ending 31 December 1891, and we certify that in our opinion the above Balance Sheet is a full and fair Balance Sheet, properly drawn up so as to exhibit a true and correct view of the state of the Company's affairs. As regards the Stocks on hand we have accepted the figures as certified by the Managers. Any explanations and information required from the Directors have been readily furnished and found satisfactory.* (United Alkali Company, Report to 31 December 1891, dated 16 March 1892)

The accounts for 1925 showed a profit of £391,000 out of which dividends took £288,000, leaving only some £100,000 to take to reserve - not much, when it is remembered that this had to cover depreciation on fixed assets with a book value of £6.7 million. As in previous years, the proposed dividends are not provided for in the accounts, but credit has been taken for the Income Tax which would be deducted from them and retained by the company - at least, so it appears from the balance sheet. In the profit and loss account 'Taxes' are lumped together with general expenses. It was still the practice to leave any lengthy comments on the year's activities for the Chairman's speech at the Annual General Meeting. The only remarks in the Directors' Report are:

> *... the Works of the Company have, with a few exceptions, been well employed during 1925. All plant and machinery has been well maintained, and useful additions made or completed.* (United Alkali Co Ltd, Directors Report, 1925)

The company was woefully short of cash, the bank account was in the red, and included in creditors (not disclosed on the published balance sheet) was a loan of £215,000 from the Ministry of Munitions. This was on top of the £2.5 million Debenture Stock which had existed from the start. The position had worsened by 31 December 1926, its last day as an independent company, the amount owing to the bankers having risen from £31,000 to £191,000.

By contrast, Brunner Mond factories were in good condition and the company was making healthy profits. But it was paying out most of the profits in dividends, and capital expenditure at Billingham by the subsidiary, Synthetic Ammonia and Nitrates, was draining it of cash and it was in overdraft at the end of 1926. The group of fourteen companies included also the Castner-Kellner Alkali Co, Buxton Lime Firms, Chance & Hunt, Electro Bleach & By-Products and the merchanting companies in Australia, China, India and Japan. The consolidated balance sheet as adjusted on ICI merger lines showed total net assets of £25 million which included investments of over £4 million - mainly Allied Chemical & Dye Corporation - and goodwill of £8 million.

Merger terms

When it came to the formation of ICI, complicated calculations were made for the consolidated balance sheet as at 1 January 1927, but the terms for the merger were based solely on profits, at least so far as Nobel and Brunner Mond were concerned. Although there is no documentation of the terms offered to British Dyestuffs and United Alkali, it seems that some attention was paid to the market prices of their shares: United Alkali Ordinary were standing at about 30/-, and they received three ICI for two United Alkali; British Dyestuffs were standing at a discount, at about 8/-, and they received 16 ICI Ordinary for every 40 shares, plus 16 Preference and 1 Deferred.

The 1925 profits of Nobel and Brunner Mond were capitalised at 12% and the expected increases in profits from, respectively, the investment in General Motors and the Billingham project were capitalised at 16.6% into Deferred shares. But again some attention was no doubt paid to market prices, because there is a statement in the joint circular sent out by the four Chairmen that 'There are in the new Company no promoter's profits and no inflation of capital.' Support for this statement came in the *Manchester Guardian* of 15 November 1926: 'A satisfactory feature of the present combine is that no attempt has been made to capitalise prospective gains and to water capital.'

The market values of the four constituent companies compared with the ICI shares issued were:

	£m Market Value	£m ICI Shares
Brunner Mond	23.5	24.6
Nobel	22.5	24.0
United Alkali	4.5	4.3
British Dyestuffs	4.0	3.9

The ICI share capital so issued was divided as follows:

	£MILLION
Preference	16.2
Ordinary	31.1
Deferred	9.5
TOTAL	**56.8**

No doubt the founders were pleased with the public reaction, but the market values exceeded the capital and reserves of the constituent companies - the use of deferred shares representing potential future profits reflected this - creating an intractable problem which is all too familiar nowadays, namely the appearance of a large goodwill amount in the consolidated accounts. We shall see the consequences of this in due course.

First merger accounts

The Merger Accountancy Section of Nobel moved into ICI on its formation. One of its first jobs was the preparation of 'Merger' accounts as at 1 January 1927, *ie* accounts adjusted to reflect the acquisition cost of the constituent companies to ICI and the adoption of standard accounting principles. Numerous schedules were prepared showing the accounts of the constituent companies with sundry additions and deductions to allow for different valuations of the physical assets and the investments, and the effects these had on the reserves and goodwill.

In all this work the name of E G Minto appears and reappears. Inevitably, he had come from Nobel and for many years he continued to head the Merger Accountancy Section in Treasurer's Department. As early as 15 November 1926 there is a note by him headed 'Memorandum on Merger Accountancy' which sets out the principal steps required to establish the opening merger balance sheets - he considers that a consolidated balance sheet of the new merger should be issued. Going on to more detail he emphasises the need for uniformity in the merger balance sheets of the constituent companies concerning such matters as depreciation and stock valuation. He also writes of the need to record all inter-merger transactions, involving the issue of a list of the constituent companies and securing the agreement of inter-company balances. This last was a topic which was to recur regularly in circulars from Head Office.

Liquidation of Nobel Industries

The work went on throughout 1927 and into 1928, when much of it had to be done again because in that year it was decided to liquidate Nobel Industries. The reason for the liquidation was that Nobel Industries was now purely a holding company. From time to time it had purchased shares in other companies - notably General Motors, but including such things as preference shares in United Dairies, United Railways of Havana and Ardath Tobacco, to name a few - and had realised large profits when some of these investments were sold. The total profit to the end of 1927 was £2.6 million, and there had always been a fear that the Inland Revenue would claim tax on the profits on the ground that the company was an investment dealing company. Before the ICI merger Nobel was able to argue that its main activities were to control the trading activities of its subsidiaries and provide administrative services for them. With the formation of ICI these activities disappeared and the danger from the Inland Revenue loomed larger.

Including unrealised profits the amount at risk in mid-1928 was £8.5 million and it was decided to liquidate the company. This would have the twin advantages of turning the unrealised profits into a non-taxable form and bringing a handsome surplus on liquidation into ICI Ltd's accounts, because the Nobel investments would come into ICI Ltd at market value or equivalent. The basis of valuation, agreed with the auditors, was: marketable securities at market value; investments in associated companies at average dividends capitalised at 7%; subsidiaries at average profits for 1925 and 1927 (omitting the year of the General Strike in 1926) capitalised at 10%; other assets generally at book value.

The date of the liquidation was 28 September 1928 and by April 1929 the surplus of £9.7 million (after writing off £3.7 million of Nobel's goodwill) had been established and it had been decided broadly how it would be dealt with in the ICI Ltd accounts:

	£MILLION
Writing off preliminary expenses	1.3
Meeting pension fund initial liability	.5
Writing off research expenditure	.3
Losses on demolitions, redundant plant, *etc*	1.1
Losses on liquidation of subsidiaries	.3
Reserve against marketable investments	.3
Other	.1
	3.9
Balance used to create central obsolescence fund of £2.5 million, capital reserve of £2.3 million and free reserve of £1 million	5.8
	9.7

It is not often that a chief accountant has such an opportunity to tidy up his accounts.

In the unpublished consolidated ICI balance sheet at 31 December 1927 the surplus, so far as it related to subsidiaries, contributed to the £15.3 million for 'Patents, Processes and Goodwill', and it was this item which was the main reason for the balance sheet remaining unpublished.

The liquidation also stored up another problem for the future. The large holding by Nobel in General Motors was valued at $84.2 per share; when the Depression came the price fell to $7.6, and before the war it never fully recovered. P C Dickens, then Treasurer, commented in 1937: 'The various reserves which were created depended not on any realised capital or revenue profit but on a purely fortuitous market valuation of an American investment not subsequently maintained.'

Report on the merger accounts

Finally, on 16 December 1929, Dickens presented to the Finance Committee a report by J L Armstrong, later to be ICI Finance Director, setting out the allocation of the capital originally issued by ICI over all the subsidiary companies. These merger values were then adopted in the books of the subsidiaries as at 1 January 1929. No doubt with a sigh of relief from Minto, even though it was not until November 1930 that he wrote his final reports on the merger capitalisation. By the time the note was written a number of companies had been acquired since the merger - notably metals companies, in pursuance of McGowan's pre-merger plans - so that it was necessary to cover these as well.

The methods which were finally adopted to determine the 'Merger Allotments', *ie* the deemed cost to ICI of each subsidiary in the group, are set out in the note. The object was to allocate to each subsidiary some of the ICI shares originally issued to their parent company, in proportion to the values of the various companies. The Nobel subsidiaries were taken at the valuations by the auditors at 28 September 1928, the date of the Nobel liquidation. There were no allocations for British Dyestuffs because it had no subsidiaries and only one for United Alkali, Raynes & Co Ltd.

For the Brunner Mond group the method was to allocate ICI Preference and Ordinary shares in proportion to the values of investments and loans and, for trading assets, in proportion to 1925 profits. The ICI Deferred shares were allocated to four companies only, *viz*: Brunner Mond & Co Ltd, Synthetic Ammonia & Nitrates Ltd, Castner-Kellner Alkali Co Ltd and Magadi Soda Co Ltd. Deferred shares were originally issued to Brunner Mond in recognition of the potential profits at Billingham, estimated at £1,235,000 for 1928. The actual profit in 1928 turned out to be only £250,000. However, Brunner Mond's own profit had risen so that more of the Deferred share capital was allocated to it than to Billingham.

Companies acquired since the merger were taken at their cash cost or at the market value of the ICI shares issued.

In all this work the auditors were evidently closely involved, for apart from having valued the Nobel group companies for the purpose of the liquidation, they had examined and adjusted the profits for 1925 to make them comparable and generally scrutinised and agreed all the methods and the figures.

The bases on which the physical assets were included in the consolidated balance sheet were:

Nobel group - initially, book value at 1905 less depreciation to 1916, but later superseded by valuations when Nobel was liquidated in 1928.

Brunner Mond - At cost less obsolescence and depreciation written off.

United Alkali - as revalued at 31 December 1926. This company's assets were evidently considered to be in a poor state. The capital and reserves exceeded the ICI shares issued by £492,000, but this was not enough to write down the assets to the valuation and a further £300,000 was provided by creating (*sic*) goodwill of this amount. By the end of 1929 the amount of obsolete plant and buildings had risen to £1.6 million, but the increase was attributed to the concentration of manufacture since the merger. United Alkali received compensation of £316,000 from Brunner Mond for the closing of Fleetwood and Gaskell Deacon Works, for example.

British Dyestuffs - as revalued in 1926 on capital reconstruction by order of the Court. A note prepared in May 1944 by Harrison, the Dyestuffs Chief Accountant, showed that on the reasonable assumption that the other assets were worth their book values, ICI had acquired fixed assets originally costing £7.2 million for £684,000.

At last the opening ICI balance sheet was settled, but the company's capital did not remain static while the work of finalising the opening position was going on. In the three years to the end of 1929 there were issues of shares for cash to the extent of £16 million, plus another £3 million for acquisitions, bringing the total capital up to £76 million.

Schedules were prepared by Minto from time to time showing the dividends received by the ICI shareholders compared with the pre-merger dividends. For example, the comparison made in December 1938 shows that the shareholders had not benefited greatly from the merger (the depression had of course had much to do with this):

Dividends

	1926 %	Average 1927-1938* %
Ordinary shares:		
Brunner Mond	10½	12.1
Nobel Industries	15	12.1
United Alkali	10	11.4
British Dyestuffs	2½	3.0

*Including dividends on deferred shares where appropriate.

The ICI Ltd balance sheet at 30 June 1927 shows how matters were then progressing: the company was clearly being supported by Nobel, because there is a loan from Nobel of £3.2 million, of which £360,000 had been passed on to Brunner Mond, £750,000 to Synthetic Ammonia & Nitrates and £400,000 to United Alkali. £675,000 had been spent on an investment in I G Farbenindustrie and £1.3 million had gone on preliminary expenses. There were overdrafts totalling £493,000. Construction of Imperial Chemical House had begun, £112,000 had been spent, the building was eventually to cost £1.7 million (see plate 10). A good part of the initial finance came from sales of investments, which produced profits of one million pounds in 1927.

Standard financial accounts

It has been noted already that Nobel had an organisation in place at the time of the merger for collecting all the information needed from its subsidiaries to prepare consolidated accounts. In a note (no addressee) dated 2 May 1927 E G Minto set out the reasons for having special internal accounts rather than using the published statutory accounts:

- In the case of some companies the cost to the merger was less than the companies' own share capital. To reduce the share capital would necessitate a Court order.

- The current year's dividend is deducted in the merger balance sheet but 'for obvious reasons' this cannot be done in the companies' own accounts.
- Sometimes special adjustments are needed after the legal accounts have been completed.
- The published accounts are too condensed for merger accounting purposes.
- In the merger accounts the exact nature of all reserves and movements in them must be stated. It is often undesirable that this should be done in the companies' own accounts, especially where these may have to be shown to outside shareholders.
- In a few cases dividends have been inadvertently drawn from pre-merger reserves. This obviously cannot be stated in the companies' own accounts.
- Companies in liquidation do not have their figures adjusted to merger lines in their own accounts.'

Turning to the trading and profit and loss accounts, Minto writes that it is much more difficult to secure uniformity where operations so diverse as the manufacture of explosives, motor bicycles, artificial leather, sewing cotton and cardboard boxes are concerned. In his proposed set of standard accounts it was assumed that a costing system was installed. 'If applied to companies without a costing system some modification would be necessary. It will be obvious that the success of a system of standardisation depends entirely upon all companies attaching the same meaning to the various headings in the accounts.' We shall be finding later that when, under pressures for decentralisation, the issue of Treasurer's Notes was discontinued, it soon became necessary to publish Standard Definitions.

Minto goes on to list the trading and profit and loss account headings with definitions where not self explanatory. The items are much as might be expected, covering such things as raw materials, purchases for resale, wages, salaries, works general charges, sales, selling expenses, administrative expenses, *etc*. A few items may be noted: depreciation (which was charged at standard rates) includes 'ordinary writing down to market value of investments'; there are headings for receipts and payments under trade agreements and profit pooling arrangements; headings are also provided for earnings on steamers and lighterage.

There was evidently some debate about these proposed standard forms, because there is an undated note by H D Butchart, Deputy Treasurer, which apparently reflects a Brunner Mond view. He advocates that the profit and loss account should be made up to show product profits because 'the profit made on each trade is very important, and it is suggested that the Executive Committee and Board will get the maximum amount of assistance from this format. This method will cause no difficulty in connection with the Brunner Mond group of companies, but it is possible that certain difficulties will arise in connection with some of the Nobel companies, which carry on very detailed trades. In these cases however it is probable that the sources of income can be grouped under convenient headings, which will show results of definite value to the Executive Committee.' Shades of the modern demand for published segment information.

Butchart's view on the need for product profit information was accepted. In a further note to the Treasurer dated 17 October 1927 Minto writes: that, in addition to product profit and loss accounts, each constituent company be asked to prepare a detailed general trading and profit and loss account on a standard form on much the same lines as in his earlier note.

This exchange appears to herald the system of the Forms T2 and T3 which were the standard forms used for the financial accounts, respectively the balance sheet and the profit and loss account. The Standard Statistics, which gave the trading results by product groups are discussed in chapter nine. Incidentally, Minto comments that there is some uncertainty as to the relative meanings of Merger, Constituent, Associated and Subsidiary companies. It seems that in Nobel some companies, particularly overseas ones, had been classified as associated even though they were controlled by Nobel. In a draft note to the auditors about the new forms it is stated that the term subsidiary 'is now applied for accounting purposes to all companies in which ICI holds directly or indirectly 75% or more of the controlling capital.'

Finally, on 7 December 1927 a letter was sent by the Treasurer to the Chief Accountants of subsidiaries introducing the new standard forms. Form T1 was a summarised cash account used for reporting monthly movements in the cash resources controlled in the centre, which broadly were the 100% UK subsidiaries. It survived until 1964, when its passing went unlamented. The forms used for the annual accounts were Form T2, the balance sheet, and Form T3, the profit and loss account. These forms, which were in use throughout the period, were completed by the UK units in accordance with detailed instructions from Merger Accountancy section and submitted first in draft and then, following completion of the local audits, in final form.

The plethora of returns which the subsidiaries had to make to the Centre was causing some concern in 1929, and J H Wadsworth, the Secretary, prepared an analysis of them for the Executive Committee. He listed no less than 85 returns, of which 25 were for Treasurer's Department and four for the Costing Department. The Treasurer's Department returns were mainly the standard ones which have been discussed above; the returns to the Costing Department included cost sheets and reports on them for each period from all companies. There were detailed reports to the personnel departments of salary lists and labour returns for each works. The Commercial Department received weekly returns of stocks, makes and shipments and there were assorted specialised returns from particular companies, such as Brunner Mond's monthly returns to the Commercial Department of Silicate deliveries to export markets. Typically, the Executive Committee's response to all this was to leave the matter over in order that the wishes of the Chairman and President might be ascertained.

It was noted in the 1932 Annual Report that the accounting and costing systems throughout the Group had been unified so far as possible. But the introduction of the new standardised forms was not received everywhere with acclamation. Mitchell remarked in 1931 on the excessive cost of the standard ICI costing and accountancy procedures for the small subsidiaries, particularly at the time of the Depression. A note from the Treasurer instructed the Group Chief Accountants to: assume complete control of the whole accounting procedure and organisation of the companies in their Groups; to reduce to a minimum the detailed working of the accounting systems of the smaller companies; and to reduce the accounting staffs to the lowest level consistent with efficiency. The problem was further alleviated when the understanding of 'materiality' deepened with the progressive rounding off of the published accounts. The first small step in this direction was taken in 1930, when shillings and pence were dropped from the published accounts - but it was not until 1949 that this was extended to the internal T forms.

As well as the standardised accounting returns another element of the system was the Form T63. This was a request to Head Office to agree/decide the accounting treatment of unusual items and was in use for many years. Its use is exemplified in a note to the Group Chief Accountants dated 26 October 1938, dealing with ARP (air raid precautions). This calls for expenditure on ARP to be accumulated in a suspense account. At the end of the year subsidiaries were to submit a Form T63 to Head Office detailing the expenditure under the headings of:

- Structural alterations, improving buildings.
- Equipment: gas masks, decontamination kit, *etc*.
- Trenches and other shelters, lighting arrangements, *etc*.
- Training workers, testing dispersal schemes, *etc*.

Towards the end of the period Europa Division were busy developing computer systems which could be used by all the continental subsidiaries. In October 1976 a draft report, 'European Accounting System', was issued by P W Groves which set out the proposed series of 'E' forms which would parallel the Treasurer's Department 'T' forms and enable the Division to produce consolidated figures for the whole of continental Europe and in due course provide the operating units with computer-produced breakdowns matching the responsibilities of the UK Divisions. These developments foreshadowed the policy announced by the Chairman in 1977 that Western Europe should be seen as ICI's home market and that all information should be presented to the Board on that basis. This announcement had wide accounting repercussions, but we must leave them lying in the future.

Published accounts - to 1945

The first ICI annual accounts would not nowadays impress many readers - precisely two pages. No separate profit and loss account and only one note (by way of contrast, the 1976 accounts took up 18 pages). The directors' report explains that the profit represents dividends received (from the subsidiaries *etc* - ICI Ltd was simply a holding company at that time), the capital profit from sale of investments having been taken to reserve. 'Ample provision has been made for obsolescence and depreciation; operating plant and machinery has, in addition, been maintained in a fully efficient condition.' The report occupies three pages of which one is devoted to the profit appropriations - the balance sheet shows only the interim dividends. According to the auditors' report, they apparently audited only the balance sheet, not the profit and loss account, and the accounts were 'true and correct', not 'true and fair'. It would be a brave auditor nowadays who said that the accounts were correct.

In preparing these accounts, Coates brought a number of points to the attention of the Finance Committee. Several would help the profits, such as McGowan's suggestion that only 3% obsolescence should be charged although provisions had been made for 5%, because full provision had been made for current maintenance; only five months Nitram fertiliser propaganda would be charged (but would the auditors agree?). There was also a suggestion that the minorities in the subsidiaries should not receive copies of the subsidiaries' balance sheets - overdrafts in the subsidiaries would thus not be made public.

The meagre fare in the report left some shareholders unsatisfied. In 1928 there was a question at the AGM about a consolidated balance sheet, and in 1930 the Board discussed press rumours of insufficient information in the Company's published accounts, and also letters from shareholders about the fall in the share price.

Consolidated accounts of ICI and 67 subsidiaries were in fact prepared for internal use as early as 1927. These showed trading profits of £4 million and investment income of £1 million. Dividends took £4 million and debenture interest *etc* £.5 million, so that only £.5 million was added to reserves. But the Board was reluctant to publish consolidated accounts because of the large goodwill, and in 1930 it was still decided to take no action.

It was the 1930 accounts that caused the auditors to question the adequacy of the obsolescence reserve and the values of the Billingham assets. Obsolescence and depreciation are dealt with fully in chapter six, but briefly I should explain here that obsolescence of the main production plants was provided for by maintaining a central obsolescence reserve - which McGowan intended should always be matched by marketable investments. The auditors' concerns were staved off by passing a Board resolution that 'in the aggregate, the value of the Company's interests in Subsidiaries and Associates is at least equal to the amount at which they are standing in the Balance Sheet.' But it looked at one time as if the AGM would have to be postponed, and Sidney Weysom recalled that there was a frantic search for an alternative venue.

A note by E G Minto to Routly in September 1935 lends weight to the auditors' concern: the proportion which the obsolescence reserve bore to the gross book values of plant had fallen from 36% in 1928 to 19% in 1934.

The Board also had to withstand pressure from the shareholders, some of whom maintained that too much was being put to reserve. At the May 1935 AGM the Chairman maintained that over the eight years life of the Company the appropriations to the Central Obsolescence Fund and the General Reserve, totalling £10 million, had almost precisely equalled the amounts written off fixed assets and investments. The reserves of £13.7 million had come from share premiums, the liquidation of Nobel Industries, and profits on the sale of investments.

There had earlier been internal discussions. In January 1933 Coates noted that there had been some limited recovery in prices, but there was still a need for conservative finance to maintain the asset values at their book values. Consequently, there could be no dividend for the Deferred shares and there should be a capital reconstruction. This would throw up a surplus which would be available for reducing the asset values and writing off the intangible assets facilitating the publication of a consolidated balance sheet.

In December 1933 Lord Melchett considered that, with demand picking up, there was a need to spend capital, and he advocated a debenture issue. But Dickens pointed out that the cash position was good, so there was no need for one. Coates reiterated that the Deferred shareholders were disgruntled, and they should be got rid of.

Finally, in 1936, after a rearguard court action by some shareholders, Coates had his way: one Ordinary share of £1 was issued for every four Deferred shares of 10 shillings, giving a useful surplus of £5.4 million for writing down assets - mainly fertilisers and petrol.

Going back to the 1930 accounts, besides the subject of asset values there were some interesting decisions on other points. An amount of £168,000 for research on new processes was written off against reserves; £137,500 out of an African Explosives & Chemical Industries stock dividend was credited to profit and loss account; a loss of £150,000 on initial production at Billingham was carried forward; the balance of £144,276 outstanding for the initial liability on the Staff Pension Fund was charged against reserves; and an undisclosed reserve of £150,000 deriving from Brunner Mond was credited to profit and loss account. It is evident that, under the onset of the depression, there had been a thorough combing through the books. It is also evident that in those days there was useful flexibility between reserve and profit and loss account entries. Both the Metals Group and Billingham had incurred losses, so it was decided that they should pay no Central Services, nor inter-merger loan interest except for £96,000 charged to capital.

A 'Financial Statistical Record' was introduced in the 1934 annual report, and at last in 1938 a consolidated balance sheet was handed out at the AGM. The Chairman said:

> *I am delighted that we have been able to hand you this morning a Consolidated Balance Sheet for Imperial Chemical Industries and all its subsidiaries. The total assets and liabilities of 125 companies are included in that account ... . The total assets aggregate £110.5 million, including intangible assets of £15.5 million. This sum equals just over two years' purchase of the net profits of the Company for 1937. The liquid position is strong ... . The Obsolescence Reserves of £5.5 million represent 12 per cent*

of the book value of the freehold buildings, plant and machinery. (Chairman's speech at Annual General Meeting, 21 April 1938)

A practice was resurrected which had first been adopted by Nobel as long ago as 1922, and a demand which had first been voiced in 1928 was met. A recurring suspicion that ICI's profits were inflated by hidden profits on sales of investments was put to bed. The balance sheet was followed in 1939 by a consolidated income statement as well. It was only in 1941, however, that these accounts were bound in the annual report.

In 1936 unsettled conditions in various overseas territories provoked write downs of £1.5 million in the book values of investments, and in 1937 the war cast its shadow before it with a £1.5 million write down of the German investments. The outbreak of the war meant an immediate severing of relations with the offices in occupied Europe and later with those in South East Asia. In the depressing early months of 1942 when the Rising Sun was in the ascendancy a statement was prepared showing the estimated losses which might be incurred if India, Ceylon, Burma and Australasia were to become Japanese-occupied territory. The sums totalled £3 million for Australasia and £2.5 million for the other countries. (In 1944 it was recorded that a total of £3.3 million had been provided during the war against enemy debts and other assets in enemy-occupied territory).

With the coming of the war, care had to be taken about what was said in the annual report, and in 1941 the Board minutes record that the Chairman's statement had been passed by the Ministry of Information. The AGMs were short and formal. The Chairman's statement was bound with the report and in 1942 took up only four pages, against 24 in 1941.

Published accounts - post 1945

Before the Second World War the layout of the accounts changed little from year to year, but after the war and especially after the setting up by the UK accountancy bodies of the Accounting Standards Steering

Committee (ASSC) (later the Accounting Standards Committee) in the 1970s it became unusual for there to be no change between one year and the next.

The first moves in this direction came with the publication of the recommendations of the Cohen Committee, most of which found their way into the Companies Act 1947. In 1946 provisions were shown separately from creditors. In 1947 the new definition of a subsidiary was adopted, resulting in the consolidation of 84 subsidiaries instead of 62 (previously, indirectly held companies where the effective holding was less than 50% had not been included). At that time the five brief notes to the accounts were accommodated in one paragraph at the foot of the balance sheet.

The 1947 annual report comprised 16 pages, of which seven were taken up by the Chairman's statement. 1948 saw the beginning of post-war sophistication: the report now had a proper cover, the Chairman's statement was replaced by a lengthened Directors' report, and there were 27 pages. With 1949 there came larger paper and extra titbits like an organisation chart and listings of the Division Boards - 42 pages. The full Company profit and loss account disappeared in 1948.

There followed until 1956 a period of stability in the form of the accounts. In that year the revolutionary idea was discussed with the auditors that the accounts might be published in round £ thousands. Peter Menzies (later Sir Peter) had just become Finance Director in succession to Leonard Armstrong, reviving the tradition of looking to people who started their careers in the Inland Revenue. He had spent all his time in Head Office and was in due course to become a Deputy Chairman. He felt that the hundreds, tens and units would still have to be shown, as noughts; it was not until 1960 that this was actually done. Some suggestions for change became hardy annuals as the staff tried to persuade a reluctant Chief Accountant or he tried to persuade the Treasurer - usually once the Chief Accountant and the Treasurer were agreed the Finance Director said 'yes'. One example was the use of colour for the comparative figures. A rather more difficult hardy annual was whether and how the comparative figures for the previous year and in the ten-year summary should be adjusted for events like scrip issues or taxation changes. Some changes, such as the change to the imputation system of taxation, were changes of principle for which no adjustment could be made. Apart from these, however, the guiding principle was whether or not the reader could make the adjustment easily, given an adequate footnote, or whether it was more helpful and more likely to avoid wrong conclusions if the adjustment was done for them - as, for example, in the case of the bonus element in a rights issue.

In 1956 the Board set up a panel comprising the Finance Director and Secretary plus two other Directors to consider the form of the annual report. It noted that the report had become a rather large and forbidding volume, and recommended that it be split into two parts, one containing the statutory report and accounts, and the other containing a review of the Divisional and overseas activities. Also, the layout should be modernised. The printing cost would rise from £30,000 to £41,000.

But most changes were caused by new events within the Group or by external factors - Companies Acts, accounting standards or simply developments in the accepted way of setting out the document.

In 1964 the Stock Exchange decided to ask companies to disclose some additional information as a requirement for admission to quotation. There were four items, of which three caused ICI no problems. These were the composition of the Group, turnover and interim reports. But ICI was reluctant to accede to the fourth item, which was an analysis of trading results, and following discussions the Stock Exchange informed ICI that they appreciated the difficulties which the Company would have in breaking these down (Note of meeting, 5 November 1964). When such an analysis became a statutory requirement in 1968, the Company discovered that it could comply without too much trouble.

In 1968, with Ogle now the Chief Accountant, many details in the layout of the published accounts were reviewed to bring the format into line with modern thinking. The appointment of Bertie Ogle as Chief Accountant marked a new departure: hitherto the Chief Accountants had had a Head Office background, but his ICI experience had largely been gained with the Plastics Division and its subsidiary, British Visqueen. The new policy would help to narrow the communications gap between Head Office and the Divisions, and bring more of a management accounting flavour to Head Office thinking.

One item which caused some internal disagreement was the suggestion that the traditional cash flow statement in the annual report should become a Group statement. Hitherto, it had merely contained a summary of the cash flows of the Company. H D L Moore, head of the Merger Accountancy Section, wrote to the Chief Accountant on 2 July 1968, 'I entirely agree on a Company statement being more meaningful and appropriate ... I cannot imagine how anyone could possibly prepare such figures for publication within the tight timetable of our year-end programme.' This was left for further study, but with the growing international spread of ICI, it did shortly become a Group statement. But Ogle did succeed in his plea to dispense with the separate Company profit and loss appropriation account: 'we are one of the very few public companies who still present one.' Various other details were also cleaned up.

After the efforts that had gone into modernising the report, it was gratifying, as Frost commented to the Board on 17 April 1970, that ICI won *The Accountant* annual award for 1970 for the best report and accounts of a large company. The award of a pair of silver sconces was duly mounted in the Treasurer's room (not the Chief Accountant's).

An example of changes in custom occurred in 1972: the annual report included a 'Results in Brief' table which had traditionally been drawn up to show the income and its disposition over raw materials, wages, interest payable, taxation, *etc*. This format was by 1972 very old hat, and following a search through other companies' reports it was replaced by a sheet of separate figures of sales, profits before and after tax, earnings and dividends per £1 Ordinary stock, *etc*.

In the 1975 accounts the format of the 'Results in Brief' table changed again, to added value. This was liable to have repercussions on the personnel front because there were proposals that the rate of Employees' Profit Sharing Bonus should be linked to it, so care was needed. In 1976 the Chief Accountant set up a working party chaired by J R Burston with representatives from the Personnel and Business Environment Departments to study the form and content in detail. The topic of the EPS Bonus is covered in more detail in chapter four.

The devolution of Imperial Metal Industries in 1977 brought certain accounting problems in its train, acceptances of the offer had to be in by 3 November 1977, by which time it was clear that it was a success. But IMI was a subsidiary of ICI for most of 1977 and its results had to be consolidated, even though by the time the accounts were being prepared IMI was independent. ICI had no right to demand any information, and both parties were very conscious of this. In the event the potential stalemate was resolved amicably once IMI had established its rights. ICI also had to establish its rights, and for some time negotiations went on about the price which IMI should pay for various central services, such as legal advice, that it continued to receive until it had set up its own.

The auditors were always interested in the discussions about the form of the annual report because the ICI accounts were taken as a model by many other companies and by academics. In addition, the audience for ICI's report and accounts was very large - over half a million copies of them were printed, most of which went to the stockholders. Among these were the many employees who became stockholders *via* the profit sharing scheme. Internal communication of the results to the employees became more important as the years went by. In the early 1950s it was already the practice to talk about the results at the Central Council, and in 1956 Menzies used his first attendance at Central Council to explain a simplified ICI balance sheet in some detail. Company and Division news sheets carried summaries of the results. These were supplemented in 1958 by a tape about the half-yearly results recorded by Menzies, which had a mixed reception round the Works and in the 1970s by a video about the annual results in which the Finance Director starred, later, he was upstaged by the Chairman. All this was founded ultimately on the published accounts.

On becoming Finance Director in 1956, one of Menzies' first steps was to consider the external publicity, and in particular the press announcements of the results. He wanted to make them earlier, but accepted that the final estimates of profits were not sufficiently accurate, since they could vary by as much as £250,000 from the actuals. He did, however, suggest basing them on the final but not completely audited figures, and this practice was adopted. He went on to tackle the half-yearly figures. These were at that time only Company figures, because half-yearly reports were not obtained from the overseas companies. He wanted a very full study of the whole position.

Publicity also included, from 1954, press conferences when the annual report was published. These were not exciting: the results for the year had already been published; speculation about the current year and the future was reserved for the AGM; and the meat of what was left centred on the capital programme. The conference on the 1971 accounts did also produce the question 'Why have you at long last decided to follow the accountancy recommendation to include associated companies'? (Statement of Standard Accounting Practice (SSAP) No.1) (Proceedings at Press Conference, 29 February 1972) – therefore demonstrating how difficult it is to get rid of a fixed idea. ICI had publicly opposed the draft of this Standard, but did in fact follow it when it came into force in 1971.

Later still, mainly after 1976, there were 'road shows' at which the Chairman and the Finance Director talked to selected groups of financial analysts to encourage them to support financing operations by making ICI better known, especially in the US.

Year-end procedure

The year-end procedure was complicated and the timing was tight. The programme for the 1964 accounts was tightened considerably following a decision to accelerate the date of payment of the Final dividend and the date of the AGM. Frost, the then Treasurer, wrote to the Chief Accountants of Divisions on 11 January 1965:

> *The Board will be most gratified to learn from the replies to my letters of 23 December 1964 that providing abnormal sickness or weather do not intervene Divisions will be able to meet the accelerated programme … . We in London will be working on Saturday 23 January and, if necessary, also on Sunday 24 January ... special messengers arriving at Millbank will be directed to Watts' office ... let us all keep our fingers firmly crossed.*

Albert Frost was another recruit from the Inland Revenue (and a barrister-at-law), who was to follow in Menzies' footsteps in becoming the fourth ex-Inland Revenue Finance Director (fifth, if one includes Josiah Stamp).

The issuing of the programme of dates was an annual event but in earlier years the timing was not quite so tight. In 1940, for example, the Form T4 reporting Divisions' preliminary unaudited results was due in Head Office on 26 February and the draft accounts on 11 March - but these dates were some two weeks later than in previous years because of the war-time shortage of staff. Some of the profit and loss account details were also omitted, *eg,* export sales need not be split between 'Empire' and 'Other'. The war seems to have had surprisingly little effect on procedures generally: despite many staff having been called to the Forces; despite a proliferation of Government-inspired activity such as Purchase Tax, Government contracts, War Damage claims *etc*; and despite disruptions from enemy action, numerous shortages of materials and the evacuation of Head Office staff to Welwyn Garden City. After the war it took some time to speed up the timetable again and in 1951 the T4 and draft accounts dates were still only 22 February and 6 March respectively. A nice touch was the annual 'thank you' letter which went out from the Finance Director to the chief accountants of all the Divisions and subsidiaries after the year-end work was over.

In advance of the 1965 accounts a meeting of Division Chief Accountants was held. The principal problem to emerge could be regarded as self inflicted, namely the clearance of inter-merger transactions, and a working party was set up to study this. It was agreed that the expression of the ICI accounts in round £million had helped in bringing a due sense of proportion in settling issues with the auditors. The actual programme was not much changed from 1964. The abridged profit and loss account (Form T4) had to reach Head Office by 21 January 1966, and the draft detailed accounts had to be with Head Office and the auditors by 27 January. The letter setting out these dates included some detailed instructions about particular items and, typically, some elucidation:

> *There appeared to be some misunderstanding by subsidiaries last year of the correct way to show movements in revenue reserves now that this heading includes the profit and loss account balance ... .* (Treasurer's circular letter T/1965/6 to Division Chief Accountants, 29 September 1965)

By 1975 the pressure on accounting and other staff was a cause for anxiety. Frost, by then Finance Director, felt constrained to put a paper to the Board in which he enlarged on the reasons for the pressure:

> *Since 1964 there has been considerable growth in the size and complexity of the Group and the accounts themselves have become more detailed and involved, partly as the result of new legislation and partly due to the advent of accounting standards. Successive additional demands have been met within the same timetable by constant improvisation and improvements in method as well as by increased overtime working, much of it during the Christmas/New Year holiday period. On top of it all, there has over the years been a gradual but continuing tightening up of audit requirements.* (A E Frost to ICI Board, 28 August 1975)

He listed three recent causes of extra pressure: inflation adjusted accounts; the change of the year end of the European subsidiaries, ICI United States and Scottish Agricultural Industries from September to December; and the requirements of the US Securities and Exchange Commission (SEC). Despite all this, he recommended sticking to the existing timetable and the Board agreed.

At the top end, the annual procedure included the formal presentation of the accounts to the Board, with the proposed resolutions approving the accounts, authorising the transfers to reserves and recommending the dividends. In 1969, for example, this went to the Board meeting on 27 February (in 1951 this date was 26 April).

The Finance Director's report to the Board on the 1955 accounts was typical. Apart from the draft printed accounts it included a ten-page report showing the trading profits by Divisions, the income from subsidiaries, other miscellaneous items, the tax charge and the proposed appropriations. It was concerned solely with the Company accounts and ignored the consolidated accounts. As an accounting statement of where the numbers in the published accounts came from it was no doubt admirable, but its only real function was to support the recommended appropriations.

Some Directors had already had a sight of the draft accounts, because there was a committee of the Board called the Editorial Panel whose job it was to oversee the design and content of the annual report as a whole. They were mainly concerned with the Directors' report rather than the accounts but the two documents had to be consistent. The actual compilation of the Directors' report was a Secretary's Department responsibility and there was close liaison between them and Treasurer's Department. As an example of the kind of topics which would be considered by the Panel, the meeting on 17 August 1976 made decisions about ICI's 50th anniversary: printing format and costs; additional information in response to the OECD Guidelines for Multinational Enterprises; a draft consultative document by the Department of Trade *Aims and scope of company reports*; suggestions by stockholders; cover design; content of Chairman's Foreword; general style of the report; and foreign language translations. One personal duty of the Panel Chairman was to select the coloured photographs which were used.

In 1969 David Watts had taken over as the Treasurer's Department representative on the Editorial Panel, he was later to become Chief Accountant, and the notes of a meeting which he had with Vivian Robson of Secretary's Department illustrate the relationship between the Directors' report and the accounts. The auditors had complained that they did not see the information about associated companies until the day that they had to approve the accounts. This happened because that particular information had been treated as part of the report rather than the accounts. Robson welcomed a suggestion that the Chief Accountant should join the Panel, but added a caution that the Panel members might then start to take more interest in the accounts!

Interim accounts

The half-yearly results of ICI Ltd (not the Group) were prepared regularly before the Second World War, but on 1 June 1939 the Treasurer issued a circular letter stating that Head Office would not require these schedules in future 'but it is expected that Group Chief Accountants will continue to prepare an Interim Balance Sheet for their own use'. The dispensation applied only to balance sheets, not to the quarterly standard statistics.

At the 1955 AGM the Chairman announced that the trading results for the first six months would in future be published in September when the interim dividend was declared. This announcement was preceded by a study by Hillebrandt (a chartered accountant later to be Finance Director). The trigger for it was evidently the publication of half-yearly figures for the first time by three other companies, two of which (Monsanto and Shell - the other company was Albright & Wilson) had strong connections with the USA, where such figures were normally published. This move had attracted favourable press comment and the hope from the *Financial Times* that ICI would follow suit.

Hillebrandt's study pointed out that interim profit figures were collected only for the UK Divisions and their Home subsidiaries, to which were added estimates of dividends from overseas subsidiaries and from associated companies, so there were obvious problems in trying to publish Group figures, his solution was to stick to the existing grouping. He prompted the issue of a Treasurer's Circular Letter saying that the results would be compiled from the quarterly standard statistics and asking Division Chief Accountants to take care that any items such as stock write-downs or depreciation adjustments, which would normally have been considered only at the year end, should be allowed for. The timing of the returns was less tight than at the year-end, they were only required by 12 August.

This semi-consolidation had obvious drawbacks. On 14 May 1957 a Treasurer's Circular Letter and a companion letter to overseas subsidiaries called for the completion of a new Form T3(A), which was a shortened version of the Form T3, by all Divisions and subsidiaries, so that a full statement of consolidated profits could be published for the first half year of 1957, with comparative figures for the first half of 1956. It was again emphasised that attention should be paid to stock write-offs, depreciation adjustments *etc* just as at the year end.

Quarterly figures were to be prepared, commencing in 1958, in order that comparative figures would be available if it were to be decided to publish quarterly figures in 1959. With the regular preparation of quarterly figures, security loomed larger and in 1962 the Chief Accountant ruled that only four copies of the interim details and twelve copies of the full year details were to be prepared. Apart from the staff in Merger Accountancy and Profits and Forecasts Sections, the only people to see the results prior to publication were the Treasurer and the Chief Accountant and their deputies, and the auditors at the year end.

The added burden of preparing full quarterly accounts was evidently not appreciated by some of the smaller overseas subsidiaries and in 1963 they were allowed a dispensation to give just total sales and expenses.

In the event, it was not until 1965 that the quarterly results were published. It was noted that the London Stock Exchange was likely to make quarterly reporting obligatory for large companies, and if the Company were quoted on the New York exchange it would be a requirement. Seasonal fluctuations would affect the quarterly figures, and there was some concern whether the figures properly reflected the quarter's results or to what extent some items were, or should be, spread over the four quarters. The principle agreed was that the figures should represent the actual results for the period, but, for example, investment revenue would be equalised on the basis that it accrued over the year. Almost of necessity some elements of the tax charge were treated in this way because they were calculated on an annual basis.

The subject of interim balance sheets, which had been discontinued in 1939, cropped up again in 1971, when the Chief Accountant warned divisions and subsidiaries that mid-year balance sheets might be called for in 1972. The reasons given were improved cash control, up-to-date information for borrowing operations and to give a preview of the year end. The exercise was done on a trial basis and went smoothly, but the Deputy Chief Accountant gave it as his opinion to the Treasurer that in the current circumstances it should not be done regularly. Externally, there was no call for it in the absence of a listing in the USA, and internally to prepare just half-yearly actuals in the absence of planned phased balance sheets would not be helpful - the Board already received regular reports against plan of the main elements. This view prevailed for a time but the need continually to seek extra information for the purpose of financing operations led to interim quarterly balance sheets being prepared regularly from mid-1976.

Annual reports - divisions and subsidiaries

From the start, subsidiary companies were required to prepare annual reports on their accounts, and this continued until 1960 as a requirement from the UK Divisions. These reports were in the main detailed analyses of the items in the accounts with little in the way of commentary, even though a letter from P C Dickens, Treasurer, dated 15 January 1930 did say: 'We appreciate efforts to make the reports interesting and informative, and we hope they will form a feature of all reports for 1929.'

It is not clear what use, if any, was made of these reports in the centre, although Division Chief Accountants found them useful for reference. Presumably in the early days they were studied by someone in the Merger Accountancy Section, but no record appears to have survived of any resulting action. A letter dated 27 February 1940 from the Acting Treasurer, J L Armstrong, to the chief accountants of UK subsidiaries simplified their preparation 'during the present emergency'. Comparative figures could be omitted (including the Percentage of Dividends paid during the last 20 years); variations in capital assets could be limited to factories, without going into detail of units within factories; particulars of stocks under product headings could be eliminated; details of various accounts could be omitted; and product statistics could be limited to main products. Altogether the normal complement of 46 pages was reduced to 21 pages. By the time of their discontinuance in 1960 the reports were simply being filed away.

'Legal' accounts

It was originally intended that the Merger forms should also be the subsidiaries' legal accounts, but there were drawbacks, in particular that they were far more detailed than was legally necessary. Consequently, in addition to the Merger forms of accounts - Forms T2 and T3 - each subsidiary had to produce its official legal accounts, and if there were outside minority shareholders these had to be issued to them.

The form of the legal accounts was standardised early on and they continued to be produced and audited even after the subsidiaries had become Divisions of ICI instead of being separate legal entities. There were two reasons for this: there was reluctance on the part of the auditors to dispense with 'true and fair' accounts with reports on them by the local auditors; and at a meeting on 26 June 1969 Arthur Morison of Thomson McLintock & Co took strong exception to the suggestion that the preparation of these accounts might be done after the year-end work. More importantly, there was reluctance by the Inland Revenue to accept the Divisional results as shown by the Merger forms for tax purposes, especially whilst the Divisions were being separately assessed.

Ways were eventually found to overcome the objections of the auditors and the Inland Revenue, and the Divisional legal accounts vanished.

Office equipment

To produce the ICI accounts, the costing records and the management accounts required the recording, collation and amalgamation of millions of transactions. How was all this done? When ICI was formed, almost the only mechanical aid available was the typewriter. Accounting records were laboriously written by hand by armies of clerks, and calculations were done mentally or by using tables. By the end of the period the scene had been transformed: computers were in use everywhere, and a handwritten account book was a thing of the past.

The first signs of the revolution appeared in the 1930s, when tabulating machines using punched cards had become available, as had accounting machines (a sort of combined typewriter and adding machine). Also at this time the Board minuted that 'In the interests of staff and of efficiency, noiseless typewriters were being tried out in Purchasing Department at a cost of £400.13/-.' (Minute 3168, 11 April 1933.)

In 1931 the Finance Committee instructed that uniformity of tabulating and other statistical machinery was essential where possible, and the Treasurer should be informed of proposals (typically, Metals had bought Powers-Samas machines when others were buying Hollerith). Accordingly, a letter dated 26 November 1931 from the Treasurer to Group Chairmen and Chief Accountants says that the Finance Committee had under consideration various methods of obtaining statistics and costs and other such information. It asks them to let him know of any 'mechanical improvements' which they may wish to make at any time so that the matter may be discussed by all those departments which may be interested.

This letter seems to be the forerunner of various attempts by the centre over the years to control and standardise the equipment used, in the face of the natural tendency of the units to go their own way. In 1955 a Computer Panel was set up by the Development Director whose terms of reference included advising on the policy for electronic computers and co-ordination of requirements. However, in 1970, for example, the Treasurer's Conference discussed a paper by Dennis Holman in which he looked forward at the impact of computers over the next decade. There was a risk of non-compatibility across ICI, but the comment was made that although all Divisions had been induced to move to the same make of computer (IBM), other efforts at co-ordination had failed because Divisions were not prepared to sacrifice their autonomy of decision. By the end of the period, therefore, there was still no Company-wide, still less Group-wide, computer system, and accounting returns to the centre were still in hard copy.

Conclusions

It was very convenient for ICI's accountants that Nobel already had an organisation in place at the time of the merger to deal with the complexities of merger accounting. In broad outline the systems set up in the years 1927-30 were to last until well after the Second World War. In one area, however, a Brunner Mond view prevailed. It was evidently not a feature of the Nobel system of accounting that profits should be analysed by products or product groups, and this analysis was added to the standard group profit and loss reports.

When one observes the wealth of information published in annual reports nowadays, it is truly remarkable how little was accepted as the norm in the 1920's. The pendulum, however, has surely swung too far, and to expect analysts, let alone the typical individual shareholder, to absorb and understand all the facts and figures even in the summarised accounts is asking too much.

Within the limited expectations of published accounts that were current during the period, ICI's accounts were accepted as leading examples. With hindsight, what was missing was any kind of performance target with which achievement could be compared.

Chapter Four

Accounting Policies

Chapter three showed that from the outset E G Minto insisted on the need for uniform accounting policies for the consolidated accounts. Accounting policies which affected the ICI Group accounts were naturally decided in the centre, after such consultation as was deemed necessary. Operating units adopted these policies in their own accounts unless there was a specific obstacle such as local laws. Policies for the management accounts which did not affect the returns to the centre were less stringently laid down and in fact there were quite wide divergencies as between, say, dyestuffs and alkali.

Treasurer's notes

The original instructions for the financial accounting policies took the form of Treasurer's Notes to Subsidiaries and work on these started very soon after the merger. It was laid down that as from 1 January 1930 the entries in subsidiaries' books had to conform to the standardised merger form of balance sheet, and assets and liabilities had to be valued at the amounts finally determined for the purpose of the merger.

There was room, however, for flexibility in decisions made at the centre. In 1929, £315,786 was voted for research at Billingham, the allocation of this sum over capital and revenue to be decided at the end of the year. Also in 1929 it was decided by the Board that the obsolescence reserve of Synthetic Ammonia & Nitrates amounting to £415,000 would be transferred to profit and loss account 'following agreement between that company, ICI, Brunner Mond and the Commissioners of HM Treasury' (ICI Board Minute 1502, 30 December 1929).

There were some thirty separate Memoranda included in Treasurer's Notes. The biggest was 'Accountancy', taking up 68 pages in 1937, and comprising instructions for each item in Form T2 and T3 plus a schedule of standard ledger accounts. It was laid down that 'the only method of accountancy to be employed is that of the Product Account system', *ie* product trading accounts were included in the nominal ledger. A sample Table of Contents is given in Appendix 3.

There was a hiatus in the issue of Treasurer's Notes during the Second World War but production of them was restarted afterwards and much time was spent by the Treasurer's Notes Committee in updating them. This committee was chaired by the Chief Accountant and included divisional representatives. An example of the detailed nature of the Notes is the following, dealing with explosives magazines:

> *Treasurer's Notes (Memorandum II - Paragraph 24) makes a distinction between magazines situated within a factory boundary and those situated outside a factory boundary; the former are classified as 'Buildings' and would be shown against item 1(A) in the Form T2 whereas the latter are classified as 'Magazines' and would be shown against item 1(B) in Form T2.*
>
> *It has has been decided that ... henceforth all magazines will be classified as 'Buildings', irrespective of their location.* (Treasurer's Notes, 8 December 1937)

In 1962 there was growing concern about the time and cost involved and at the 1962 Division Chief Accountants' Conference the Treasurer agreed that the Notes in their present form should be discontinued.

No positive decision to abandon the Notes followed this agreement, although many of them were replaced in course of time by Treasurer's Circular Letters. For instance, on 30 December 1966 a Treasurer's Circular Letter (No.T/1966/9) was issued which gave detailed standing instructions for completing Forms T2 (merger balance sheet) and T3 (merger profit and loss account) and superseded Sections C and D of Memorandum V of Treasurer's Notes. A companion letter was issued which dealt with Forms T4 and T6, the forms which were used for providing the centre with early unaudited figures of profit and for recording the subsidiaries' appropriations of profit.

The Notes not replaced in this way gradually faded into limbo, lamented by only a few. As late as 1970 B F Crook, then Chief Accountant of Mond Division, was writing to the Chief Accountant to ask if the old bound books could be destroyed (the Notes were issued as loose leaf inserts to a black binder). In his reply B D G Ogle, the Chief Accountant, admitted that the position was far from satisfactory because the series of Treasurer's Circulars could not be regarded as constituting an accounting manual. Requests for such a document continued to be received, especially from new subsidiaries, who found it inconvenient, not to say amazing, that ICI did not have an accounting manual.

The position was remedied to some extent in 1965 by the publication of the Standard Definitions. However, in 1972 the auditors enquired whether it would be possible for standards to be issued for the guidance of overseas subsidiaries. The Treasurer reported that a working party had been set up and it was likely that its findings would help. Unfortunately the preparation of a manual is one of those jobs which get left to be done in one's spare time which is, of course, non-existent and the position was unchanged at the close of our story in 1976. It was not until 1977 that the work started.

Most of ICI's accounting policies followed traditional lines and no special comments are needed on these. This chapter focuses on some items of particular interest not covered elsewhere and shows there was considerable latitude available in some areas.

Inter-merger loans

At the beginning there were a number of loan accounts between constituent companies and interest was charged on these at rates laid down by the Treasurer. By 1930 some £0.5 million had been charged by the subsidiaries to capital. Dickens wrote a memorandum to the Finance Committee in October 1930 bringing this to the members' attention. He stated the arguments for continuing, namely:

1. *if the loans had been external, there was no reason why the interest should not have been charged to capital;*

2. *for ICI Ltd, if the loans had been to external parties then there would be no objection to crediting the interest to profit and loss account;*
3. *it was more accurate to add interest to the cost of an asset during its construction; and*
4. *the minorities should bear a proportion of the interest.*

The arguments against were: (1) these were paper transactions; and (2) one cannot make a profit out of oneself. The Finance Committee agreed to continue the practice.

In 1931 the subject cropped up again. By that time Synthetic Ammonia & Nitrates had charged £510,000 to capital plus £346,000 to profit and loss account. The Finance Committee agreed to waive the interest because it was not covered by profits and consequently tax deducted on paying it would have to be paid over to the Inland Revenue.

Apart from that instance, the practice of charging interest continued until 1937. It was finally decided that between 100% home subsidiaries the exercise had little point and it was stopped, Treasurer's Notes being amended accordingly.

Acquisitions

The first consolidated accounts of ICI covered 74 subsidiaries, by 1976 the number had grown to 517. Of necessity, ICI's accountants had to develop standard procedures for accounting for acquisitions.

A note dated 14 December 1944 sets out the merger accounting procedure adopted by E G Minto:

> *… in arriving at the real value of a company the assets (except goodwill) should be taken at book value as shown in the certified balance sheet on which the cost of the acquisition was based. In the event of an actual valuation of property and plant having been made in connection with the acquisition, such values would, of course, be substituted for those shown in the books. All free reserves and undistributed profits should be capitalised as pre-merger reserve, and from this reserve should be deducted pension*

fund or other contingent liabilities not provided by the company. Any nuisance value (as distinct from goodwill) which is deemed to be included in the purchase price should be written off out of premium if the acquisition is by issue of ICI stock, or alternatively, out of ICI reserves, if the acquisition is for cash.

After giving effect to the foregoing any difference between the net assets and the actual purchase price would be balanced by the creation of a positive or negative goodwill. In this connection 'purchase price' means market value of ICI stock issued or actual cash paid at date of acquisition. Valuation on these lines may of course result in a minus permanent reserve if the net assets are less than the share capital plus pre-merger reserve, and in such cases the books of the company could only be partially put on merger lines in order to avoid introducing red figures into the legal balance sheet.

This procedure is not far off present day practice, but some features will be noticed: fair values are adopted only if there happens to have been a valuation made; any nuisance value is to be identified and written off.

The note does not explain how nuisance value is to be distinguished from genuine goodwill, but perhaps its mention reflects a feeling that ICI was a good target for willing sacrificial victims - and the write off is to be out of share premium account. The same doubt existed then as now, about what to do with negative goodwill. A modern touch is the specific reference to making provision for pension fund liabilities not provided by the company, and this may be an echo of what happened when ICI was formed, when a provision of £409,194.14.3d was made for initial liability in respect of the Nobel pension fund.

That accounting is an art, not a science, was demonstrated in some correspondence in 1968. Minto in his notes assumes that there is a clear dividing line between pre-acquisition and post-acquisition profits, but this is not always the case. The 1968 correspondence arose out of acquisitions by IMI (formerly the Metals Division) where the acquisitions were made for shares and the vendors were entitled to the dividends on those shares for the whole year, including a period prior to the acquisition. The conventional treatment could result in dividends having to be paid on the new shares but no profits being brought in to cover them: a circular from the Chief Accountant dated 13 December 1968 says:

> *... their (ie the usual principles') rigid application may not be appropriate … where the chief accountant of a subsidiary making an acquisition considers that the application of the normal principles would give a misleading or inequitable result he should consult Head Office ... The overall requirement is to give a true and fair view and this justifies a certain flexibility.*

This flexibility was limited to bringing in a maximum of twelve months' profit of the new subsidiary.

The practice of using the acquired company's existing book values may well have continued until 1970, for in a note dated 17 July 1972 to the Chief Accountants of IMI, ICI Australia, Canadian Industries and ICI America the Chief Accountant observed that the procedure of adjusting the assets to fair values was now one of ICI's accounting policies and had been used in acquiring Atlas Chemical Industries and Qualitex in 1971. He asked for reassurance that the addressees were following the new policy.

Similar flexibility to that needed for acquisitions sometimes had to come into play on disposals. When ICI's remaining holding in IMI was disposed of in 1977, Watts put forward to Clements five possible ways of accounting for the disposal. Admittedly, three of them were quickly discounted as being in conflict with ICI's normal accounting policies and/or contravening accounting standards. The preferred treatment involved consolidating IMI's results up to the date of disposal, 31 October 1977, but this also contained a problem. The IMI chief accountant received advice that it would be unethical for ICI to be in possession of IMI's actual results for the third quarter (IMI did not themselves publish quarterly results) because ICI would then be in possession of information not available to other IMI stockholders who would be deciding whether to accept the offer or not. To get round this, he would be prepared to guide ICI as to whether their estimates were of the right order. Even within the same country it is not always possible for a parent to dictate to its subsidiaries.

Goodwill

Already in 1926 Nobel was carrying some £4.2 million of goodwill which had arisen from the explosives mergers and acquisitions of, *eg* metals companies. With the formation of ICI and as a consequence of the liquidation of Nobel Industries Ltd this had risen by 31 December 1928 to £7.7 million.

The goodwill attributable to Brunner Mond was £8.2 million on the formation of ICI and with £1.7 million arising from acquisitions in 1927 and 1928 the total ICI goodwil1 was £17.9 million at the end of 1928 (which may be compared with the £57 million shares originally issued by ICI). 'Special' writings down of £0.5 million for Cassel Cyanide and £0.4 million for Castner-Kellner Alkali reduced the figure somewhat. There were other adjustments because some companies, *eg* British Leathercloth Co Ltd, were not initially treated as subsidiaries even though ICI owned the majority of the shares.

This embarrassingly large amount inhibited the ICI Board from publishing a consolidated balance sheet for some years, despite increasing public pressure. For example, the consolidated balance sheet at 31 December 1933 shows that if all Patents, Processes, Trade Marks and Goodwill (of which Goodwill formed the major part) were written off the reserves would be in the red to the tune of £7 million. The total goodwill figure had changed little by 1958 because although an extra £2.5 million had come in through acquisitions, large amounts had been written off. However, there are some curious movements recorded. Payments were made by Brunner Mond to United Alkali for transfers of makes and these appear as increases in goodwill. Were these receipts by United Alkali being taken to profit? - or, more acceptably, to reserve? There is indeed a comment by Edmund D White & Sons, the auditors of both Brunner Mond and United Alkali, when reporting on the merger balance sheets at 31 December 1931:

> *In our opinion the method now adopted by ICI (Alkali) of charging these compensation debits to obsolescence reserve instead of goodwill is correct, as it appears to us that the former practice resulted in the transfer of considerable sums from fixed assets to goodwill in*

> *aggregation.* (Edmund D White & Sons audit report on ICI (Alkali), 1931 accounts)

In 1939 £1.2 million was written off against a Special Capital Reserve, and prior to this £1.3 million relating to Brunner Mond (Japan) and ICI China had been eliminated.

In 1958 J H Cotton, the then Treasurer, suggested to Menzies that it was a good year to write-off the goodwill, especially in view of the increase in reserves following the second revaluation of assets which had just been done. Moreover, an extra £1.5 million was looming up from the reconstitution of Leathercloth Division as a separate company and the purchase of the Plant Protection Preference shares.

Menzies' response is still pertinent today:

> *The goodwill item in our balance sheet is the relic of a period now some thirty years out of date and we should continue with a purely historical entry only if it means something real in today's circumstances. The largest single component is the Nobel Division. The UK customers of that Division are now entirely different from the customers of thirty years ago and, with changed circumstances in the main overseas markets, there is little continuity about that business also ... the Alkali Division has substantially the same customers but prices today are fixed by reference to the value of physical assets and associated working capital without any addition for Goodwill ... the traditional products of the General Chemicals Division do not nowadays give rise to substantial profits and the Division has to face such competition in these products that the only consideration is the merits of the Division's products.*

> *If the goodwill were appraised today entirely afresh, then we would probably point to the substantial expenditure incurred in the establishing of the Company's newer products ... Any values arrived at would give rise to a figure much larger than £16 million and it would arise in different Divisions. On the other hand, the market value of ICI shares at today's prices on the Stock Exchange does not amount even to the full net value of the physical assets and the associated working capital.*

> *With these factors in mind, I would prefer to take the opportunity now of removing the goodwill item from our balance sheet by writing it off against Capital Reserves.* (P T Menzies to J H Cotton, 28 October 1958)

This was duly done (reference P T Menzies note to ICI Board, 19 February 1959). By that time the £16 million involved was hardly material in terms of ICI's total balance sheet, and there was discussion in accounting circles of outlawing direct entries to reserve accounts so that everything would pass through the profit and loss account.

Having successfully got rid of the problem in 1958, ICI reinstated it in 1964 on the acquisition from Courtaulds of the half of British Nylon Spinners which it did not then own. The amount involved was £39 million, it could have been more, because the auditors pressed that the value of the Courtaulds shares surrendered as part of the deal should be uplifted to their market value. This was turned down, on the understanding that a full explanation would be included in the accounts. However, auditors are nothing if not persistent, and when it came to filing ICI's accounts with the US SEC their arguments won the day and the goodwill, which by then had been written off, had to be reinstated. In setting down the agreed treatment, Menzies made a comment which would be sympathetically received in some quarters today:

> *This might be narrowly described as goodwill, but it includes of course the benefits of all rights, processes, etc. owned and developed by BNS and the benefit of all unexhausted development expenditure incurred by BNS. It is a figure covering a lot more than just goodwill.*

Despite a recommendation from Menzies, the Board was reluctant that this goodwill should be written off because it would have given the impression that ICI had paid too high a price. Additionally, if it had been written off this would have reduced Group capital reserves below Company capital reserves, which was considered to be undesirable, and it would have reduced the reserves available to cover borrowings. The matter was reconsidered in a note dated 6 May 1969 by Merger Accountancy Section and it was recommended that the time had come to make the write-off in view of the record 1968 profits coupled with Governmental policy of dividend restraint, which had boosted the reserves, but no action was taken at that time.

Unfortunately, troubles in the textile industry surfaced and multiplied so that by 1971 there were further large amounts of goodwill looming from ICI's endeavours to help rationalise the industry and also from the expected acquisition of Atlas in the US. Both ICI and its auditors were concerned that the BNS goodwill no longer had any value (there was also concern about the book value of ICI's investment in Carrington Viyella), and Hillebrandt, then Treasurer, presented a paper to the Chairman's Conference in which he wrote 'It is, I think, proper that I should inform the Board of an increasing unease, a rational foundation for which it may be difficult to discover, on the part of the auditors and on my part also ...'. The paper went on to rehearse the arguments for and against retaining goodwill on the balance sheet and, if not, how it should be disposed of - arguments which have since become familiar in the context of accounting standards.

In the event, the BNS goodwill was written off against reserves in the 1971 accounts. The Chairman commented:

> *... it is common knowledge that there has been a substantial change in the market for nylon. Although nylon has been highly profitable in the past, the present profitability no longer justifies the retention of the goodwill in the balance sheet.* (Chairman's speech at Annual General Meeting, 29 March 1972)

This was not quite the end of the story of the 'textile' goodwill. ICI had acquired 64% of Carrington Viyella in 1970, but the company had not been consolidated because ICI gave an undertaking to the Government restricting its voting rights to 35%. The holding was still 64% in 1973 and it was becoming increasingly difficult to persuade the auditors that it was still right not to consolidate. If the company was consolidated the goodwill would be £28 million. In practice, the shareholding was disposed of and Carrington Viyella was never consolidated.

More 'textile' goodwill might have arisen in 1971 with the acquisition of Qualitex and the texturising subsidiaries of Carrington Viyella, but in spite of a recommendation from Hillebrandt in December 1971 that it should be retained on the balance sheet, in practice it was written off in the light of the poor trading conditions. He also proposed that in normal circumstances goodwill should be capitalised and then written off by annual instalments, the life being determined at the time of acquisition in the same way that the life of new plants was determined. This recommendation sounds familiar today, and it had attractions in terms of management accounting because the acquisition would then have to earn a return on the goodwill, but it was not followed up.

The goodwill of £15 million which arose on the acquisition of Atlas Chemical Industries took the place of the BNS goodwill, but there was concern that it would not be allowed to remain indefinitely on the balance sheet and might, because of forthcoming EEC Directives, have to be written off against profits. So once again reserves were brought into play and in the 1977 accounts the accounting policy was changed so that this remaining amount was disposed of.

Lest it appear that goodwill only surfaced in terms of write-offs, mention might be made of Nalfloc Ltd, where there was a sale of part of ICI's holding to outside shareholders in 1967. The auditors agreed that credit for the sale of goodwill could be taken in the Company reserves.

Classes of business

Down to the Companies Act 1967 there was no legal requirement to give any information in the directors' report or accounts about the contributions of the various parts of the Group to the total profit.

The Act introduced the requirement that where a company carries on business of two or more classes that in the opinion of the directors differ substantially from each other, the directors' report shall contain a statement analysing turnover and profits over those classes. It will be noted that, rather surprisingly, there was no requirement to allocate capital employed.

In 1964 ICI had been able to maintain to the Stock Exchange that it carried on only one business, namely chemicals (it is perhaps questionable whether non-ferrous metals are chemicals in this context), but it was felt that to try to adopt this line in the face of the requirements of the Act would be to lay ICI open to criticism. Other possibilities such as allocations by final products or by markets were canvassed, and there was some discussion with the auditors about whether the production of nylon polymer by Dyestuffs Division was one business with the manufacture of fibre from it by ICI Fibres. The general view at that meeting was that in order to meet the spirit of the Act, some split of the business of the home companies would have to be arrived at.

In the end, with ICI's Divisional structure it was not difficult to decide that the analysis should be based on it, with some grouping to keep the statement reasonably short. The criteria which it was suggested that the Board should consider were:

(a) the markets in which ICI is trading: for example, paints, pharmaceuticals and fibres are sold in different specialised markets with differing influences at work;
(b) the process of manufacture: production of bulk chemicals in large single-stream plants is very different from batch processing of small quantities;
(c) the inter-dependence of different activities; and
(d) the need for a simple mechanism that could be applied speedily and consistently from year to year and lend itself to ready explanation of variations.
(ICI Board Minute 21954, 26 September 1968)

The Board did not at that time regard the Divisional businesses as being world-wide and this is shown by the adoption of a territorial split for the overseas businesses.

The figures for sales presented a slight problem, because there would now be three sets of sales figures published:

- the Group sales to external customers as shown in the profit and loss account;
- the Group sales analysed by territory of the ultimate customers (a Stock Exchange requirement); and

- the new analysis which would include inter-class sales and would include export sales in the exporting territory.

As the footnote to the table stated: 'The sales and trading profits in the UK section relate to all sales in and exports from the UK. Those in the overseas section refer only to the manufacturing and trading activities of the overseas subsidiaries and thus exclude sales invoiced directly from the UK to external customers overseas.' Despite this full explanation some readers were still confused. (It will be noted that at that time exports from territories other than the UK were not considered to be significant).

The divisional reorganisation in 1971 (see chapter 2) caused a rethink. The divisional basis was adhered to but the new Petrochemicals Division had to be accommodated. Dyestuffs had lost its fibres interests and Nobel had been reduced to explosives only - and had now become Nobel's Explosives Co Ltd again. The possibility of showing all divisions as separate classes was explored, but the Division Chairmen opposed this and their opposition was to an extent accepted:

> *... it would be wrong to create separate classes if the effect of doing so would be to mislead stockholders - there must be differences of substance between one class and another.* (ICI Board Minute 22950, 28 October 1971)

Another possibility which was canvassed was to amalgamate all the 'chemical' divisions, *ie* Plastics, Petrochemicals, Mond and Organics - foreshadowing a change in organisation which did, in fact, happen over ten years later. In 1971 this would have put over half the trading profit in one class, making the table very unbalanced.

There was a minor change in presentation in 1972 to give more prominence to Western Europe, reflecting the internal move towards greater management integration of the UK and continental Western Europe.

In 1973 there was more discussion and although no major changes were made, the note by Frost to the Executive Directors (dated 8 October 1973) and the outcome recorded by Hillebrandt a week later show how the thinking was developing and the complexities. ICI had been using for management purposes analyses of the Group activities over 'business fields', in which the profits and capital relating to intermediates were rolled forward to the final products on a world-wide basis. There was much talk at the time of 'matrix' organisations, operating units being responsible to both product and territorial managements.

The classes of business analysis could have followed this format but it would then publicise more information than was legally necessary, would be more complicated, and would be more difficult to produce because the larger overseas units did not have the same organisational structure as that in the UK. There was also reluctance to imply that the business fields were controlled throughout the world from the UK. Although there was some support among the Directors for moving in the direction of business fields, Frost's note triggered discussion about the most useful form of management accounting information. Although the business field information was helpful, it was not necessarily the best for operational management because it cut across the units' responsibilities. Hillebrandt writes: 'I think the Directors understood some of the problems and appreciated our difficulties in designing a management accounting system to serve ill-defined ends' (F J K Hillebrandt, 15 October 1973).

Reconsidering the classes of business table was rapidly becoming an annual event. In 1973 a separate table had been introduced into the Annual Report showing sales by product groups on a world-wide basis, and the commentary for some groups had also been on a world-wide basis. Clearly it was unsatisfactory to continue using a different basis for classes of business and accordingly in 1974 the table was split into two, one showing world-wide sales and profits by product groups and the other showing sales and profits by territories. A full matrix basis was again dismissed as going too far.

The divisions grumbled that the profits shown in the classes of business table were not the same as those which were shown in the management accounts. This became increasingly a nuisance when businesses were reporting the performance to employees who then saw different figures in the annual report. Adjustments were made in Head Office to allow for inter-merger profits in stocks and exchange profits and losses realised centrally, and it was ultimately necessary to supply divisions with schedules showing the reconciliation.

Employees' profit-sharing scheme

In 1952 the Alkali Division Works Council proposed that there should be a profit-sharing scheme, but the Board minuted that there were considerable difficulties: 'the ICI Board do not hold out any great hopes of being able to introduce a profit sharing scheme'.

The Board had a change of heart, however, as shown by this statement:

> *The Directors have for some time had under consideration the introduction of a form of profit-sharing for employees, as they are firmly convinced that the long-term interests of the Company would be furthered by identifying the interests of employees even more closely with those of the Company.* (ICI Annual Report, 1953)

In 1954 the Employees' Profit-sharing Scheme (EPS) was instituted (ICI Board Minute 15789, 11 November 1954). However, because of the particular form of the scheme the usual accrual methods could not be used. The bonus was initially equal to the excess over 5% of the rate of Ordinary dividends which, of course, was not known definitely until after the accounts had been published. It was decided at the outset that the bonus should be charged in the Divisions' accounts and consequently, it was necessary to tell them to accrue it at the last known rate. Any difference was taken up in the Head Office accounts and fed back to divisions in the following year. To enable Head Office to make the adjustments the divisions had to supply them with estimates of the qualifying remuneration, which again presented a problem because this was the remuneration for the fiscal year to the following 5 April.

A comment in *The Scotsman* in April 1956 attracted the Chairman's attention:

> *Moreover, the maintenance of the dividend, despite a marked improvement in net earnings, may also add power to those who*

doubt the worth to the equity holder of tying the employees' profit-sharing bonus to the dividend rate.

The implication was that the dividend had been held down to avoid increasing the bonus, and Menzies' reaction was that it was a pertinent comment:

We have a new feature to take into account whenever we consider an issue of new shares ...

The scheme also attracted local interest outside ICI, as evidenced by the following advertisement in *The Runcorn Guardian* for 7 September 1961:

RUNCORN CAR MART have a wide range of carefully selected used cars; small overheads permit competitive prices; generouse part-exchange allowances, honest-to-goodness value for money; courteous, friendly service throughout the week; you'll be agreeably surprised if you call at The Fina Station, Halton Road, Runcorn. <u>ICI shares accepted towards deposit at 6d. over market value.</u>

The basis for calculating the rate of bonus caused many problems over the years, principally because of inflation. The original link to the rate of Ordinary dividend began to produce too high bonuses because the rate was based on the share capital in issue, so that the nominal rate of dividend would increase more quickly than the rate of inflation, unless there were scrip issues, which themselves posed problems of explanation. In addition, the rate of bonus was applied to remuneration which was itself rising because of inflation so that there was a multiplier effect.

In 1958 these problems came to a head when there was a scrip issue, the very circumstance envisaged by Menzies in 1956. It caused a change in the basis to 22% of the total amount of Ordinary dividends plus Preference dividends plus Loan Stock interest. A three-page explanation had to be issued to employees. However, this still gave problems: in 1962 there was a suggestion that UK employees should not benefit from high profits overseas, and dividends from companies not in the Scheme were excluded.

In 1964 another change was made because, as explained to employees, 'The present method of calculation still ties the bonus to distributions to stockholders and these do not always reflect changes in profitability from year to year'. The new basis related the rate of bonus to the rate of return on capital by a published scale.

Events again overtook the scheme in 1965, when Corporation Tax was introduced. By a narrow margin the Profit-Sharing Committee, chaired by P C Allen, recommended that there should be no published formula, the rate being decided by the Board each year after considering various factors such as profitability, rate of dividend, and rate of inflation.

The lack of a formula was also found not to be satisfactory and a working party with no less than 33 members, chaired by W B Stead of Central Personnel Department, was set up in September 1975 'to consider the basis and operation of the EPS Scheme, to assess how well the objectives of the Scheme are being met and to recommend to the ICI Personnel Director (for consideration by the ICI Board) any changes which the Working Party considers desirable in order to achieve those objectives more completely'.

With such a wide remit and such a large membership, many of whom were not familiar with these things, it is not surprising that it took over a year for the report to be produced, and it was not until the end of 1977 that its recommendations (with some minor amendments) were adopted by the ICI Board. As the report says: 'We realised that we needed a greater understanding of accountancy matters, individual and company taxation, and a variety of subjects including the workings of the stock market' (ICI Employees' Profit Sharing Scheme - Report of the Joint Working Party, December 1976). The Treasurer's Department representative on the Working Party was John Burston, and it will be gathered that he had a major task, although he was backed up by Brian Mould, the ICI Registrar, and by Michael Swift of Pensions Department. Problems identified by the Working Party included lack of understanding of the bases of arriving at the level of bonus and its distribution, lack of a published formula, principles of eligibility, effects of inflation accounting, whether cash or shares should be issued, and various administrative problems.

The working party came to the general conclusion that the Scheme could not have a direct effect on employees' motivation. It was more likely to be to the background of the feelings of employees about, and their interest in, the Company, but it was nevertheless valued by a large majority of employees. The working party, therefore, proposed a revised statement of objectives:

(a) To help encourage the co-operation and involvement of all employees in improving the business performance of the Company.
(b) To provide tangible evidence of the unity of interest of employees and stockholders in the continued existence of ICI as a commercially strong and financially viable Company.
(c) To help focus the interest of employees towards being part of a more effective Company, by being involved as stockholders.

The working party considered that it was of over-riding importance that a simple published formula should be developed, linked to a measure of business performance, and that there should be a sustained effort to ensure that it was understood.

In 1976 inflation was high and it was expected that some form of inflation accounting would shortly be introduced to supplant or adjust published profits. Furthermore, profitability is affected by accounting judgments and can be stated in different ways, *eg* before or after tax, which can be confusing. The working party therefore turned away from profitability as a measure. A statement of added value had been included in the 1975 Annual Report and the working party was attracted to a basis which used the ratio of added value to employee costs: although not covering the utilisation of capital, it was likely to be more stable than other measures. Having decided on this measure, the working party had to develop a formula which linked the bonus rate to it.

The working party went on to consider whether the ratio should be calculated from the published Group figures, the figures for the units participating in the Scheme, or even for each individual unit separately. It came down firmly for the published figures, even though these included the overseas companies, because they were published and because they wanted to emphasise the interdependence of the ICI Group. Having decided on the main issues, the working party went on to consider the ways in which the bonus for each individual might be calculated and it broadly recommended no change to the existing basis, *viz* taxable pay.

The actual number of shares which each employee received was affected by both the rate of bonus and the share price used in the calculation. This was originally fixed as the price just before the AGM. Using one day's price, however, could suffer from erratic Stock Exchange fluctuations, and in 1956 it had been changed to the average price in January or, if less, the price on 31 January. This was still not entirely satisfactory, and the working party recommended a change to the average for the bonus year.

The new basis was implemented formally for the bonus year 1978, which left the Board to decide what basis should be used for 1977, a decision which was complicated by the disappearance of IMI from the ICI Group towards the end of that year. It was finally decided to apply the new scale in fixing the rate of bonus for 1977.

Divisions were originally instructed that the bonus should be treated as a profit and loss item and allocated to products. This aroused protests because divisions quite reasonably said that if it was a profit-sharing bonus it should not be charged in arriving at the profits, however, there were other factors at work.

In the first place, it was essential that the bonus should be allowed for tax and for this purpose the more clearly it was treated as an expense, the more certainty there would be that it was allowable. The tax treatment was in any case not straightforward because although the bonus was declared in money terms, the money was paid to the trustees who then invested it in ICI Ordinary shares issued for the purpose, so that ICI ended up in pocket to the extent of tax on the bonus allowed against profits less the Schedule E tax deducted when the bonus was paid over to the trustees.

Another reason for charging the bonus to products was to get it allowed as a cost in Government contracts. Despite these considerations the bonus was for some years shown on the published profit and loss account as a separate item after trading profit.

As a footnote to the EPS story, here is a note which Menzies passed to R A Banks, the Personnel Director, on 14 May 1957:

> *Purely as a matter of interest, I enquired what might have happened to an employee of Brunner, Mond & Co Ltd who in 1913 applied 5% of his annual wage to the acquisition of Brunner, Mond Shares. As you will see from the attached statement [not reproduced], there would have been almost precisely one Ordinary BM share which, if held continuously through the formation of ICI and right to the present time, would have been eight ICI Ordinary shares. This, I think, is less than is received in one year today under the EPSS by a comparable employee. I do not know what this proves, other than that inflation of wages has certainly kept pace with capital gains in a most profitable enterprise throughout a period of close on half a century.*

Extraordinary items

A new accounting standard dealing with extraordinary items (SSAP 6) came into effect for the 1974 accounts and the treatment of a number of items which hitherto had been taken to reserves had to be reconsidered:

(a) Profits and losses on realisation of investments. These were specifically mentioned in the Standard as being extraordinary items, so this treatment would be followed unless they were immaterial in total.
(b) Profits and losses on sale or closure of plants - trading profit unless size or other circumstances clearly indicated the extraordinary item treatment.
(c) Exchange profits or losses on loans - still reserves as an offset against exchange differences on fixed assets and investments.
(d) Profits on redemption of UK loan stock - extraordinary items.
(e) Goodwill written off on new subsidiaries - extraordinary items.

Adjustment of prior years' figures from 1965 to 1972 for the ten year financial record was thought to be of little practical value and there is the interesting comment by Hillebrandt that: 'if the new accounting standard had operated in those earlier years, it is possible that in particular years we would have paid a higher or even a lower dividend.' There was a certain amount of public comment when SSAP 6 was introduced to the effect that it outlawed reserve accounting. It will be seen that when actual cases were considered it was found to be right and proper that some things should still go to reserve.

Redundancy payments

In 1971 the drive on numbers of employees was biting hard and lump sum payments on redundancies and early retirements were becoming significant. After discussion with Personnel and Legal Departments the Chief Accountant ruled that unless the costs were associated with an exceptional event such as the Divisional reorganisation, accruals should be made only for those redundancies agreed on or before the year end. The significance of the involvement of Legal Department was that no legal liability existed if notice of redundancy had been given but it had not yet happened.

Stock valuation

The general basis of valuing stocks, which held good for many years, was that raw materials were valued at the lower of average holding prices or market prices, and finished goods at the lower of average works cost or net realisation. However, doubts entered when it came to the treatment of plant obsolescence (later, depreciation on major plants and services) and Central Services (*ie* the expenses of the Board and Head Office Departments, which were charged out to the Groups/Divisions). Works cost included Works General Charges (*ie* overhead expenses at works) and Local Administrative Expenses (*ie* overheads at Division headquarters). Initially, it also included Central Services, but these were excluded from costs by being carried in a suspense account from one year end to another. In 1930 it was decided that one half of the Central Services charge should be considered as part of the cost of production and unit rates calculated for inclusion in stock valuations. In 1936 they were excluded altogether.

In 1930 it was decided that obsolescence, hitherto included in stocks, should now be excluded. The resulting debit to profits was covered by a corresponding credit from the central reserve.

There the matter rested until 1961, with local overheads included but depreciation and central services excluded. In that year a working party recommended that depreciation should be included but that local administrative expenses and certain research expenditure should be excluded. However, this would have cost £0.5 million in tax, so it was not done. Apart from this, emphasis was placed on ensuring that the works cost was not abnormal.

Again the matter rested, until in 1966 the auditors were beginning to worry that the bases used by the divisions were diverging, following the introduction of standard costing, fixed and variable cost analyses and product group organisations. Accordingly, division practices were surveyed and it was found that the plant cost was being based variously on actual cost, current year's standard cost, or following year's standard cost. Local administrative expenses were included by some divisions and excluded by others, as was some research expenditure. The bases of allocation of overheads to products varied, but it was considered that in the varying circumstances of divisions there was no merit in attempting to lay down a uniform basis.

The plant cost differences were found to be more apparent than real. Current year's standard cost could be equated to a normalised actual cost and following year's standard cost could justifiably be used if it was more closely related to actual year-end conditions and was not higher than current actual cost.

The auditors were also concerned that overseas subsidiaries did not always follow the Group policy. A case in point was ICI Holland, which in the 1960s was including depreciation. The Head Office view was that it was not desired and probably impracticable anyway, to enforce a rigidly uniform basis. If the effect of the difference was material, a change would be made, if possible in the subsidiary's accounts, otherwise by consolidation adjustment. The latter was less attractive because it meant adjusting the management accounts as well. In most cases it was possible to decide that the difference was not material.

In 1975 ICI had to deal with the new UK SSAP on stock valuation. Fortunately, it did not have a major effect: depreciation now had to be included in stock values, but all research and development expenditure was excluded, as was certain divisional overhead expenditure. Its adoption was helpful in ironing out some small inconsistencies which had existed for a long time, and also in settling that stocks should not be valued at variable cost, which had been advocated by some people.

Inter-merger stock provisions

When consolidated accounts were prepared, it was necessary to eliminate from Group profits the profit made by the supplying subsidiary on sales to a fellow subsidiary if the material was still in stock at the year end: this is, of course, a normal consolidation adjustment. Consolidated accounts were not published for some years, and it seems that at first no such adjustment was made. A letter by the Treasurer to the Group Chief Accountants on 13 November 1936 said that Head Office wished to ascertain as near as possible, without too much work (the avoidance of too much work in calculating the provisions was a recurring theme over the years), the amount of profit and obsolescence included in the stock value of process raw materials and finished products for resale, purchased by one subsidiary company from another. The letter asked for the quantities and values of the relevant stocks: the actual provision was calculated at Head Office from the information held by the Costing Section.

Evidently the provision did not cover depreciation, because in 1953 a letter by the Chief Accountant to Division Chief Accountants includes: 'A further point has been raised by the Taxation Controller that inter-merger stocks are the only stocks which have at the present moment a proportion of depreciation included therein, and from the taxation point of view this is undesirable.' The inconsistency apparently did not matter from the accounting point of view.

The object of this letter was to convey the decision that the provisions, which up till then had been held in Head Office, were in future to be held in the books of the selling divisions, and they would cover both profit and depreciation (there is no mention of Central Services). The movements in the provision had been taken into Central Services, but in future they would be included in Divisions' trading profits. The calculation of the provisions would still be done by the Costing Section.

Apart from purchases for resale, the provisions related only to products held as raw materials by the receiving division. In 1955 Plastics Division raised the question of materials contained in finished stocks or in process, which they calculated amounted to £900,000. A Lyons, the Cost Controller, commented to the Treasurer that:

> *… it was never the intention to follow through all the ramifications of further manufacture in order to trace and assess the diversified forms in which interdivisional raw material finally appeared in products for sale. If this principle were adopted, there would, of course, be an enormous amount of work involved …* (A Lyons to Treasurer, 10 November 1955)

A J Steward added his views:

> *… although theoretically there might be some justification for adopting this new procedure, in practice it appeared to me at once that it would lead to all sorts of complications and abstruse calculations and would not be worthwhile … . For instance, if we bought a raw material from another company which had used our salt to manufacture that article, might we not feel it necessary to take out our profit in the salt sold to the company who had made the goods which were now sold to us as a new raw material?* (A J Steward to J H Cotton, 14 November 1955)

Steward had consulted the joint auditors, who both thought the new procedure was completely unnecessary. However, six years later, in 1961, the auditors were pressing ICI to do this very thing.

It was only the existence of a stock valuation working party, plus ICI's friend, materiality, which averted a last minute adjustment to the 1960 accounts. The matter was discussed with the auditors again in mid-1961 and it was decided to go ahead. At the same time it was decided that the supplying divisions should themselves do the calculations from information provided by the receiving divisions. An instruction was duly issued - emphasis being placed on only including amounts which were material and readily ascertainable. The effect of the new procedure can be roughly gauged from the figures as at 31 December 1960: on the old basis the amount of the provision was £863,000 whereas on the new basis it was no less than £4,588,000.

In 1967 the pre-1953 position was restored and the provisions were taken back into Head Office books. This did not save the divisions any work, because they still had to do the calculations, but it did mean that their separate profits were no longer distorted by these Group adjustments. As in so many things, what began as a straightforward accounting procedure became complicated because of tax. Until 1961 the provisions were set up without regard to tax effects. Disallowable amounts were adjusted in the tax computations, and that was the end of the matter.

With the new regime on 29 August 1961, Weysom argued that disallowable provisions should be set up on a net basis. In the event, what happened was that the provisions were calculated gross and a Tax Suspense Account was set up to cover tax on the disallowable provisions. Meantime, discussions were going on with the Inland Revenue to determine how much of the provisions would be allowed. To safeguard the position, it was decided that divisions and wholly-owned UK subsidiaries should repossess stocks held as raw materials and issue credit notes for the profit, *etc* in stocks held as finished products or in process. This entailed setting up a series of accounts for the different categories.

Finally, in 1965 A W Clements (head of the Taxation Section, another ex-Inland Revenue recruit who was later to become Finance Director) was able to report that a settlement had been reached. All provisions between divisions would be allowed, but it would still be necessary for stocks held as raw materials by wholly-owned UK subsidiaries to be repossessed for those provisions to be allowed. Other provisions would be disallowable (the amounts involved were not small - at the end of 1971 the disallowable provisions totalled £8.5 million).

In addition to the UK units there were also the overseas subsidiaries to be considered. At first the overseas provision was calculated very approximately: it would have been a mammoth task to collect full details of all ICI's products held in stock by subsidiaries round the world. Also, there happened to be a convenient central provision of £630,000 which could be called in aid if there was doubt. However, in course of time and partly through pressure from the auditors a more regular system of reporting the main items was developed. Fortunately, it was possible to gather the information as at a date before the year end so that the calculations could be done in advance without any great loss of accuracy.

By the time our story closes the total provisions had become large: at the end of 1976 they were £25 million against UK stocks and £40 million against overseas stocks.

Extractive operations

From the start ICI had been involved in extractive operations, particularly in the form of limestone and brine for alkali production and anhydrite at Billingham. In the early 1970s the heavy expenditure on oil exploration in the North Sea began to pay off with the discovery of the Ninian Field. Up to that time it had not been found necessary to develop a special accounting policy for extractive operations, but expenditure on oil and gas presented its own problems and involved much larger sums of money than hitherto and ICI America were also acquiring oil and gas reserves.

Accordingly, a statement of accounting policy was issued on 17 October 1973. This followed the so-called 'successful efforts' method whereby expenditure on each field was dealt with separately. Four stages in exploitation were identified: exploration; appraisal; development; and production. In general, exploration and appraisal expenditure in new areas was capitalised and immediately written off to revenue but expenditure on development was capitalised and carried forward so long as it was expected to be recovered out of future revenue. After a field had reached the production stage, physical assets were capitalised but exploration, appraisal and development were charged to revenue. Depreciation could be either straight line or unit-of-production, although a preference was expressed for straight line as being consistent with Group depreciation policy.

It is sometimes not easy to apply an accounting policy in practice: in 1976 ICI was buying a 25% share in some US Gulf Coast prospects by paying 100% of exploration costs up to $68 million. It was decided that this method of payment did not determine the accounting treatment, which should be based on the total outgoings of the partnership. Accordingly, the $68 million was split between lease acquisition, exploration and development: an early example of 'substance over form'.

Foreign exchange

Until 1931 problems of exchange differences hardly arose. Of course, there were fluctuations in exchange rates, but most overseas transactions were in sterling and overseas investments were booked in sterling. On 19 September came the Depression and the departure of sterling from the gold standard.

The Treasurer wrote on 27 November 1931 to the Group Chief Accountants about the treatment of the resulting exchange effects: profits on debtor balances and losses on creditor balances were to be taken to Exchange Account (which would find its way into the profit and loss account). The effects on sales after 19 September were to be included in product realisations and on costs in product costs, but notes were to be kept of the increases in the sterling equivalents.

Some countries, for example Canada, imposed dumping duties, and the Groups were given appropriate invoicing instructions: goods subject to the duties (mainly alkalis) were to be invoiced in Canadian $ at fair home market value. Some goods were invoiced in sterling at cost plus 10%, but competitive products were invoiced in Canadian currency since the prices were based on Canadian $ quotations. Subsidiaries (or Winnington Sales Ledger as the case may be) were to be advised in due course as to the amount in sterling to be credited against invoices rendered to Canada.

It is interesting to note the reference to the Winnington Sales Ledger. This had been set up in Cheshire shortly after the merger to handle the sales ledgers of the Chemical Group, and at that time it handled both UK and export sales. Later, all export sales were handled in London and later still, after 1976, they moved back again to join the Central Sales Ledger Section, which was now established at Northwich in Cheshire.

During the war and until 1971 there was rigid control of exchange rates and consequently no day-by-day concern about exchange differences. Sterling was devalued against the US$ in September 1949, and the exchange differences which arose on consolidation were taken to reserves. A teleprinter was sent out by S P Leigh, the Overseas Controller, to UK Divisions giving instructions on export price policy. This was, not surprisingly, that selling prices in sterling terms should be increased wherever possible, especially to dollar countries and to those whose currency had moved with dollars. The effect on ICI's purchases was not expected to be serious: higher US dollar costs (*eg* on purchases of non-ferrous metals) would be passed on to customers.

In 1956 the auditors questioned the policy of translating overseas assets at the rates ruling at the balance sheet dates. Their concern was triggered by the large increase in the Canadian assets of the Group following the du Pont segregation. In the view of A C Falkner of Price Waterhouse the time had now come 'for more correct accountancy principles to be applied' and for the assets to be converted into sterling at exchange rates in force at the time of the original purchase. ICI did not contest this on principle, he was thought to be academically correct, but considered that the likely exchange differences were not material and pointed to the administrative difficulties. It was left that each year any particular doubtful case would be considered for special treatment.

At the instigation of the auditors there was a re-examination in October 1963 of ICI's procedures for dealing with exchange differences. A statement prepared at this time shows that over the years 1952-62 there were substantial net debits to reserves, totalling £10.9 million. Even at this early date severe inflation in an overseas territory was being recognised by revaluing the fixed assets, so offsetting to some extent the exchange losses on the currency.

It was now proposed (note by H D L Moore, 6 December 1963) that differences on net current assets should be regarded as part of the result of the year's trading. Experience over the past eight years indicated an average annual loss of about £250,000. To even out the effect on Group profits of sudden movements in exchange rates the intention was to charge Group profits with £250,000 each year, which would be credited to a suspense account. Exchange profits would be credited to the suspense account, further augmenting it. If the balance exceeded £1 million the position would be reconsidered. The auditors commented (and it was accepted by ICI) that 'net current assets' presumably meant 'current assets less all liabilities' (letter to Chief Accountant, 30 January 1964). They did not object to the smoothing so long as the amounts were not material.

ICI did not accept that losses on fixed assets should be charged against profits, because they would be counterbalanced by revaluations (the particular currency mainly involved was the Argentine peso). The auditors noted that the proposal appeared to depart from ICI's policy of writing off the cost of fixed assets over their lives, because 'the whole of the sterling cost would never get charged against Group profits'. In their view, the losses on fixed assets which were being carried in the suspense account should be added to fixed asets and written off over a period. A surplus on revaluation would go first to reduce the suspense account. In other words, they advocated changing to what has come to be known as the temporal method. This was used by ICI for some years before the Second World War but was abandoned, apparently because the work involved was felt to be out of proportion to the result achieved. It was again rejected by ICI for the same reason, which the auditors had accepted (meeting on 23 October 1963), but they still wanted the differences on fixed assets as well as on current assets to be taken to profits, possibly spread over several years *via* a suspense account. ICI reluctantly accepted this, but if exceptional factors, such as a devaluation of sterling, gave rise to unusually large figures, these would be dealt with *ad hoc* (meeting on 12 February 1964).

On the occasion of the devaluation of sterling in late 1967 the exchange differences were large, because the amount of the devaluation was some 16% and this was a sterling devaluation against a number of currencies, not just the US dollar. Consequently there was much detailed calculation of the effects, both on the Company accounts and the Group accounts.

Hillebrandt prepared a paper on 29 November 1967 showing the estimated effects for discussion with the auditors. The net effect on the Company profits before tax was a gain of some £3.5 million, most of which arose from overseas currency trade debtors in currencies which had not followed the sterling devaluation. There was no significant loss on debts due to suppliers because these had in the main been covered forward.

In the Company balance sheet the borrowings by ICI would increase by £7 million and the loans to overseas subsidiaries would increase by £2 million. The investments in subsidiaries and associated companies would be converted at the new rates, giving a further increase of £17 million in Company reserves.

There was one significant item in the air. It became apparent that not all the balances with overseas subsidiaries were clearly designated as either sterling or currency, in particular, a loan of £18 million to ICI Holland. It was eventually decided that this was a currency loan. Some of the considerations affecting this decision were set out in a note dated 15 December 1967 by H D L Moore: if it was foreign currency, there would be no exchange profit overseas but an increase in Company reserves on conversion at the new rates; if it was sterling there would be an exchange profit overseas which would probably be taxable even though the loan was unlikely to be repaid. The effect of the decision was that an additional £3 million was credited to Company reserves.

In the Group accounts the effects were more complicated because of the interactions arising on consolidation. Applying the post-devaluation rates to the overseas subsidiaries' profits would increase them by £3 million, plus £3 million from their sterling indebtedness to ICI. In the Group balance sheet the conversion of the subsidiaries' reserves at the new rates would increase Group reserves by some £20 million. In the event, Company reserves rose by £10 million and after-tax profits by £2 million; Group reserves rose by £17 million and after-tax profits by £4 million.

Hillebrandt's note was discussed with the auditors on 11 December 1967, they generally agreed with the approach, but they were worried about the reconversion of investments at the new rates. Was this a revaluation of the investments? ICI explained that in its view this was simply showing the investments at their historical cost in currency, converted at the new rates.

Part of the auditors' problem was that in the previous year, when the Indian rupee was devalued, ICI had not reduced the book values of the Indian investments. ICI explained the reason was that the Indian fixed assets were then being revalued and this would largely offset the effect of the devaluation.

In the Company accounts, ICI had decided in 1966 not to reduce the book values of the Indian investments because the net asset values still exceeded the book values. Moore's comment in December 1967 was: 'There seems to me to be no reason why upwards devaluation adjustments should not be made to the book values. It is not inconsistent that we did not write them down in 1966; we had not then adopted the principle of automatically adjusting book values by reference to movements in exchange rates. We are apparently committed to doing so in future' (is there a note of regret for lost freedoms here?). The auditors accepted his suggestions.

Past history seems to have been lost to sight in all this: in 1936 Coates wrote to the Chairman that the book values of investments should be adjusted for movements in exchange rates, and he noted that inter-merger loans had already been moved to a local currency basis.

Following the 1967 devaluation the new fixed parity of US$2.40 to the £ held until 1971, when the US dollar was floated and then new parities came in. These did not last long, and in June 1972 sterling was floated. Commercially, the instruction was issued to maintain currency prices and invoice only in strong currencies wherever possible. In the 1972 accounts, it was decided to use average rates for converting the profit and loss accounts, the difference from the year-end rates used for the balance sheet (some £0.5 million) being taken to trading profit.

When sterling was devalued in 1967 a problem had arisen in the annual report: if the rates used in the accounts were also used in discussing the overseas trading operations, comparability would be lost. Accordingly, post-devaluation rates were used throughout, however, in 1972 the movements in rates were smaller and differed between currencies, so it was decided to use the accounting rates.

In the early 1970s, with inflation in the UK running at 15%, the £ was depreciating rapidly. In the papers for the Finance Director supporting the report to the Board on the profit for 1976 it was found necessary to devote ten pages to explanations of the effects of the exchange rate movements. This is not surprising when it is seen that, compared with 1975, they added £348 million to the sales and £109 million to the profit before tax.

The main items making up the effect on profits were:

	£M
Booking rates for exports	+98
Overseas subsidiaries' profits	+13
Import costs	-53
ICI Finance - difference between realisations and booking rates	+28
Net current assets overseas*	+29
Other	- 6
Net increase in profit cf. 1957	+109

* At that time ICI had not yet changed over to the net investment method whereby the differences on total net

assets of subsidiaries were taken to reserve, and differences on overseas net current assets were still being taken to profit.

The reference in the above table to 'booking rates' should be explained: ICI had a system of recording currency sales at the forward rate for the average period of credit, consequently, exchange differences arose between those booking rates and the actual rates realised.

This simple system had its drawbacks, noted by Ogle in 1974. Using one credit period for all Divisions was unrealistic. The period included the effects of cash management operations by Head Office, long-term contracts were not recognised. Furthermore, purchases were mostly taken at spot rates. A booking rate system for purchases was duly introduced in 1975, but monthly booking rates for sales by currency and Division had to await refinements in the computer system and did not come in until 1979.

The large difference arising in ICI Finance between realisations and booking rates will have been noticed. ICI Finance did not necessarily cover forward at the booking rates: if sterling were weakening it could leave currency receipts uncovered and make a sterling profit. The divisions looked with a jealous eye at these profits, and the manager, J A Donaldson, had to spend considerable efforts in explaining to them the operations of ICI Finance. Naturally, when sterling was strengthening and losses were being shown, there was less pressure. One of his difficulties was that the booking rates used were the forward rates applicable to the average credit periods. The credit periods for debtors were longer than those for creditors so that, if ICI Finance covered the exposures by matching rather than actually buying and selling forward, it automatically incurred apparent losses or profits. When there were losses it appeared at first sight that ICI Finance had not been very clever.

To round off the story of foreign exchange, ICI had no hesitation in adopting the accounting standard (SSAP 20) issued in 1983, which prescribed the net investment method. (Ogle chaired the Accounting Standards Committee team which wrote it and was a member of the committee which wrote the corresponding international standard, issued in the same year). The only significant difference from earlier policies was to take the consolidation differences on net current assets of overseas subsidiaries to reserve instead of to profit, and ICI had already found the amounts involved to be embarrassingly large and erratic.

Investments

The Group started life with substantial external investments mostly coming in from Nobel. For the Company, the shareholdings in the subsidiaries were also investments, and there was some doubt about the definition of a subsidiary as opposed to an associated company. In 1927 Coates suggested that the consolidated balance sheet should include those companies which were 75% held, and this appears to have been the basis for some years.

Annual reports were made to the Finance Committee on the main overseas companies, giving details of profits by products and total profits as a percentage of capital, plus a detailed balance sheet.

In general ICI policy was to hold investments at cost in the balance sheet, written down if there was a permanent loss of value. An exception was the revaluation on liquidation of Nobel. This policy came to be questioned when the physical assets were revalued in 1950, but nothing was done about it until 1955. Then a detailed examination of the values of the associated company investments was undertaken, and the results reported by A J Steward to the Treasurer. They indicated that the existing book value of £6.6 million might be uplifted by £10.9 million. Two investments stood out: British Nylon Spinners (then still a 50/50 company) and British Titan Products showed a surplus of £10.7 million. Some of the overseas investments, however, showed deficits.

Menzies' reaction was to favour a basis of net asset values (the other possibles being dividends and earnings), and he asked for a detailed study on this basis. The matter dragged on, and in September 1957 Cotton proposed adopting a basis which he thought had originally been suggested by Chambers, namely to capitalise scrip issues. Before the war, there was a certain flexibility in the treatment of scrip issues. For example, such a dividend declared by ICI of Australia and New Zealand in 1938 was included in ICI's profits, whereas in 1937 one had been taken to reserve. In both cases the debit would be added to the book value of the investment. Cotton's proposal would add £5 million to British Nylon Spinners with little effect otherwise, and would avoid the difficult problems of valuing the overseas investments. It would have the advantage of maintaining a total book value for the investments which was manifestly below any calculated value, and from experience this would avoid difficulties with the auditors. Menzies agreed, and the new basis was adopted in the 1958 accounts (for subsidiaries as well as associated companies).

There was a procedure to review the book values of the investments, including subsidiaries, on a rotating basis so that any necessary provisions could be set up. The auditors always examined the results of the reviews and some interesting discussions took place. In 1972 the fibres area was particularly sensitive, and the subject of provisions against the disastrous investment in the Intex Group arose. The cost of the shares (£13 million) had been completely written off, plus a further £5 million in respect of losses. The auditors were awaiting reports from the Price Waterhouse Leeds office before they could finally review the position.

There was a divergence between the accounting principles in the UK and Australia. In the UK specific provisions were made if an irretrievable loss was thought to have occurred, but in Australia, under the Victorian Companies Act, investments had to be included at a maximum of their value to ICI Australia. In the event it was found possible to accommodate both points of view in total, because ICI had made substantial provisions against losses in certain associated companies.

Associated companies

From its inception, ICI had a category of investments which it called associated companies. These were companies which were in effect partners of ICI but not subsidiaries, although initially the distinction was blurred and some companies were treated as associates which in later years were clearly subsidiaries. A 50/50 company such as African Explosives and

Industries was and remained an associate, but the lower limit was not so clearly defined: any company in which ICI had a shareholding and in which ICI influenced the management could be an associate.

There were links with other companies which did not necessarily make them 'associated' companies, notably the inter-war trading arrangements with IG Farbenindustrie and Solvay et Cie. These involved the keeping of special records dealing with the balancing out of over and under supplies against quotas in various markets: these are really outside our study of ICI's accounting, but one activity did entail a special procedure. This was the ICI football and hockey teams formed in 1937 to play the IG and Solvay: expenditure was authorised by Max Woosnam of ICI (alkali) and borne centrally.

The Companies Act 1948 required trade investments to be shown separately and SSAP 1 required equity accounting whereby ICI's share of the profits of the principal associates, is included in profits instead of just the dividends, plus some disclosure of information about them.

ICI expressed its opposition to the standard both to the ASSC and publicly on the grounds that the stockholders could be misled into assuming that all the attributable retained profits of associated companies were at the free disposal of the investor company; that the information already given in the annual report was fuller, more informative and less likely to mislead than what was asked for by the standard; and that certain of the detailed proposals were impracticable.

However, the day came when ICI had to consider whether to adopt the standard. The case was argued in the Finance Director's report of 28 October 1971 and it was concluded that ICI should adopt the standard because the indications were that the majority of companies would conform so that ICI would attract a certain amount of criticism if it did not. Also, by ignoring the standard ICI would be losing an opportunity for increasing the published results. Materiality would be invoked so that out of ICI's 200 trade investments, only some dozen would be 'equity accounted'.

Because of ICI's publicly expressed opposition at the exposure draft stage a number of people firmly believed that it had, in fact, not adopted the standard, so to an extent ICI did not after all get credit for being on the side of the angels.

Criteria were developed for the list of principal associated companies (or PACs) which would produce a reasonably short list without omitting any material ones. The criteria were based on amounts of profits and assets. They had to be adjusted from time to time to allow for inflation, but otherwise remained stable from year to year. In 1976, for example, the existing criteria were:

A 1. The Group's interest is more than 20%.
and 2. The Group participates in financial and commercial decisions.
and 3. The company has commenced trading.
and
B 4. The book value of the Group's interest (before provisions) is over £4m.
or 5. The Group's share of net tangible assets is over £4m.
or 6. The Group's share of market value (of quoted investments) is over £4m.
or 7. The Group's share of the pre-tax profit/loss is over £1m.
or 8. A subsidiary is consolidating its interest and, although the Group interest does not qualify under 4-7 above, the shortfall is not large, and it is more convenient to include the figures than to de-consolidate them.

(Note by R J Cornelius to D E Watts, 17 June 1976)

To stay with these criteria in 1976 would have extended the list to 17 companies and so the amounts of book value and assets were raised to £10m and of profits to £2m, keeping the number to about a dozen.

There were some problems foreseen in obtaining the information about profits in time for inclusion in the ICI accounts, and concerns felt by some of the companies about disclosures being made over which they had no control. For instance, in 1972 it was considered necessary to obtain confirmation from Kao Soap, ICI's partners in Kao Atlas, that they had no objection to inclusion of information about it in ICI's annual report, but these problems were only temporary. The auditors were worried about including unaudited profits in ICI's accounts, but they were reassured by the fact that in some cases the amounts were specifically stated to be unaudited.

Paradoxically, adoption of the Standard meant that less information was disclosed about the individual performance of each major associate.

One hopes that it is now clear that the impression of stability in ICI's accounting policies which might be gathered from reading the published accounts is somewhat at variance with what was happening behind the scenes. Especially in later years when accounting standards were coming into prominence there was continual rethinking of this policy. There was no sign of the pace abating at the end of the period, as evidenced by a note to the Chief Accountant by Geake dated 18 October 1976: 'there are several items which will need to be discussed at an early date'. These included: full quarterly reporting by operating units (to provide for the eventuality of US fund raising exercises at any time of the year); treatment of Regional Development Grants and deferred tax, following suspension of the deferred tax standard; and various points on the presentation of the 1976 accounts, some with accounting policy implications such as the treatment of oil concessions acquired by ICI Delaware.

Conclusions

This chapter identified a number of significant accounting policies affecting the published accounts. It gave some indication of the lengthy discussions that went on in Head Office. The divisions were scarcely consulted until late in the period - notably when inflation accounting reared its head.

ICI did not simply adopt the accepted treatment of any particular class of items, but always tried to find the most appropriate course. In some instances, for example the EPS, it had to devise its own novel treatment - always with an eye to the tax consequences.

In the main, the policies adopted stood the test of time well, as illustrated by the minor changes that were needed with the advent of accounting standards.

Chapter Five

Companies Acts and Accounting Standards

The 50-year period of this history of ICI has seen an accelerating proliferation of accounting rules and regulations. Some which are relevant to particular topics are mentioned in the appropriate chapters. This chapter outlines their development.

1926 to 1947

When ICI was formed the legal requirements for published accounts were minimal by today's standards. There was no obligation to publish the profit and loss account and balance sheet disclosures were exiguous. Provisions for depreciation and obsolescence were largely optional, many different balances could be embedded in the debtors and creditors, and the profit and loss account consisted of hardly more than the profit available for appropriation and the dividends paid. The Royal Mail Steam Packet case of 1931 limited the scope for secret reserves (the Royal Mail company had been hiding losses by secret transfers from reserves), but as we have seen from United Alkali the balance sheet could paper over severe cracks.

Successive Companies Acts, stock exchange requirements and, later, accounting standards gradually increased the size of the annual accounts from one page in 1927 to eighteen pages in 1976. ICI first had to think seriously about accounting provisions of Companies Acts when the 1929 Act was passed, but this did not have a major impact. It did not, for example, require the publication of consolidated accounts - this only came with the 1947 Act. The Board congratulated itself that it had asked that there should be power to acquire compulsorily the outstanding minority shares if more than 90% had been acquired, and this was included in the

Act. They had also anticipated the Act by transferring the subsidiaries' shares into ICI's name in October 1929 (with a saving in stamp duty).

The 1929 Act was followed by a long hiatus, extended by the war, and it was not until 1947 that another Act was passed.

Companies Act 1947

Some of the recommendations of the Cohen Committee, which was the forerunner of the Companies Acts 1947 and 1948, were implemented in the 1945 accounts. In particular, instead of all the creditors and provisions except the final dividend being shown in one lump, the provisions for future liabilities and the current provisions were separated out from the creditors.

The main feature of the Companies Act 1947 which needed thought was the requirement to show depreciation as a deduction from the relevant assets, because ICI had only the undifferentiated Central Obsolescence Fund (other than depreciation on wasting assets and minor services). The allocation was done reluctantly: 'the Board regard the provision as still retaining its original flexibility'. Apart from this, amounts provided or written off investments had also to be shown separately.

There was also need for a procedure to collect full details of directors' emoluments because the Act placed a duty on directors to give the information to the Company: it was agreed with the auditors that a composite statement approved by the Board would suffice. The emoluments so disclosed totalled £287,057 compared with £79,908 shown previously.

Stock Exchange requirements 1964

As often happens, statutory requirements were foreshadowed by non-statutory requirements, such as the listing requirements of the Stock Exchange. New requirements were proposed in 1964 and these were discussed with Stock Exchange representatives at a meeting on 5 November. It was explained that the additional requirements 'were not aimed at large and responsible companies such as ICI, which was regarded as a leader in the field of provision of information to shareholders'. To a large extent ICI was already meeting the new requirements, although it would have to give some extra information such as a list of the principal subsidiaries. Mention has already been made in the previous chapter of one requirement which could have been onerous, namely information about classes of business. One other requirement which could have caused difficulties was the time limit for publishing half-yearly results, but fortunately ICI were already planning to publish quarterly results.

Companies Act 1967

On 26 September 1967 there was a meeting in the Treasurer's Department to discuss the requirements of the Companies Act 1967. The Act called for unquoted equity investments to be valued by the directors, or alternatively for various details to be given of income, share of profits, *etc*. It was thought that to value the investments would be difficult and time consuming, so the alternative should be adopted. These details were therefore given regularly in the 1968 and later accounts, but it is doubtful how many people read them, or if they did, how useful they found them.

The amount of the fixed assets which were stated at a valuation had to be given, and the market value of land and buildings if the directors thought that the difference from the book values was significant, neither of these items would present problems. The item which caused most discussion was Classes of Business, which is separately discussed in chapter four. This Act saw the passing of the need to publish a separate Company profit and loss account, so that the wheel had turned full circle since the early days when only the Company account was published.

Other new requirements for disclosure were already being substantially met, such as particulars of the principal subsidiaries, although others caused extra work to prove a negative, *ie* to prove to the auditors that the amounts involved were not significant: a case in point was rents from land. However, the disclosure of directors' and senior employees' emoluments in bands caused some heart searching: Frost's Inland Revenue origins perhaps declared themselves when he pushed for disclosure also of the applicable tax and the take home pay.

UK accounting standards

The ASSC was set up in 1969, its object being to narrow the areas of difference in accounting treatments. The general attitude which ICI should adopt was discussed by Hillebrandt in a note to the Board in December 1971. The Company could ignore the standards, but this would provoke a clash with the professional bodies and City institutions; it could passively accept them, but the Directors could not relinquish their responsibilities to decide what gave a true and fair view. A middle course was therefore recommended, of examining each standard on its merits when it was issued.

The first standard was published in January 1971 and related to accounting for the results of associated companies. It introduced into the UK the procedure of equity accounting whereby the investor company's share of the results of the associated companies is included in its profits instead of just the dividends. An associated company was, broadly, one in which the investor company had a holding of 20% or more.

The second standard to be issued (in 1971) was directed to the disclosure of accounting policies. As it happened, ICI had already given some consideration to drawing together their main accounting policies in a note to the accounts, and no great problems were encountered in complying.

In 1972 the Stock Exchange was revising the form of its general undertaking which listed companies have to give. ICI took strong objection to the proposal that companies should have to give their reasons if they departed from an accounting standard. The ICI view was that it adopted the accounting policies which were appropriate for their business and to have to explain a departure from a standard, and to quantify the effect, would tend to imply that the standard treatment could equally have been used. This objection, made *via* the Confederation of British Industry (CBI), did not succeed.

SSAP 3 *Earnings per Share* was issued in February 1972. This did not cause ICI any problems of principle: such figures had been published since 1969. Moore did, however, have to write a four page note exploring various possibilities for the detailed calculations.

Regional development grants caused some heart searching and are discussed in chapter eight. Briefly, they were the cause of ICI's accounts for 1974 and 1975 attracting qualified reports from the auditors. Any kind of qualification would be unacceptable to the US SEC and for 1976 onwards ICI fell into line.

On 20 August 1975 there was a high-level meeting with the auditors attended by Sir William Slimmings and Michael Coates for the auditors and Hillebrandt and Ogle for ICI. The immediate reason for the meeting was the imminent issue of SSAP 11 *Deferred Taxation*, with which ICI strongly disagreed. ICI had been using its own method since 1949, which was to defer the excess of special tax allowances such as Initial Allowances over the ordinary annual allowances. ICI's view was that in a capital intensive industry such as ICI's the standard would produce accounts which were increasingly misleading, by overstating the tax charge and the tax liability.

As reported in the note of the meeting, Slimmings questioned whether the accounts would be misleading or whether it was simply that ICI preferred another method. Ogle countered by asking how big the deferred tax balance had to grow before the auditors would see it as misleading. Slimmings said that they would have to qualify their report if ICI did not comply with the standard unless they could be persuaded that compliance would be misleading, which at present was unlikely. Hillebrandt asked how anyone who disagrees with an exposure draft can be expected to change his views once the standard is issued. Michael Coates, the Price Waterhouse partner, answered that personal views should be modified in the overall interests of the profession (so says the note of the meeting - it might rather be said that personal views should take second place).

ICI was particularly concerned about reactions in the US to a departure from a standard, because there it would be regarded by the SEC as a qualification. It was noted that comprehensive tax deferral was now standard practice in the US, Canada, Australia, South Africa and Holland. There was concern that widespread departures from standards might lead to the imposition of a UK equivalent of the SEC.

Frost made ICI's views public at the Institute of Chartered Accountants in England and Wales (ICAEW) Conference in Cambridge in the Summer of 1975. ICI was not alone in its opposition, and SSAP 11 was replaced in 1978 by SSAP 15 which, although not using ICI's former method, had much more realism than SSAP 11, and would not necessitate any extra provisions; the debate still continues internationally.

Other accounting standards were being implemented at the time but these caused much less trouble. The net effect of SSAP 9 *Stocks and Work in Progress*, was to reduce stock values by only £2 million. SSAP 10 *Statements of Source and Application of Funds*, required merely that a statement which ICI already published in the directors' report be moved into the audited accounts, with some slight changes.

International accounting standards

It will be seen that in the mid-1970s the impact of accounting standards was increasing and on 13 July 1976 the Advisory Panel on Finance discussed the position:

> *The proliferation of accounting standards and the divergence of standards as between the UK and other countries were noted with some concern and it was agreed that as a UK company, our Group accounts must reflect UK standards where these conflict with those of other countries.* (Notes of meeting dated 19 July 1976)

One particular standard which prompted these remarks was the US FAS 8 relating to the translation of foreign currencies, which required practices quite at variance with ICI's - and with those of the generality of UK companies. If ICI had adopted it, fixed assets would have been lower by £92 million and investments by £26 million. Depreciation would have been lower by £11 million but profit would have been reduced by £39 million exchange losses on overseas borrowings. Another US standard, FAS 12, stipulated that quoted equity investments should be carried at market value, which again would have been at variance with normal UK practice.

ICI raised loan capital in a number of countries, notably Germany, Switzerland and US, but it was only in the US that accounting standards caused any problems. In that country they caused a continuing problem because the SEC insisted that ICI should produce statements reconciling its published results to the results if US standards were applied.

As early as 19 September 1963, Menzies was reporting to the Board the outcome of a study to decide whether to apply for a listing on the New York Stock Exchange. At that time some £1.2 million ICI Ordinary Stock was dealt in, in the form of Depositary Receipts, on the American Stock Exchange.

The snag was that the SEC insisted that the effects of the revaluations of fixed assets would have to be reversed because the SEC would only accept asset values and depreciation charges based on historical cost. Additionally, fixed assets overseas would have to be translated at historical rates of exchange.

Menzies considered this to be unacceptable because it would mean that ICI would, in effect, have to produce two different sets of accounts to its shareholders showing different profit figures. In addition, 'to keep all plant registers and calculate depreciation on two different bases would be an intolerable administrative burden'. With developments in current cost accounting and in legislative requirements, it will be seen that the burden was found to be tolerable.

Although ICI did not proceed with a listing of its Ordinary Stock, it did, as mentioned previously, go on to raise loans in the US and found itself having to produce reconciliations with US Generally Accepted Accounting Practices.

The net result of these reconciliations was never very significant. For example, in 1974 a reduction of £7 million due to higher deferred tax provisions was more than counterbalanced by reducing depreciation to a historical cost basis, spreading pension fund contributions, and equity accounting for all associates. The final result was an addition to profits of £17 million.

There was always concern that particular divergencies between UK and US standards could lead to extra work, and confusion for the shareholders, especially if the SEC were to insist that the results should be fully converted to the US basis instead of being merely reconciled to it. To illustrate the amount of extra work required, ICI had to call for 15 page returns from divisions and subsidiaries, and these all had to be audited, of extra information that was not needed for the UK accounts.

ICI, together with some other UK companies which faced the same problem, did endeavour to put forward the UK point of view when new exposure drafts were promulgated by the Financial Accounting Standards Board, but it cannot be claimed that they had any great influence on the eventual standards.

The SEC's actions caused a reaction by ICI in 1976. At that time the US was trying to make all US citizens world-wide conform to its domestic laws, and in particular to prevent them giving anyone any form of inducement, from bribes down to tips. ICI decided that it ought to make sure that its own house was in order, and a Group-wide enquiry was made by the ICI Solicitor and Davis Polk & Wardwell, a firm of US lawyers. The slate turned out to be commendably clean.

Towards the end of the period other bodies were seeing advantages in becoming involved with regulating the accounts of multinationals, in particular the United Nations and the Organisation for Economic Co-operation and Development (OECD). At one stage both of these bodies seemed likely to start producing their own accounting standards, therefore adding to the existing confusion. Fortunately, the world-wide accountancy bodies were able to persuade them that this would be counter-productive and they accepted that their purposes would be better served if they adopted a watching brief - but ICI along with a number of other companies did have to spend effort in achieving a sensible result.

The EEC was also becoming active and as early as 1972 it was agreed in a meeting with the auditors that it would be useful for ICI to make representations to UK accounting bodies, to the CBI, and to the Government on any part of the EEC draft directives which ICI considered to be unsatisfactory from the point of view of the Company's interest, or that of the UK accountancy profession. I recall attending as a representative of the CBI a large meeting in Paris organised by the EEC Commission when ideas were being floated of the EEC developing its own standards - fortunately, this has not come to pass.

The general trend towards more accounting regulation, and particularly the accounting standards, served to emphasise the small contribution which ICI's accountants had made over the years to the accountancy bodies in terms of serving on national committees. A number of accountants in the Divisions were active in the local accounting societies, but Nial Charlton at Wilton was the first to serve on a national committee when he was elected to the Council of ICAEW in the 1960s. As anyone who knew him recognises, and as he acknowledged, he had his own individual character, and did not find the atmosphere in Moorgate Place congenial. Later, I was to serve on the Scottish Council and Bertie Ogle was much involved in the affairs of the Association of Certified Accountants. After the end of the period Fred Hillebrandt and Trevor Harrison were both active in ICAEW, and Alan Clements and Archie Donaldson helped inaugurate the Association of Corporate Treasurers.

Conclusions

It was only after the Second World War that detailed regulation became more popular with Governments, with the London Stock Exchange and among the accountancy institutes. Before then ICI had managed very comfortably by dint of considerable internal discussion and meetings with the auditors.

The result was that when regulations did proliferate ICI was well positioned to comply with them, albeit reluctantly in some cases. Many would say that ICI's treatment of deferred taxation, for example, was preferable to the eventual standards. These were an instance, of which there were too many, of US influence prevailing, but at least the members of the new International Accounting Standards Committee provided a counter balance.

Chapter Six

Asset Values, Depreciation and Inflation Accounting - The Variability of Fixed Assets

The chemical industry is capital intensive. In 1976 the ICI Group fixed assets at £1,733 million exceeded the net current assets. Consequently, it comes as no surprise that much effort went into accounting for them, especially when the numbers were distorted by inflation. In this chapter we discover that the cost of a piece of plant is by no means as obvious as one might think. We discuss the methods of dealing with depreciation and obsolescence down to 1950, and then the ramifications of revaluations and the inflation accounting debate.

Asset values

This section is concerned with definitions of the cost of a fixed asset.

Throughout the divisions there was a continual process of modernising and enlarging plants which usually involved spending money on altering the existing plant. It was considered that the cost of these alterations should not be capitalised, because they were not physically adding to the hardware. At the same time, the work could not be classified as ordinary maintenance, and a separate category of 'Special Maintenance' was established. In 1932 it was found necessary to refine the instructions and Special Maintenance was defined as 'Expenditure of an exceptional and infrequent nature incurred in renewing, altering or modernising existing property and plant'.

A renewal of part of a unit of plant or buildings was to be charged to Special Maintenance unless the renewal included some measure of improvement or expansion of the original unit. A proportion of the expenditure equivalent to the measure of the improvement could then be capitalised.

This statement immediately called for requests for a definition of a 'unit'. The response was: 'It was not intended that this expression should apply only to the plant of a complete process but may, in arriving at an allocation to capital and writing off the old plant, be used in connection with replacements of individual machines. An allocation to capital should not be made if, under previous arrangements, the expenditure would have been regarded as ordinary maintenance.' Not, one might think, very helpful, but in many plants it was in fact very difficult to define a unit except by custom and practice.

Traditionally ICI had strength in engineering, deriving especially from the expertise built up by Brunner Mond in making the Solvay process work economically. It followed naturally that most new plants were built by ICI, rather than by calling in contractors. The accountants then had to decide, in collaboration with the engineers, how much should be recorded as the cost of the plants. There was no special problem about the direct material and labour costs, but indirect costs including overheads could be anything or nothing.

It was not until 7 September 1971 that the Chief Accountant issued an instruction about overheads, and even then it was not hard and fast:

> *... having regard to the differing circumstances of each division it has been decided that each division should be free to select categories of its overheads it includes in allocations to capital, provided that the amount so allocated does not exceed what would be allocated if the charge were on revenue account. The allocations should be restricted to a division's own overheads and no part of central services should be capitalised.*

The definition of capital expenditure, as opposed to expenditure which should be written off against profits, was not always clear cut. In July 1964 the Treasurer wrote to Division Chief Accountants to bring to their notice the improvements which had been taking place in the taxation allowances. Research assets, in particular, benefitted from a

30% investment allowance plus 100% write off of the cost in the first year. Plant allowances had increased to a 30% investment allowance plus a 10% initial allowance and a minimum depreciation allowance (reducing balance) of 15%. Plant in development areas received a 100% allowance.

The Treasurer wrote to Division Chief Accountants on 9 July 1964:

> *Many items of expenditure are clear cut and there can be no argument as to whether they are revenue or capital in nature. There are, however, some border-line items and in these cases it is justifiable to have regard to the consequences of following one course rather than another.*

The particular items he referred to were research expenditure on such things as semi-technical and pioneer plants; research done by Research Departments for plant design committees, which might be treated as part of the cost of the plant; overheads attributable to capital projects; and stand-by spares. He ended:

> *This matter ... is completely within the discretion of Division Chief Accountants and it is not intended that changes should be made which, apart from the question of advantage under present taxation regulations, would be undesirable.*

Earlier there had been a major investigation of the fixed asset values. In 1943 J E Davies, the Taxation Controller, instigated discussions with the Inland Revenue about the allocation between buildings and plant. His suggestion was that in the chemical industry there were many structures which although classified as buildings were really integral parts of the plants. At that time there were wear and tear and obsolescence allowances available for plant but no allowances for buildings. The outcome of his discussions was favourable and a committee of engineers was set up to examine all the Company's 'buildings' and reclassify them. The starting date for the exercise was the values at 1 January 1936 so this was no mean task. It took the committee two years to complete its work, which was a commendable achievement in the prevailing war-time conditions, and Davies was able to report on 10 May 1946 that assets costing some £5,450,000 had been transferred from buildings to plant. Even though Industrial Buildings Allowances had been brought in by the Income Tax Act 1945, he calculated that the net saving to the Company was £1.4 million. He went on: 'there is little doubt that in safeguarding the interests of ICI we have at the same time contributed towards a more modern and enlightened treatment for industry generally'.

In his original note to the Engineering Committee Davies pointed out that for accounting purposes the distinction between buildings and plant was not vital. Accordingly, when the reallocation had been finished it was adopted in the accounts as at 1 January 1945.

In 1967 the auditors noted that there had been a change in practice as regards start-up expenditure. It was explained that the total cost of a plant often included substantial expenditure which though not 'capital' in the strictest sense was nevertheless an essential part of the cost of construction, *eg* resiting existing pipework. This was now being capitalised. Expenditure on checking, purging, testing and proving of plant prior to and during the commissioning period was also being capitalised. Costs incurred in the manufacture, or attempt to manufacture saleable product during the commissioning period were to be treated as start-up expenses and written off as incurred, as should process costs in excess of 'normal' costs during the early operation period.

The commissioning period was defined as the period between mechanical completion of the plant and the first output of saleable product. The early operation period was more difficult to define but was considered to end when output had built up to some two-thirds of flowsheet level.

Other categories of expenditure which were capitalised were:

(a) 'Duplicated' expenditure resulting from changes in design, modifications and re-arrangements *etc*, prior to and during commissioning.
(b) The cost of additional engineering work carried out for the purpose of keeping an existing plant in operation whilst building an extension, *eg* the cost of temporary walls, and special looped pipelines.

The decision to capitalise more of this expenditure was not unconnected with the advent of investment grants over and above the existing taxation allowances. The Treasurer's Circular of 20 April 1967 which laid down these instructions went on:

> *It can, of course, be argued that the book value of the new asset will, to some extent, be inflated in that the cost exceeds the 'ideal cost' of construction. Nevertheless, the total cost of providing the new asset does in fact include such expenditure and it is on that total outlay that a return has to be earned.*

As a result of these instructions the category of special maintenance had lost much of its significance and accordingly it was abolished. Major expenditure on plant modifications and repositioning not connected with capital projects was henceforward charged to special expenditure. Other maintenance expenditure of a regular but infrequent or of an exceptional nature was charged to ordinary maintenance, funded if appropriate.

In 1967 a special case of start-up charges was discussed with the auditors. This was the BASF acetylene plant, which all through its short life suffered from problems of coking up. It was important to obtain investment grants on the cost, including the start-up expenditure amounting to £2 million. By July 1967 the plant had produced saleable products and this was taken as the date of start-up, even though the plant was shut down again subsequently. This £2 million had been written off to revenue in 1966, and to correct this it was proposed to capitalise it in 1967 and at the same time write it off as depreciation. The auditors finally agreed to this course and to charging subsequent start-up expenditure to revenue. If the plant never worked properly, this would be treated as a catastrophe.

A similar problem came up with the Nylon VIII plant at Ardeer. Construction of this plant had been delayed because of constraints on the capital programme due to shortage of cash. The 'excess cost' was some £3 million and it was suggested that this should be written off in 1968. The auditors were worried that this was not in accordance with the stated policy on depreciation. Once they were assured that the writing off would not be regarded as a precedent, they were happier.

At the same time the practice regarding capital work done for other divisions was reviewed, and it was decided to continue to allow modest profits to be taken on this work so long as it arose in the normal course of operations and the total profit taken by a division did not exceed £50,000 *per annum*.

In such a capital intensive industry as ICI, the definition of capital expenditure can be crucial, and it may seem surprising that it took so long to refine the definitions. In practice, consistency, with a due regard for tax rules, is as important as theoretical nicety. It is significant that it was changes in practice rather than the practices themselves that excited the auditors' attention.

Depreciation and obsolescence

Chemical plants do not wear out, they can be maintained in pristine condition by regular maintenance and replacement of parts. They do, however, become obsolete as process improvements are developed and entirely new processes discovered.

In a note dated 15 November 1928 addressed to the Finance Committee W H Coates wrote that the Chairman desired that the Central Obsolescence Fund should be credited at the outset with a substantial sum of the order of three or four million pounds and that it should always be represented by earmarked marketable investments. Any cash required for plant erected to replace obsolete plant should be provided by the sale of securities - it was expected at that time that some £2 million would be needed in 1929 and 1930 in respect of Billingham.

Obsolescence of the manufacturing plant and freehold buildings was provided for by a central fund which was fed by appropriations from profits. To start with, depreciation charges were limited to minor services, ships, rolling stock, office equipment *etc*. Although the Companies Act 1947 required that the central fund be allocated over the assets, it was not until the revaluation of assets in 1950 (see later) that the central charges for obsolescence were replaced by local charges for depreciation.

The original scheme for the operation of the Central Obsolescence Fund was that ICI would undertake to provide all capital monies needed to keep the subsidiaries' assets up-to-date, in return for annual payments to ICI. However, this scheme foundered because it would have attracted Income Tax liabilities of some £100,000 *per annum*. Instead, the existing reserves in the subsidiaries' books totalling some £2.9 million (as calculated by Minto in 1931) were transferred to ICI as dividends and taken to reserve. This was in spite of a *caveat* by Coates in 1928 that 'centralisation of all the obsolescence accounts on the face of the ICI balance sheet would take away much elasticity' (note to Finance Committee, 4 June 1928). Where obsolescence or depreciation had actually been deducted from the assets by the subsidiaries, it was added back so that the assets were shown at original cost.

The decision that the reserve should always be matched by earmarking investments was causing some difficulty at the end of 1930 because of the depression. A note by Minto to Dickens listed 400,000 General Motors shares (plus 120,000 International Nickel, 135,779 J Lucas and 5,402 Allied Chemical). The price of the General Motors shares was only $35¾ as against $81.25 a year earlier.

That this central reserve was needed is well illustrated by the case of The United Alkali Co Ltd. Voluminous schedules were prepared for all four constituent companies so that their own books and accounts could be adjusted to the merger figures taken into the consolidated accounts. When the book values of the United Alkali buildings and plant were examined it was found that many assets were idle or obsolete.

The examination started with a valuation by Holbrook Gaskell as at 30 June 1927. This disclosed that there was obsolete and idle plant totaling £504,070, a deficiency in the value of operative works of £173,837 and an amount of £121,807 in respect of the Fleetwood alkali plant, making a grand total of £799,714.

United Alkali had only £424,809 standing in its own obsolescence reserve so it was decided to set up 'goodwill' of £300,000. An extra £100,000 was provided in 1927 so that there was enough in the kitty. There was concern about the book values, apparently shared by the auditors, and further investigations were made during 1929 by Minto and A S Chamberlain, the United Alkali Chief Accountant. These resulted in the figure of £799,714 rising to £1,606,808 (out of total plant and buildings in the company's accounts at 31 December 1926 of some £6 million). This large sum was more than the total reserves shown in the United Alkali balance sheet at 31 December 1926. In mitigation, it is pointed out in the report that part of the write down arose from the concentration of manufacture after the formation of ICI - Baxter Works, St Helens, was closed and assets at Fleetwood, Muspratt, Allhusen, Hardshaw Brook and Weston works were written down largely because of the concentration of alkali, caustic and chlorine manufacture at Winnington and Weston Point and the substitution of hydrochloric acid made by the saltcake process by the synthetic product.

A full report went to the Finance Committee and it was agreed that the books should be adjusted as at 31 December 1928. The existing obsolescence reserve had been increased, as mentioned earlier, by the creation of £300,000 goodwill and £100,000 out of 1928 profits. A further £316,000 compensation from Brunner Mond for the closure of Fleetwood and Gaskell Deacon works was added and, with other adjustments, only £18,839 had to come out of free reserves. This still left 'the Allhusen problem'. This works was another candidate for closure and £581,000 was earmarked for this out of the profit on liquidation of Nobel Industries. All in all one can see why United Alkali were willing partners in the ICI merger.

To illustrate the story which led to these write downs, here is a brief quotation from the report, referring to Pilkington-Sullivan works (amount written off £78,700):

> ***Black Ash (Le Blanc) Plant**: This plant actually became obsolete in 1916 when the new electrolytic plant was started. There is no possibility of the Le Blanc process ever coming into use again.*
>
> ***Sulphuric Acid Plant and Arsenic**: It has been the policy of ICI to concentrate the manufacture of sulphuric acid in a small number of large plants. The Sullivan plant was shut down a good many years ago ... we have ample capacity in this area.*

***Bleach Plant and Lime House**: The plant consisted originally of Weldon, Deacon, Hasenclever and Rudge units. The Deacon plants have not been used for several years. They and the Hasenclever plants will never be required again. In the not far distant future all the bleach made at this works will be either rotary or chamber bleach.*

***Nitric Acid ex Nitrate of Soda**: This plant has been closed down for some years.*

(Reports by Holbrook Gaskell, 6 September 1929 and A S Chamberlain, 4 July 1929).

Similar problems would no doubt have surfaced in the British Dyestuffs Corporation if they had not already been dealt with by a scheme of arrangement in 1926 whereby the capital was halved. Even so, the purchase price to ICI was almost £1 million short of the issued capital and this amount was taken to the obsolescence reserve in the merger accounts.

There were different ways of treating the accumulated depreciation funds. In Nobel they were set off against the assets in the balance sheet, Brunner Mond showed them among the liabilities and in other cases the depreciation was actually written off the assets. At that time W H Coates noted that he wanted the depreciation kept on the liabilities side of the balance sheet: 'This will leave us free either to capitalise those accounts or to treat them in any other way we wish, when we have the full facts before us.' Mr Butchart 'agreed'. It is still not uncommon for finance directors to want to keep their freedom for as long as possible.

It may seem surprising to modern eyes that depreciation was dealt with in such an arbitrary fashion. It must be remembered that a charge for depreciation was in those days regarded somewhat as an optional extra. P D Leake wrote:

It is undoubtedly a common financial practice to enter the cost of thousands of units of perishable industrial plant, which cannot be debited to the revenue account of the year in which the payments are made, to some account representing capital outlay on plant, and *there to leave it, unobserved and with details lost to mind, subject only to reduction by irregular allocations of sums out of reserve, to answer depreciation of quite unknown extent.* (P D Leake, *Depreciation and Wasting Assets*, 4th Edition, 1923, Pitman)

Even in 1934 Henry Summers, Chairman of John Summers, could write to his son: 'Few steel concerns have written off any depreciation for many years, we ought to disclose what we write off, whether some people might consider it inadequate or not.' (quoted in *Company Legislation and Changing Patterns of Disclosure in British Company Accounts 1900-1940*, J R Edwards, ICAEW, 1981).

In ICI, Groups were required to charge into their costs provisions for obsolescence at standard unit rates. These provisions were reversed in the profit and loss accounts and replaced by the central ICI provisions. Minor services were depreciated in the normal way on a reducing balance basis, at rates laid down by the Treasurer's Department which were intended to reduce the balance to approximately 5% of cost by the end of the estimated life. In the early 1930s the basis was changed to a straight line percentage of original cost.

Down to 1932 wasting assets were dealt with by provisions for obsolescence, but in that year it was decided to switch to depreciation. Leasehold plant and buildings were depreciated by equal annual instalments and quarries and brine lands by unit rates.

In October 1935 there was an exchange of letters between Coates and the auditors about the aim of depreciation. Sir Albert Wyon of Price Waterhouse wrote that maintenance was day-to-day repairs; depreciation was a provision for writing off or replacement - in his view, equivalent to Income Tax wear and tear; obsolescence was replacement even though not worn out. Coates responded that in his view depreciation was the loss in capital value through physical deterioration. In 1931, however, the distinction between obsolescence and depreciation had been blurred. The Central Obsolescence Fund had been renamed Central Obsolescence and Depreciation Fund, the object being declared to be to provide for the gradual obsolescence of buildings and plant, whether by reason of the introduction of new products or processes or by the gradual depreciation in value following normal wear and tear.

In July 1946 A Eberlein produced a statement for the Treasurer listing the reasons why so-called Policy Writings Off had been made in the past. These writings off stemmed from the practice of holding the major production plants and services at cost in the books, depreciation and obsolescence being covered by the central fund. As well as the expected reasons such as the plant being obsolete or worn out he lists cases where the plant capacity was in excess of requirements, where the book value was in excess of replacement cost and where the book value was unduly high in relation to the earning capacity.

He refers to a note by Coates dated 1 January 1945 in which he considered that age, or the fact that a plant was not earning a reasonable rate of return, were not good reasons for a write off. He goes on to say: 'Certain large amounts were written off for both these reasons prior to 1944 and, although Sir Holbrook Gaskell and Sir Ewart Smith were acquainted with Dr Coates' views, certain smaller amounts since that time for the same reasons.' He comments that the Group Directors had an impression that their recommendations for write offs had been systematically scaled down and quotes some figures:

He does not explain why this should have happened, but one may speculate that it was to the advantage of the divisions to reduce their

	Divisions' recommendations £000	Amount appropriated £000
1942	3,373	1,044
1943	3,064	931
1944	1,685	1,025
1945	1,449	1,083

capital as much as possible to improve their returns, whilst Head Office would have their attention on the published profits.

An unsigned note about points in the 1948 draft accounts discusses the requirement in the 1948 Companies Act that provisions for depreciation must be shown as deductions from the fixed assets. Counsel's opinion which had been obtained by the ICAEW said that the directors were compelled to allocate depreciation over the asset headings. How was the Central Obsolescence Fund to be allocated? The suggestion was to use the amounts charged at the standard unit rates as the basis: the allocations would need to cover amounts relating to subsidiaries and amounts set aside to meet higher replacement costs. At a meeting between Chambers, Armstrong and Steward it was agreed that no part of the Fund should be treated as a free reserve or allocated to subsidiaries' assets. The whole should be allocated between plant, buildings and transport on an arbitrary basis *pro rata* to the standard obsolescence reported by divisions and subsidiaries in 1929-48.

There is an interesting statement prepared by the Merger Accountancy Section in 1958, for an unknown purpose, comparing obsolescence charged into costs at standard unit rates with the appropriations to the Central Obsolescence and Depreciation Fund. In total for the years 1928-49 the charges to costs were £51 million as against £52 million appropriated out of profits. In the period 1928-38 the charges to costs consistently exceeded the appropriations. The shortfall had mounted to £8.2 million by the end of 1938. In 1928 and 1929, and possibly in 1930, it is probably overstated because in those years there were large transfers into the Fund from the subsidiaries, some of which would have been provided out of their profits during those years. The shortfall, however, varied between £¾ million and £1 million in each of the years 1931-36. It was made up during 1944-49 when special appropriations were made, to allow for rising costs of replacement.

Revaluations of assets and inflation accounting - origins

Books have been written on inflation accounting and various attempts have been made to establish standard practices to account for it. The purpose of this section is simply to recount what happened in ICI.

As early as 1929 there were hints that were ultimately to lead to the post-war revaluations of assets. Brunner Mond at Winnington had been complaining to A R Young, the head of the Costing Department, that obsolescence charges on new plants, built at the higher post-war costs, were bigger than those on old plants. Coates proposed in a note to Young, dated 27 June 1929, that obsolescence should be charged upon the replacement value of the plant employed. The plants should be revalued on a replacement cost basis and estimated obsolescence lives fixed, but no action appears to have followed.

On 19 September 1946, in connection with possible plant write-offs, Coates wrote a note to the Treasurer which is worth quoting extensively:

> *Sooner or later, the movement caused by the war to entirely new levels of value will make itself fully felt. At present that is not the case, particularly in regard to capital values of the instruments of production, wear and tear allowances for taxation purposes, and indeed for commercial purposes, or price determination vis-a-vis either the Government or the general consumer.*
>
> *The trend towards a continuation of this upward movement has not yet ceased, either here or in the United States. We know that both there and here the Government is still subsidising to a considerable extent the cost of living, so that the wages position must be regarded as unstable. There is the additional fact that Government Departments have in the past used capital values for price determination, though they have modified them by the deduction of depreciation reserves.*
>
> *I tend to think at the moment that the proper course - though one involving a good deal of work - would be to have a company revaluation of all its fixed assets ... .*
>
> *If this course were taken, then I think that we should proceed no further in writing down existing capital values until we have the revised figures and should therefore limit any writings off at the end of 1946 to loss of value by:*
>
> *(a) Demolition, sales, etc*
> *(b) Expenditure, whether for welfare items or otherwise, allowed as a deduction for Income Tax purposes;*
> *(c) Capital values of plants which have finally ceased production but have not been demolished.*

The only other class that I should be inclined to admit would be those where there had been such loss of efficiency, and therefore of production, by reason of age or change of process, that the current earnings were less than 8% on the capital values under examination.

I should take the view that age by itself, if a plant was still functioning, was no justification for writing down the capital value; nor should I admit that there should be any writing down merely because the current return on capital was less than that standard figure for any commercial cause, such as Government price control, market considerations, temporary under-employment of capacity, etc.

There had recently been the major exercise mentioned earlier to re-allocate buildings to plant and Coates suggested basing the revaluation on this work. In his own words, which now sound a little archaic:

1. Classify, for each of the years 1926-1945, all capital expenditure of each year - whether written down or off in any subsequent year - but excluding any asset since demolished or sold, into:

(a) Land
(b) Buildings, manufacturing
(c) Buildings, other
(d) Plant, in classes determined by income tax rates of wear and tear.

2. Raise values year by year to present level of capital costs by % factor.

3. Take life as settled by Inland Revenue for classes in 1(d).

4. Calculate prime cost rate of wear and tear (ie % on original cost) for each of those lives, assuming scrap value of 10% and rate of interest of 1.5% net.

5. Apply rates in 4. to plant classes to get proper annual Company wear and tear provision for replacement.

6. For buildings use 2% prime cost rate of Income Tax Act 1945.

7. Take capital values of 2. in each class of 1(d). and apply rates under 4. for number of years expired from year of expenditure to 1945 inclusive to get present written-down value of plant, for comparison with net book values (book value less Central Obsolescence and Depreciation Fund) at end of 1945, for Company as a whole.

8. Consider revaluation of gross values in books of each Division and recomputation of expired values as proper level of Central Obsolescence and Depreciation Fund for each Division.

Coates' Inland Revenue origins show up clearly in these suggestions, but in broad terms he is foreshadowing the procedure which was adopted in 1949/1950.

The Board did decide that for 1946 write offs should be restricted to actual demolitions and sales, plus obsolete plants which had gone out of production.

Sir Ewart Smith, the Engineering Director, quantified the price changes when he wrote a memorandum in 1947 in which he noted that the cost of a complete factory had risen by 105% since 1938. Costs had been approximately level between 1928 and 1939, but somewhat lower in the early 1930s.

Coates took the matter further at a Division Chief Accountants' Conference in October 1946, where he said it was essential to examine the effect of inflation in (1) price policy, where the expression of trading results as a return on capital should reflect the rise in capital construction costs, and (2) provisions for obsolescence and depreciation, where the amounts set aside (which in effect needed to be recovered in the prices of goods sold) should allow for the replacement cost of buildings and plant. He suggested that, to minimise the work, a revaluation should be done on the basis of construction cost indices since 1927. He would be discussing the proposal with Sir Ewart Smith.

The Conference agreed that pre-1927 assets still in use (mainly at Alkali and Billingham Divisions) would have to be considered. Some apprehension was expressed at the thought of writing up the asset values actually in the balance sheet. As background for the discussion A Lyons, the Cost Controller, had prepared a note giving detailed calculations based on the capital expenditure from 1928-45, Board of Trade indices and standard rates of obsolescence year by year. He went into some highly complicated manoeuvres to allocate the actual Obsolescence Fund over divisions which showed that, compared with a simple allocation in proportion to existing book values, Billingham should receive a vastly higher allocation. His main conclusion was that the net book value of buildings would go up by 39% and plant by 46%. As we shall see, the actual increase was well over 100%.

The engineers were evidently worried about the pre-1927 assets and Coates had to reassure them that probably, after allowing for depreciation, the net book values of those assets would not be material.

The subject was discussed again at the 1947 Conference, for which Lyons set out the proposed method. The capital expenditure would be analysed and indices applied. The resulting figures would be depreciated 'at ICI rates on a sinking fund basis using, say, a net rate of 1.5% return on original cost less residual value.' Then comes an important last step, which was destined to lead to much work and complexity: 'Division Engineers would be asked to consider the revised written down values in respect of the particular plant and say whether or not there were any special circumstances, *eg* introduction of new or improved processes or design, which would have the effect of bringing the revised values to a lower figure.' He envisaged that the calculations of applying the indices and the depreciation would be done at the Centre.

Chambers then took the problem to the ICI Engineering Committee. The accounting value of the assets was £50 million, but was this right? The Company must have funds for replacement of the assets; if the return on capital was overstated there would be criticism; if selling prices were based on a return on capital, the capital must be realistic.

Revaluation 1950

Another year went by and it was not until December 1948, by which time Chambers had taken over as Finance Director, that a definite proposal went to the Board. By this time the emphasis had moved towards the engineers, who would have the main responsibility, with assistance from the accountants. Chambers had insisted that there must be a full revaluation, not just a book exercise.

Two values would be established for each plant:

(1) Gross replacement value - what it would cost to erect a modern plant incorporating the latest developments at today's costs to yield the same output or to perform the same services as the existing plant; and
(2) Net replacement value - the value placed upon the existing plant by the Divisional Chief Engineer, having regard to the capacity of the plant, its age, and its costs of operation by comparison with a modern plant.

'Net replacement value' was in the event changed to 'net present value', being the present day value placed on the existing plant by the Division Chief Engineer, having regard to its present state and its future life, assuming normal maintenance is carried out. Questions of costs of operation were therefore left out of the equation. Where a plant was known to be obsolete the estimated future life should take into account the timing of the expected replacement.

The ICI books would show both values, the gross value being used for computing the annual depreciation (how the figures were presented would have to be discussed with the auditors).

As before, the exercise would start with an analysis by the accountants of the existing book values and application of indices (except that pre-1927 assets would not be indexed up). The valuation would be as at 31 December 1948, the target date for completion being 31 December 1949. Only 100% owned assets in the UK would be revalued because minority interests would complicate matters and overseas assets would have introduced difficult problems of currency exchange values. A revaluation panel would be set up, chaired by the Deputy Treasurer (Cotton), to oversee the operation.

At this time (14 January 1949) the ICAEW issued a pamphlet *Rising Price Levels in relation to Accounts*. This accepted that there could be appropriations out of profits to reserve to finance replacements, but set its face against revaluations. Chambers' reaction was:

> *This pamphlet does not contain anything new, or any argument which has not been worked to death at the Taxation Committee of the F.B.I.*
>
> *While I agree that it contains the justification for those concerns which do not wish to make a revaluation or do not wish to have their depreciation allowance on any basis other than that of historical cost, I would consider it outside the functions of our auditors to oppose any revaluation which the ICI Board decided upon as a matter of policy. If, as a result of that revaluation, the ICI balance sheet failed to show the true state of affairs, or the ICI profit and loss account seriously under- or over-stated the profits, the auditors have a duty to say so. Beyond that, in my view, they have no power to interfere with, or influence, the policy which the ICI Board chooses to follow.* (S P Chambers to J L Armstrong, 26 January 1949)

At an early stage, questions came up which have a very familiar ring. In March 1949 Chambers passed on to the Treasurer the gist of an informal discussion with the Chief Engineer (Braham) and Chief Accountant (Hall) of Nobel Division. Their first concern was the treatment of modern equivalent assets. The first point dealt with the case where the cost of putting in a modern plant was substantially in excess of what the cost would be of putting in a plant of the old design. In these cases, the modern plant does more than the old plant would have done, and replaces not only the old plant, but usually labour as well. Chambers suggested that in such a case, gross replacement value should be restricted to the cost of replacing the old plant to give the same yield as the old plant. In such a case the difference between the cost of a plant of the old design, and the cost of a modern plant represents an improvement, or additional capital expenditure.

An extreme example of this would be the replacement of old-fashioned farming implements by a modern tractor, which with its accessories would enable one or two men to do the work of ten or more men using the old implements.

Where, owing to improved design and lay out, it would cost less to put in a modern plant than it would to replace the old plant, then clearly the cost of the modern plant must be taken as the gross replacement value, since this is all that the company would have to spend in order to maintain the existing capacity.

Another case mentioned was the replacement of a low pressure boiler plant by a high pressure boiler plant which would do not only the work of the old low pressure plant, but would also enable the factory to dispense with the supply of power from the Central Electricity Board's grid. In this case the cost of the high pressure installation would be substantially higher than the cost of replacing the low pressure system, and would again, contain an element of improvement, or additional capital. In this case, the new high pressure plant would replace more than the old low pressure plant.

Their other concerns related to land and estate properties. Chambers did not think it was worth revaluing land representing the permanent site of the main factory of a division. Estate properties, *ie* houses let at low controlled rents, should be taken at their low market value and not at their higher replacement cost.

The revaluation was completed on schedule and on 18 January 1950 Armstrong reported the results officially to Chambers. The total Gross Replacement Cost was £257 million. The Net Present Value was £156 million against the existing net book value of £88 million - an increase of £68 million to which had to be added the existing Central Obsolescence and Depreciation Provision of £32 million, which would be freed, making a total increase of no less than £100 million.

It was decided that it was impracticable to do everything necessary to incorporate the new values in the books for 1949, and the values should be updated to 1 January 1950, especially as it had been decided to extend the revaluation to investments (difficulties cropped up in valuing investments in subsidiaries and it was decided to limit the revaluation to reversals of previous writings-off, where justified, and capitalising scrip issues).

It was agreed with the auditors that the appropriate figure to bring in as the new gross book value was Net Present Value, as if the Company had bought the assets second hand. The auditors were in firm agreement with the ICI view that in future the central round sum appropriations for depreciation and obsolescence should be abolished and instead, each plant should be depreciated over its estimated useful life. The depreciation charge, however, would cover only wear and tear: obsolescence would be met from central reserves. It was estimated that the depreciation charge might be £9 million *per annum*. In addition, it would be necessary to set aside some £2 million *per annum* for deferred tax on initial allowances, which had hitherto been included in the central obsolescence provision, so that the total charge would be £11 million against £7.5 million in 1948. It was noted that the £11 million made no provision for covering the gap between Gross Replacement Cost and Net Present Value:

> *... our auditors did not favour a theoretical approach to this problem but felt that the company's interests would be adequately safeguarded by the adoption by the Board of a conservative policy ... .* (Treasurer to Finance Director, 18 January 1950)

At a subsequent meeting of the Revaluation Panel on 2 February 1950 attended by all the Division Chief Engineers it was pointed out that so long as chemical plants are maintained in first class order the plants will last almost indefinitely. Accordingly, 'wear and tear' was interpreted to include the effects of the steady flow of small improvements and changes in technical development which might reasonably be anticipated and would limit the useful life. Also, if it was known that a plant was obsolete and going to be replaced this should be allowed for. A minimum 2% rate of depreciation was adopted.

The work of updating the revaluation was completed by April 1950. The total net increase was still calculated as £100 million, but the expected depreciation charge was now only £7.5 million instead of £9 million. The total charge including the reserve for deferred tax would be £11 million under either the old or the new system - a convenient result.

In October 1950 the Board were asked formally to adopt the revaluation. The reasons for doing so were listed as:

(*i*) The altered value of money is reflected in the profit and loss account but not in the balance sheet;
(*ii*) Alteration of asset values in the balance sheet will bring shareholders' funds more into line with the real capital at stake in the business;
(*iii*) The Company may be open to criticism if profits are shown as (high) percentages of old original costs;
(*iv*) Depreciation charges based on original cost do not provide for ultimate replacement at higher costs, which would eventually have to be financed by the shareholders;
(*v*) If selling prices are based on too low a depreciation charge, and if profits are expressed as a return on old capital values, the results are misleading; and
(*vi*) Widespread adoption of revaluations could help the case for higher tax allowances.

The revaluation was duly adopted on 12 October 1950 (ICI Board Minute 13500) and at the same time it was resolved that appropriations should be made to a central reserve for Obsolescence and Replacement of Assets to make some provision towards the shortfall between the net present values and the full ultimate replacement costs. Five million pounds was appropriated to this reserve in 1950.

The Board's decision was required in October in order that the division accountants could do all the necessary work before the onset of the year end. The whole revaluation had involved them (and the engineers) in many hours of overtime, with more to come. A Treasurer's Circular Letter of 30 December focused on the requirements for Standard Statistics for 1950 and the first profit forecast for 1951: these would have to bring in the new depreciation charges, but as an additional item. Divisions would, however, have to calculate their new unit rates and produce approximately comparable figures for 1950 on the new basis.

Aftermath of the revaluation 1950

The policy adopted after the 1950 revaluation of continually reassessing asset lives rather than adopting fixed rates of depreciation (ICI Board Minute 13500) led to abrupt changes in works cost of sales if a life was suddenly and appreciably reduced. Rather than accepting the change as something to be explained, it was decided in 1954 that 'it would vitiate comparisons of works costs', and depreciation should therefore be charged into costs either at the same rate as before, or 'at such a rate as would have been used if the reduced estimate of the remaining life had been adopted when the depreciation rate was last revised.' The difference was to be taken to a trading account as an item not allocated to products. If this did not take care of the position quickly enough, or in cases of residual credits on sale or demolition of assets, the amounts would be taken to profit and loss account or to Realisation of Assets Reserve.

It was also found necessary in 1954 to clarify the new policy. Divisions had, as originally instructed, been looking only at the engineering life when setting their depreciation rates, and in July 1954 the Treasurer wrote to Division Chairmen following a meeting between them and Executive Directors, to emphasise that so far as possible physical assets should be fully amortised over their actual working lives. Whilst it might be difficult to allow for technical or commercial obsolescence (or any other reason, such as concentration, likely to put a plant permanently out of commission), nonetheless the attempt should be made. It was emphasised that estimated lives should be altered when appropriate, therefore avoiding as far as possible the need for credits from capital reserves when plants were put out of commission (note that reserve accounting was then still respectable).

In April 1954 the auditors were questioning why as much as £567,000 had been written off to reserves in 1953, when the new policy on depreciation was meant to allow for obsolescence. It was stated subsequently that only in exceptional circumstances would a write off to reserves be authorised - later, under more pressure from the auditors, the 'exceptional circumstances' became 'catastrophic'.

Yet more clarification was needed in February 1955, this time on the subject of residual credits. If the amount realised on sale did not exceed the gross book value, it was to be treated as past over-depreciation and taken to profit and loss account. Any excess over the gross book value was a capital profit, to be taken to reserve. Plastics Division brought forward a tricky question in 1955: their thermosetting plastics plants at Wilton were incurring losses because the market did not allow them to produce in the long runs for which they had been designed. Plastics wanted to write off £0.9 million out of a total net book value of £1.5 million, so that in future they would earn a modest return. The suggestion was that the charge would be taken against profits, but it was turned down. There were other plants in a similar position - the 'Ardil' plant and Salt and Metals Division plants were quoted: the plants were not to be shut down, and on this basis the current rate of depreciation was right. Armstrong's view was that any adjustment should await the next revaluation.

In May 1958 a Treasurer's circular letter had to be issued to divisions asking for more information to be supplied about changes in the charge for depreciation, which was now being published. Changes in the estimated remaining lives, adjustments at the ends of asset lives, new assets coming into use, *etc* were making it impossible to explain the total charge.

Starting in 1950, annual appropriations were made out of profits to an Obsolescence and Replacement of Assets Reserve to provide for the shortfall between pre-revaluation provisions and the full cost of the ultimate replacements - the so-called 'backlog'. They totalled £50 million by 1958, thereafter, no separate appropriations were made.

Inflation during and after the war had affected stocks as well as fixed assets, and in 1950 a specific reserve for stock replacement was set up, when £4 million was appropriated. In 1952 the calculations were again made, of the effect of the rise in costs and prices during 1951. The calculations were limited to stocks of finished products, process supplies and packages which had been held at both 31 December 1950 and 1951, and extrapolations were done for items held for the first time at 31 December 1951 and for other stocks and stores, including plant and machinery spares. The outcome was a total of £9 million, but in the event only £7 million was appropriated. Similar calculations were made down to 1958 by which time the Reserve stood at £9.5 million, when it was merged into the General Revenue Reserve.

Revaluation 1958

In August 1956 J L S Steel was writing to Menzies:

> *I have been giving some thought to the question of revaluation ... it is certain that it would disclose a surplus of considerable magnitude ... If, as last time, we were to follow the revaluation by a scrip issue I think this is likely to have political implications ... I think it would be undesirable to take a step of this kind if a General Election were thought to be imminent.*

(the latest probable date for an election was the autumn of 1959).

By January 1957 the cost of construction had risen by 63% since 1 January 1950 and it was decided that in view of continuing inflation another revaluation should be done, this time as at 1 January 1957 (ICI Board Minute 16929, 10 January 1957) (later deferred to 1 January 1958). The basis of it was broadly the same but with three significant refinements.

The first was that gross replacement cost was taken as the lower of: (a) the present-day cost of an identical replacement, but ignoring any permanent excess capacity; or (b) the present-day cost of a modern plant taking advantage of any developments which could lower the cost of production and give the same output or perform the same services as the existing plant. Some notice, therefore, was to be taken of excessive running costs of an old plant, but only if the modern plant cost less than the identical replacement.

The second refinement was that maximum remaining lives of 40 years for buildings and 30 years for plant were laid down (Treasurer to Division Chairmen, 27 March 1957).

Thirdly, the instructions to divisions contained a note that: 'There is a link between gross replacement cost (a) based on the construction cost indices and net present value because it will be necessary to consider the former in arriving at the latter. When gross replacement cost is the cost of a modern plant, as in (b), then it will not be linked with net present value, which is the present-day value placed on the existing plant' (Treasurer to Division Chairmen, 22 January 1957). This caveat was to puzzle many people, because if the net present value was not linked in some way with the gross replacement cost, how was it to be calculated?

As in 1949, the new revaluation was not immediately adopted but updated figures were prepared as at 1 January 1958. These showed a 28% increase in the net present value of assets revalued compared with existing net book values, from £253 million to £323 million. The gross values went up from £335 million to £553 million. The depreciation charge would rise from £21.3 million to £23.6 million.

The net present value was again adopted as the new gross book value in the published accounts. Whereas net present value had previously been used internally as the measure of capital employed, it was now decided to use gross replacement cost (renamed gross present value).

This decision did not come suddenly out of the blue. It was foreshadowed in a letter from the Treasurer to Division Chief Accountants in December 1957, giving instructions about the use of the revalued figures in profit forecasts and standard statistics. In relation to capital invested and capital employed the net present values should be used for the time being, but consideration would be given to using gross present values (ICI made a distinction between capital invested, *ie* total capital of a division, and capital employed, *ie* total capital excluding idle and under construction).

The subsequent decision to use gross present value provoked dissent. An example is the letter from Michael Clapham in Metals Division to James Taylor, a director, dated 30 May 1958:

> *... the immediate effect on us will be to offset the reduction in our inventory section ... it will add at least one and possibly two men to our overheads strength ... one can't help being perturbed at the prospect of showing a return on some of our products in relation to gross present value; particularly when we are dealing with 'dying' works which we should certainly not replace with anything at all like the present one - such as Elliott's - or plants, such as some on the ammunition side, which are retained principally because the*

cost of doing so is relatively low and there is a reasonable possibility of using them in times of emergency or on receipt of overseas orders which are necessarily irregular in their incidence. There would seem to be a danger of taking a wrong decision about the desirability of continuing these activities as a result of comparing a factual profit with an unrealistic hypothesis about plant value.

These worries provoked a rethink and in May 1958 the Treasurer held a meeting with Division Chief Accountants to discuss two questions posed by Menzies. The questions were:

(a) whether gross present value or net present value should be taken as the measure of capital employed in a project; and
(b) what figures should be adopted in the published accounts.

For internal statistical purposes, the Division Chief Accountants were unanimous that gross present value should be used, whilst recognising that net present value was probably the right figure for publication. They pointed out the need for understanding of the figures, and possible special cases such as Metals Division's old plants where a low return on gross present value might be justified.

Apart from the internal misgivings, these questions had been raised as a result of an enquiry by the Monopolies Commission into fertilisers, which had focused on the inconsistency of using net present value for revalued assets but cost for assets constructed later. 'It appeared that not enough thought had been given to the problems involved at the time of the 1950 revaluation.' Menzies was impelled to write a lengthy note for the Board in which he discussed the theory of depreciation charges and returns on capital.

L H Williams was among those questioning the policy. In a note for Menzies dated 11 March 1958 he starts, acceptably:

If we ignore political considerations, our object in revaluing our assets and increasing our depreciation is to provide sufficient money to replace the assets when they are worn out, or when they become obsolete ... the extra money can only be found by increasing prices or at the expense of profits, or by a combination of both.

He then became more agitated:

From the financial point of view it does not seem to matter very much whether we provide the necessary extra depreciation as an item of cost, or by appropriations from profits ... . To ask a Division, trading in highly competitive markets, to provide progessively increasing annual amounts for depreciation on ageing assets, which will inevitably require increasing amounts spent on them annually for maintenance, and at the same time to expect a good return on an investment which has not been written down since the last revaluation, is often asking the impossible.

Menzies' response, in part, was:

I think I would agree with your broad statement of the objective, although I think you have expressed it in terms which are rather narrow and might give rise to false conclusions. Our object is really to obtain, firstly, a true measure of our trading profits after charging such depreciation provisions as will provide for the replacement of the asset in due course, and, secondly, a true measure of the capital employed either on gross replacement cost or on net current value in earning that trading profit. We must know what is happening, both as regards profit and as regards return on capital. If we do not like the results which are produced, then we should explore whether there is any action which we can take which will lead to better results. If there is no action which can be taken, then we must just live with bad results but we should not by any false accounting on a purely historical basis fool ourselves over what the results in fact are ... . The larger annual amounts of depreciation which we are now providing are not larger when expressed in terms of current money's-worth. (P T Menzies to L H Williams, 1 April 1958)

This last remark is worth pausing over: having earlier written that the depreciation provisions are to provide for replacement, he now turned to a money's worth approach. The purpose of depreciation provisions is still not clear - are they intended to provide money for replacements or to recover the original capital?

Another complainant was the Alkali Division. A number of its soda ash plants had been built before the war, and even before ICI had been born. Alkali maintained that these plants had already been depreciated at least once, and were now to be depreciated again. A divisional paper was put up to the Board by C Paine, and Menzies was constrained to have a meeting with the Alkali Board to resolve the dispute. The crux of the Division's argument was that by calculating future depreciation on the basis of future life divided by total life, no credit was being given for past conservatism. The Division wanted the future depreciation to be based on the pre-revaluation fraction of undepreciated value - which would be zero if the plant had been fully depreciated. Menzies, however, maintained that only by taking a fraction of the total life was a realistic net value obtained: past over depreciation should be ignored. It was left that Alkali Division would review some of its older plants, which seemed to have been over valued in the light of its high production costs. Despite Menzies' arguments, the feeling lingered in the Division, not unreasonably, that it was having to depreciate its plants twice over.

In his fuller note for the Board dated 17 April 1958, Menzies wrote:

Problems which exercise most minds are:

(a) What is the best measure of the net funds invested at any time in a manufacturing project?
(b) What is the annual rate of return on that investment?
(c) Is it possible to establish a measure of the net investment in a manufacturing project such that the return on that investment is comparable at all times with the return on other investments in manufacturing projects or in marketable securities, and also with the cost of raising money to finance the investment?
(d) What is the effect on our depreciation provisions and on the return on capital invested in the Company of revaluing physical assets from time to time?

He concluded that the actuarial or discounted cash flow (DCF), method was the only one which would answer these questions correctly. This however, had severe practical problems. It was fine for expenditure proposals, but it needed projections over the whole life of a plant, and if the products were going on to later stages it posed insuperable problems of allocation. Furthermore, he demonstrated that if allowance was made for the usual construction period, the return on the ICI system did not differ markedly from the DCF return.

The ICI system, of comparing profit after depreciation with undepreciated capital, had advantages: it was easy to compute; it was not distorted when more than one plant was involved; it directly reflected changes in the capital; and since both capital and depreciation were constants, a change in profit was realistic. 'The simplicity of the ICI system is its great merit provided that those who are responsible for management decisions appreciate its limitations.'

He then turned to the effects of the revaluation. He demonstrated that past provisions had been adequate, remembering that they had in the main been inflation proofed by being invested in physical assets: there was no 'back-log'. He went on to advocate the use of gross replacement cost for capital employed calculations despite the use of net depreciated replacement cost in the published accounts.

Menzies emphasised that prices must be fixed in the light of competition, but ICI must be aware of the true profitability: but if existing equipment will under no circumstances be replaced then the question of capital invested is of no relevance at all - and little more than token value had been given to plants in this category.

This paper was followed by another on 17 November 1958 which focused on the capital values in which he accepted that 'gross present value' would have been a better term to use than 'gross replacement cost', because the values were meant to take into account excessive operating costs, which had not been done in the Alkali Division.

The outcome of the discussions was that the recommendation to use gross present values for internal statistics prevailed, and this was confirmed to divisions in a Treasurer's letter on 28 November 1958 - but allowing for net present values to be available if special circumstances arose.

The Chairmen of Billingham and General Chemicals Divisions were uneasy about the low returns which they would be showing on gross present values. Billingham had made relatively small increases in net present value and annual depreciation, so that they had little option but to accept the position.

General Chemicals produced a new argument: in an actual replacement of its old plants in Widnes and its power stations, it would resite and combine the existing diverse plants. This would cost considerably less than straight replacements. Menzies discussed the ideas of General Chemicals at a meeting in Liverpool on 5 June 1959, and was at first inclined to go some way with it. The Treasurer, however, advised caution: the auditors would be disturbed at suggestions that the net present values should be revised so soon, and would certainly insist that the reduction was charged against profits. To alter the gross present values might make for difficulties in future monopoly enquiries: 'If we make any exceptions to our general rule of showing returns on gross present value established in a full-scale valuation, we may inevitably weaken any case we might put forward.' (He commented incidentally that there were 120 pages of complicated schedules for this Division alone) (J H Cotton to P T Menzies, 26 June 1959). Harold Smith, the Division Chairman, accepted Menzies' view that it was probably better to make no alterations (H Smith to P T Menzies, 22 July 1959).

Assets were not uniformly revalued upwards on the revaluation. There are references to the loss of £0.8 million incurred by Metals Division on the sale of assets to Yorkshire Imperial Metals. Over £1 million was written off by Dyestuffs Division when its photographic interests were passed over to Ilford, and the writing down of 'Ardil' assets by Nobel on cessation of manufacture. All these were taken as downward adjustments on the revaluation. The total of the decreases was £7.1 million, and the Treasurer was worried that the auditors might argue that some, if not all, of this should be charged against profits. In the event, none of it was.

Having established the amount by which the assets would be written up, the next question was what to do with the corresponding credit? The 1950 surplus of £96 million was split, £58 million, representing the reversal of past depreciation, going to Capital Reserve - General and the balance of £38 million, representing the excess over original cost, going to Revaluation of Assets Reserve. The former amount was available for scrip issues but there was some doubt about the latter. In 1958 the whole surplus was taken to Revaluation of Assets Reserve, the auditors having pointed out that the question of what reserves could be used for scrip issues was a legal matter which was unaffected by the accounting treatment.

Shortly after the revaluation Salt Division started spending money on modernising its plants. It put up a case for ignoring this expenditure in calculating the gross present value, on the basis that this value was the cost of a modern plant and to include the new expenditure would lead to double counting. It was firmly rebuffed. The modernised plant had, in fact, cost more than a new one, and the capital employed should reflect this fact. Salt Division was never content with this decision, and it does not sit very happily alongside Menzies' rebuttal of Alkali Division's case. Which was the 'right' figure depended on what it was being used for: to use one figure for different purposes inevitably meant compromise.

The revaluation that never was - 1963

In 1962 L H Williams, Deputy Chairman, was concerned that measured against current trading conditions, competition and technological change, a number of plants were over-valued and their depreciation lives too long. C M Jennings, an Assistant Treasurer who had been much involved in the previous revaluation, described the need for a further revaluation in a note to Williams dated 15 August 1962:

(a) To assess the gross and net present values of the Company's assets on a realistic and current basis.
(b) To ensure as far as possible that future depreciation provisions will be sufficient to amortise the value of physical assets remaining at the valuation date, eg 1 January 1962.
(c) Calculations of return on capital for individual products and for the divisions as a whole must be based on up-to-date capital values.'

There were suggestions that to reduce the work, the revaluation might be restricted to the larger plants. This suggestion was discussed with the auditors in July 1962, but did not impress them: 'the accepted principle of revaluation was that it should cover all assets'. At the same meeting the auditors were warned that because of technological changes the revaluation might produce a net downward movement. This worried them - Slimmings commented that the original idea behind revaluation was to reflect changes in the value of money but it would now appear that ICI was injecting into it other factors. ICI argued that if it had known at the time of the last revaluation what it knows now, it would not have written the plants up so much. The auditors were not enamoured with this argument. In theory, they considered that the factors involved in a net write-down should be isolated: upward changes due to a fall in the value of money should go to capital reserve, but downward changes due to technical or commercial reasons should be dealt with through revenue. They supported their arguments by reference to the Jenkins Report (on changes to the Companies Act). Frost argued that as long as an investor's cash investment was intact, there was no reason why under depreciation should not be set off against over depreciation.

A meeting was called of the Chairmen, Chief Engineers and Chief Accountants of all Divisions. It took place at Warren House on 6 September 1962, Williams took the chair and H Smith, Technical Director, and Frost, Treasurer, also participated.

In his introduction, Williams wrote that the main reason for the 1950 and 1958 revaluations was inflation. He went on:

> *In retrospect, we can say that for various reasons, one of which was insufficient appreciation of the effects of technological change, neither of these revaluations was as well done as they might have been and there is little doubt that there were over-valuations and over-optimistic estimates of economic lives in both of the exercises ... . Following the 1958 revaluation there was an appreciably slower rate of inflation and, in addition, a marked acceleration in the rate of technological change with increased risks of technical obsolescence. As a result we have had to accelerate the rate of depreciation of some of our larger assets and, on occasions, to write-off quite substantial sums. Coming at a time when our profitability was in any event declining, this has caused us some embarrassment.* (L H Williams paper dated 31 August 1962)

Williams then expanded on the reasons for proposing another revaluation:

It is already evident that using up-to-date techniques during design and construction stages we are able to build plants which, for practical purposes, are as effective as existing plants but which cost appreciably less to build than they would have cost a few years ago. There is the further point that we are now building plants which are more functional than some that we have constructed; they embody fewer frills ... we get a fairly clear picture that the effects of what might well be described as progressive change are going to outweigh any likely effects of inflation ... we are not concerned in the proposed revaluation with what it would cost to replace any of our existing assets in their present form; we are only concerned with what it would cost us to build a plant with the same annual output as the existing unit, assuming that the replacement unit is based on the most up-to-date technology and built to strictly functional standards. (L H Williams paper dated 31 August 1962)

Turning to depreciation, Williams said:

… it is essential that divisions assess the remaining economic lives of their assets as realistically as possible. Hitherto, we have not always recognised the capacity for progress of some of our competitors and that their rate of technological progress can exceed ours, neither have we always paid sufficient regard to the risks of commercial obsolescence. (L H Williams paper dated 31 August 1962)

In the main, the subsequent discussion was about the mechanics of the revaluation, but one early question from Alkali Division was, in the light of later events, very much to the point. The question was whether the revaluation was 'proposed' or whether it had virtually been decided. Williams explained that it was a prudent step in case the results turned out to be too embarrassing to implement, *ie* if the new net present values were lower than the existing book values - the odds were against this. If a division was satisfied that it had assets, which were already properly valued, there was no point in revaluing. The Treasurer pointed out that if the result turned out to be embarrassing the auditors would insist that it be implemented.

The division representatives had some concerns about the gross present values - Pearse of Dyestuffs Division described them as 'synthesised pipe dreams' - and their relationship to the net present values, which were supposed to represent the values of the existing plants. A problem, which surfaced again with current cost accounting, was how far one could go in notionally redesigning. General Chemicals Division 'had grown like Topsy' and if it was to start afresh it would not have seven plants located on different sites but probably two. Smith's response was that such cases of idealising production should be dealt with very severely in the light of what was realistic. He added that his approach differed from that of the Treasurer - the idea of preserving the value of assets left him cold, the main object was to find out the fighting position. To show how wrong forecasts can be, the general view of the meeting was that in future inflation would not be important.

The meeting spent some time discussing how the net present values should be calculated: should the fraction to apply to gross present value be future life divided by total life of the existing asset or of a new asset? An example of the crackers at Heavy Organic Chemicals Division was given: they had ten past years and three to go, whilst the life of a new cracker would be ten years. The answer seems to have been that the past plus unexpired life of the existing asset should be taken, subject to a maximum of 20 years, because the total life of a new asset was not likely to differ much from that of an old asset.

Finally, Williams asked for the divisions' estimates of how much the write down from net book values to net present values might be. The total was £60 million.

The whole tone of the meeting bothered Chambers, then Chairman, and he reacted vigorously. A Board minute of 22 November 1962 records that the Chairman was not satisfied that the instructions to divisions were clear enough or the principles properly stated. He wrote some 'Notes on the revaluation of assets' and his covering note to Executive Directors said: 'I would now like Executive Directors to consider the attached notes so that future action can be determined. If Directors would like me to be present at any discussion I would, of course, be available' (11 December 1962). His notes start:

When the details of any proposal to revalue assets are being considered, it is easy to lose sight of the principles of valuation or of the associated subject of depreciation and obsolescence. I think this may have happened ... .

He describes the normal process whereby the cost of a plant is charged over its estimated life. He accepts that there may be catastrophes which justify a charge against reserves, but other than this he considers that the only reason for a revaluation is a substantial fall in the value of money, and this only when there have been major changes where the maintenance of the old figures can be very misleading. He quotes the case of the post-war Bain Works at Wilton, where at the then current prices of chlorine and caustic soda the new plant would earn only 2%, when older plants were earning 17% on their book values.

He points out that obsolescence is being dealt with by shortening asset lives, although perhaps not enough, and asks why there is any need for a revaluation.

He lists the arguments put forward for a revaluation, namely rapid technical and commercial obsolescence, mistakes in the 1958 revaluation, and the need for realistic values without frills, and he says in all these points the meaning and purpose of the concepts of gross present value and net book value have been overlooked. In his view the gross present value should remain unchanged.

In the absence of quite substantial inflation ... we can best judge whether a capital expenditure has been profitable or not by calculating the surplus profit each year expressed as a percentage of the original amount invested.

He continues:

It is true that, in theory, the net value of any asset cannot exceed the discounted value of future profits ... but such a theoretical value is based upon estimates of the future course of events and we would get into a great muddle if we attempted frequent recalculations of everything ... . If we write off parts of the original cost we may get into the position in subsequent years of regarding the plant as a better investment than it is ... . We are in danger of arguing *in circles, deducing capital values by reference to profitability and calculating profits by reference to the capital values so deduced.*

He then moves on to the practicalities and, referring to the estimated write down of £60 million, says that the Board might be greatly embarrassed if the auditors insisted upon a very large additional charge for depreciation. He recommends that the Executive Directors should reconsider (a) whether there is any case for a complete revaluation; (b) whether there are any cases of catastrophic losses or errors in the 1958 revaluation; and (c) whether there are cases where more severe reductions should be made in estimated lives. In relation to the September meeting, he says:

I do not believe that the gross present value of existing assets should be revalued so as to represent what it would cost to put up modern plant to produce the same output as the existing units. A new unit might have a higher capital cost but a lower running cost, or it might have a sufficiently low capital cost to justify a higher running cost: if it has both lower capital and running costs, this indicates growing obsolescence of the existing unit.

It is perhaps not surprising after this, to find that the Board decided on 24 January 1963 that there was to be no revaluation in the UK.

Life without a revaluation: asset lives

Instead of undertaking a revaluation, divisions were invited to list cases where the gross present values should be modified to deal with catastrophic loss of value since 1 January 1958, and in carrying out their annual reviews of asset lives to pay particular attention to all cases where more severe reductions should be made.

Maximum lives were fixed, ranging from 20 years for plants with little likelihood of being affected by obsolescence, through 12 to 15 years for plants affected by a steadily progressive technology, to 5 to 7 years where the risks of rapid obsolescence were significant. Extensions to the original lives would not normally be allowed before one third of the original life had expired. These matters had to be carefully explained to the auditors in February 1963. The possible write down of £60 million was only a very broad 'off the cuff' estimate, and the higher depreciation charge expected in 1963 was not a change of policy, but simply a reflection of faster technological change. The decision to set maximum lives was welcomed by the auditors.

The auditors were now happier about the policy for asset lives, although a stern letter had to be issued to Divisions by the Treasurer on 21 February 1966:

> *A difficulty has arisen in the course of the 1965 audit which makes it imperative for the principles of the Company's policy on depreciation to be brought once again to the attention of divisions ... . What cannot be permitted is for a division to make a change (to the estimated life of an asset) late in the year which involves retrospectively altering the assessment of the remaining life as from the previous 1 January or a fortiori any earlier date ... there must inevitably be a suspicion that it is doing so because of the effect on the trading profit ... . Divisions should always seek to re-assess the lives of assets as accurately as they can for one reason and one reason only - to ensure that from then on the depreciation charge is as fairly and evenly spread on a time basis as may be practicable.*

One thing still gave trouble: the residual adjustments when assets were sold or demolished. In 1965 Weysom was able to write to divisions that the auditors accepted that residual credits arising when an asset was demolished could be taken to profits, as representing past over-depreciation. However, regarding catastrophic losses which could still go against reserves, Weysom wrote to Division Chief Accountants on 2 September 1965:

> *We are very unlikely to be able to reach agreement with the auditors in regard to future cases unless we can show clearly that the occurrence is quite disastrous and so material that our real capital is shrunken by reason of it ... . With total Group depreciation now running at about £70 million per annum and still increasing, a few hundred thousand pounds extra depreciation in any year is neither here nor there ... .*

In 1967 the procedure for residual adjustments was simplified by including them with the depreciation. Credits for realisations in excess of gross book value were also taken to profit. The amounts involved had increased from £0.25 million in 1965 to over £0.5 million in 1966. Moore commented: 'It therefore seems to be a question of degree: "capital" profits can be credited to revenue provided that they are not so large that the result does not give a true and fair view.' Hitherto these instructions had been mandatory only in the UK, but now the Chief Accountant sent copies of the instructions to the main overseas subsidiaries with the comment that 'you may find it appropriate to follow suit'. In such details as this, overseas subsidiaries were still ruled with a light hand.

The sale of the Plastics UF/WF plant as a going concern caused more discussion in 1968. The £0.5 million loss had been charged to reserves. The auditors were not happy about the distinction between selling a going concern and selling assets. Their general view was that any such losses should be charged against profits. ICI adhered to its arguments that catastrophic losses should go to reserve, but accepted that amounts under £250,000 could in future go against profits. The auditors were reluctant to accept that anything under £5 million could be a catastrophe in view of the size of the group. M G Waller said the 'profits should bear the rough with the smooth, dismal failures offsetting howling successes.' With hindsight the gradual movement towards taking practically everything through profits is evident.

The older divisions continued to feel that they were under unwarranted pressure from their Control Groups to earn returns on their old plants. In 1967 Agricultural Division put a case to the Treasurer for substantial reductions in the gross present values of some of their old plants which had been constructed 40 years earlier when Billingham was first coming into being. They felt that they had been too optimistic in the 1958 revaluation and were now faced with having to provide large amounts of extra depreciation on the shortened remaining lives. They based their case for reductions, not on the lower costs of modern plants, but on some encouragement which they had been given by Menzies who had suggested that such old plants should be judged on their cash flows, not on their gross present values. The Division asked for reductions of £40 million, and simultaneously Mond Division (as it had now become) asked for reductions of some £3 million. It took Head Office three months to give their formal reply, which was a firm 'no'. Hillebrandt wrote at length to explain the decision, basing himself on Chambers' note and giving reassurances that the return on gross present value was only one among a number of factors used in judging performance.

By this time Bagnall had become Finance Director and Hillebrandt evidently felt that he should be *au fait* with all the background, because at the same time as writing to the divisions he also wrote a full explanation for Bagnall.

Stirrings outside ICI

Thus far, ICI had been going it alone. The ICAEW had in 1948 set its face against any form of inflation accounting in its only official publication on the subject. ICI had had to explain to the Monopolies Commission enquiry on fertilisers the thinking behind the revaluations and had demonstrated that the returns on capital based on gross present value were broadly equivalent to DCF returns (after allowing for the effect of the time it took to construct a plant). These explanations had been accepted by the Commission and ICI was anxious not to disturb that position - which was one reason why Alkali Division was not permitted to make its write downs.

Within ICI individual approaches to revaluation differed. The approach of the engineers and commercial people tended towards current cost accounting (CCA), with its emphasis on the need for realistic values - the so-called 'fighting position'. Chambers' approach was closer to current purchasing power (CPP) accounting, with the aim of showing the real returns on the original investment.

Internally, the debate ended for the time being in victory for Chambers. Externally, ICAEW published in 1968 a booklet entitled *Accounting for Stewardship in a Period of Inflation* which also went down the CPP route. A broad study of the effects of applying this method to the ICI accounts was done in 1969, but did not lead to any action at the time.

The rate of inflation, however, was growing, from 5% in 1969 to 6.5% in 1970 and over 9% in 1971. In March 1971 meetings were held with the the senior staff in the Treasurer's Department and representatives of Division Accounts Departments, the object being to consult on the need for inflation accounting, the method which might be used and how the results should be explained to and used by management. The theoretical case for making the inflation adjustments was generally accepted, but there were concerns about how they were to be used in running the business. Divisions were already under pressure to achieve targets by raising prices and reducing costs: to move the goal posts further away might depress morale to no purpose. Against this, it was argued that it was the accountants' duty to present the facts as they saw them, however unpalatable. Cash flows would be unaffected, but to isolate the effects of inflation on them could be useful. The adjustments would probably be more useful in long term planning than in the short term.

The next step was a meeting of Division commercial and planning Directors organised by the Economics Department at which the implications of inflation were discussed, the primary message being that selling prices must not lag behind and that working capital must be kept under strict control. The Treasurer's Department presented two papers demonstrating the effect of inflation on accounts.

Current purchasing power (CPP)

The South American subsidiaries had been preparing inflation adjusted figures for some time. A note in the Finance Director's report to the Board on 19 January 1962 illustrated the need. Over the five years to 30 September 1961 the Brazilian cruzeiro had depreciated in value, as compared with sterling, at an annual average rate of about 40% compound. ICI Brazil made 'profits' after tax over this period of £347,000, but 'this had fallen short of the amount required to make good the erosion of its capital through inflation'. The net worth of the Company had fallen from £913,000 to £411,000. The problem was met by arranging a 'swap' deal with the Swiss Bank Corporation, but clearly the real problem was that ICI Brazil was making losses.

Duperial Argentina faced a similar problem. This country met Chambers' requirement for there to be substantial inflation, and in fact in its management accounts it had been making inflation adjustments based on cost of living indices. In 1964 it carried out a full-scale revaluation using external professional valuers.

In the UK, ICI had no wish to publicly report inflation adjusted accounts, because the very much lower figures of profits were unlikely to be understood and ICI's standing would suffer. The ASSC, however, had set up a working party, of which the present author, then Deputy Chief Accountant, was a member, to study the whole subject. This working party published a discussion paper towards the end of 1971, which gave Hillebrandt and Pearcy an opportunity to present a paper to the Board *via* Frost which discussed the impact of inflation on ICI's accounts, pointing out that since the last revaluation in 1958 there had been 50% inflation (which happened to be the amount which Chambers had thought should trigger another revaluation). Already, divisions had been instructed to make full allowance for inflation in their cash forecasts and expenditure proposals, using forecasts from Economics Department.

Broad adjustments to divisions' trading profits had been calculated for 1970, which showed them falling from £69.3 million to £34.9 million, the difference being mainly the depreciation adjustment of £25.4 million. Several divisions' profits were more than halved, but Pharmaceuticals', with their lower capital intensity, were only dented. After taking in the inflationary gain on long-term loans ICI's after-tax profits were reduced by £14 million, which was more than the retained profit.

The paper emphasised that for inflation-adjusted figures to be useful, they had to be accepted as such by management. Accordingly, it did not make any recommendations but merely sought the Board's advice. This was evidently to do nothing at that stage, because there was a hiatus until March 1973 when another paper went from Hillebrandt to the Board. By this time the ASSC had issued an exposure draft (ED8) advocating the publication of supplementary statements showing adjustments on CPP lines. The ASSC had received expressions of support from the

CBI, the Bank of England, the Issuing Houses Association, the Society of Investment Analysts and others.

Behind the scenes the Treasurer's Department had set up a system to prepare inflation-adjusted figures for the UK Divisions. Based on this, the figures presented in the paper covered ICI Ltd, dealing with approximately two-thirds of the whole Group. The depreciation adjustment was now £40 million, stocks adjustment £10 million and gain on loans £20 million. In each of the years 1970-72 there were negative retentions, but the forecast for 1973 showed a substantial turn-round. The total assets employed went up from £1300 million to some £1600 million. Once again only Pharmaceuticals were little affected, although Paints also came out quite well.

Hillebrandt emphasised the need to gain understanding and acceptance of the ASSC's proposals but believed that ICI should support them. So far as internal action was concerned, he concluded:

> *Now, when profitability is moving upwards, when negotiations with Government about price increases are beginning, and when there is a continuing need to control costs, it may well be the right time to encourage deeper consideration of inflation adjusted figures.* (Effect of inflation on reported profitability, ICI Board Minute 23000, 16 December 1971)

It was decided to go ahead with the preparation of Group figures, which would initially be for internal use only. Draft instructions were sent to divisions and the main UK subsidiaries in April and the Chief Accountant (Ogle) gave the go ahead in June, the target being to have the Group figures for 1973 available before the annual general meeting (AGM) in 1974. Various simplifications were introduced into the method advocated in the exposure draft, such as calculating the stocks adjustment on opening stocks only, and these were cleared with the auditors: although the figures would not be audited, the basis used was agreed with them so that no major changes would be needed if the exposure draft eventually became a standard. Minor subsidiaries were not called upon to participate: it was calculated that by including the divisions, 18 UK subsidiaries and eight overseas subsidiaries, 97% of the

Group fixed assets would be covered, and 93% of the trading profit. The figures would be extrapolated to give the Group picture.

Pearcy prepared a note about inflation accounting in management accounts for discussion at the Treasurer's Conference in October 1973. The note focused mainly on CPP: 'price level accounting by way of general index adjustments is essential in order to put the Group's financial prosperity into proper perspective.' It did refer to replacement cost accounting, and postulated that this could be combined with CPP, but 'general index adjustments will not demand a lot of effort; a full replacement cost accounting system would require continuing technical and accounting effort …'.

In the introduction, it noted that 'there are difficult questions to be resolved relating to timing the introduction of the systems; the technical accounting methods to be used; the need for simplicity, and the understanding and use of the figures.' Presciently, in his covering note Ogle stressed the difficulty of comprehension and the need for a major educational programme throughout the Group. Indeed, he had thought it necessary to hold a meeting of senior Treasurer's Department staff to discuss it before it was issued.

The results of the preliminary exercise were reported to the Board by Frost in May 1974, by which time the ASSC was about to publish a provisional accounting standard (PSSAP 7) - provisional because the Government had set up the Sandilands Committee. Significantly, Frost commented:

> *We are not entirely convinced that the CPP method which will be recommended by the ASSC will by itself meet all needs. In particular, it may be found necessary for management purposes to combine it in some way with replacement cost accounting … . It may be felt that a more realistic starting point for the preparation of inflation adjusted figures would be achieved by undertaking a comprehensive revaluation of assets. It must be recognised that to do this would require a major effort by engineering and accounting staffs throughout the Group…*

ICI was lucky that the 1973 results were good, so that there would be little embarrassment in adjusting them for inflation, and Frost alerted the Board to the need for a decision later in the year.

Frost presented a paper to the Advisory Panel on Finance on 15 July 1974 in which he said:

> *There are two major objections to the use of CPP for purposes of management accounting: (1) the book values of fixed assets may be unrealistic when compared with the costs of modern plants which take advantage of technological progress, and (2) the values at which stocks consumed are charged into costs do not reflect changes in specific raw material etc prices since the stocks were purchased. These two objections would be overcome by the use of replacement cost accounting, and this could be combined with the CPP method so as to comply with the provisional standard.*

He then referred to the major effort required to revalue the fixed assets and then said: 'bearing in mind that CPP accounting is no more than historical cost accounting expressed in terms of current money, I would prefer to move towards the replacement cost basis ...'. If it were decided not to revalue, he would recommend publishing the CPP figures because:

1. It was important to publicise the extent to which ICI's current profit figures are exaggerated by inflation (a step in this direction had already been taken by the Chairman in his speech at the AGM).
2. Although the standard was classed as provisional because of the existence of the Sandilands Committee, which was studying the whole subject, it was likely to command extensive support, so that ICI would need persuasive reasons if it did not adopt it.
3. Calculations on CPP lines based on ICI's annual accounts had been made and published in the City: it was better that authoritative calculations should be published by ICI.
4. Because of the high and probably still accelerating rate of inflation, it was more important to do something than to do nothing.

What Frost did not refer to was the problem of getting the figures understood and used by non-accountants, given that any such mixed system as he was advocating was bound to be complicated. It seems that Chambers' earlier strictures and warnings about muddle had by now been filed away.

Frost's reference to a revaluation was taken on board by Ogle, who wrote to Chief Accountants of divisions and subsidiaries warning them of the possibility of a full-scale formal revaluation. After the meeting of the Advisory Panel, this was modified to a confirmation that CPP accounts would be prepared for 1974, coupled with a request that the Chief Accountants should express a view as to the reasonableness of the CPP asset valuations in comparison with replacement costs: the construction cost indices had moved in sympathy with the general rate of inflation, but it might be that technological change produced a material difference for some plants. He also issued to Chief Accountants a summary showing the inflation adjusted results by divisions and overseas companies - even though his letter was marked 'Highly Confidential', this must be a truly remarkable sign of the changed and more open atmosphere compared with the early post-war climate, let alone pre-war.

Detailed instructions were issued from Merger Accountancy Section. The simplified method which was employed allowed the inflation adjustments to be calculated before the year-end, once Merger Accountancy Section had issued the estimated rates of inflation (the 1973 UK rate was revised upwards from 6% to 9% and the assumed 1974 rate was 16% - later estimated as 20%). Materiality was kept in mind: profit movements of less than £0.1 million and balance sheet movements of less than £0.5 million were immaterial. The CPP accounts would now be audited.

In November 1974 there was discussion with the auditors about how to restate the overseas CPP figures for 1973 in 1974 terms. The auditors favoured the 'restate then translate' method, but ICI pointed out at the meeting that:

(a) a further consolidation would be involved.

(b) the exchange movement in 1974 would be included in the 1973 comparatives.
(c) the relationship between items in the comparative figures would be changed, possibly changing losses into profits and vice versa.

It was left that ICI should explain if it had departed from the standard procedures.

Current cost accounting (CCA)

This history ends in the middle of the great inflation accounting debate - which at the time of writing is still rumbling on. Within ICI the debate had already started even before CPP figures had been published with the annual report. In a paper to the Board on 11 December 1974 Frost considered what should be done in the absence so far of the Sandilands Report, which was expected to be published in the Spring of 1975. For the published accounts he noted that the provisional standard had already been followed by some 40 companies and recommended that ICI should publish a supplementary statement with the accounts.

For management accounting purposes, however, he considered that there was little doubt that the CPP figures, if broken down over individual plants, would give values which in many cases were unrealistic for purposes of managing the business. There was strong evidence that the Construction Cost Index had risen during the recent past at a considerably greater rate than the Retail Price Index (preliminary indications from divisions were that replacement cost figures would reduce profits by perhaps £25-40 million below the CPP profits), and technological changes since the plants were built could in some cases have offset the effects of inflation. Frost, therefore, recommended that for all internal management information a short-cut replacement cost approach should be adopted, but ensuring that the general principles should be the same as those used in a full-scale revaluation. Besides the extra depreciation, the management figures would include a charge for the erosion of working capital. The system would initially apply only to the UK and Europe, but other overseas units would be encouraged to follow if possible.

Frost's recommendations were accepted by the Board and, after the support of senior engineering and commercial staff in Head Office had been obtained, Hillebrandt wrote on 10 January 1975 to Division Chairmen sending them a copy of Frost's note to the Board. The plan was that divisional results should be presented to the Board for the first half of 1975, and full Group figures for the year (it is noteworthy that there were already concerns in Head Office about persuading overseas subsidiaries and associated companies of the merits of inflation accounting for management purposes: people in the US and Australia were never fully persuaded).

The Treasurer held a meeting with Division Chief Accountants on 5 February 1975 to discuss the proposals. Three main concerns were raised: the meaning of the (lower) returns on capital which would be reported - the accountants would have to educate senior management; the treatment of future design changes and the use of specific indices as opposed to the general construction cost index - the replacement cost of the existing plants should be taken, using specific indices if these differed markedly from the general index; use of the Retail Price Index for the working capital erosion calculation - other indices and methods could be used if more appropriate.

The detailed instructions were issued in January 1975 by B F Crook, the head of the Management Accounting Data Department, under cover of a further letter from Hillebrandt to Division Chief Accountants, and after consultation with Policy Groups Department. The over-riding principles were stated to be 'to show, in reasonably accurate terms which are easily understood and capable of multi-purpose application, the comparability of the performance of one period with another or of one forecast/plan with another after substantially eliminating the distorting effects of inflation'. The basis for the restatement of the gross values of fixed assets was the same as that used for the 1958 revaluation, but the effects of changes in technology were only to be taken into account if they were significant - greater than 20%. No allowance was to be made for the fact that the present process was less efficient than a new one or had higher maintenance costs. The new gross values were termed Gross Replacement Cost, to distinguish them from Gross Present Value.

A major change was introduced for depreciation. For management accounting this was to be Gross Replacement Cost apportioned equally over the expected total life, with the effect that - inflation apart - total depreciation charges over the whole life would not necessarily add up to the gross value if expected lives were changed. The excess over the historical cost depreciation was called Supplementary Depreciation.

A charge against profits for the erosion of working capital was introduced. This was, for convenience, based on the movement in the Retail Price Index, but there was provision to use actual prices if there was a significant divergence.

The possibilities for confusion were obvious and a reconciliation statement was requested on the following lines:

	Historical £m	CPP end-year £m	RC £m
Sales	10	11	10
Surplus before depreciation	1.0	1.0	1.0
Depreciation-historical	.2	.2	.2
Supplementary depreciation			.25
CPP depreciation adjmt.		.2	
Erosion of working capital			.15
CPP stocks & monetary items adjustments		.1	
Trading Profit	.8		
Trading Profit (CPP)		.5	
Product/Total Profit (RC)			.4
Capital Employed (GRC)			
- fixed			4
- working			1
			5
Assets Employed			
- CPP basis		3	
- Historical basis	2		

It may be thought that this table merely emphasises the dangers!

An example of the effects of the new GRC regime was given by Plastics Division in March 1975. Using the GRC Index the 1975 fixed capital employed would be £390m compared with the GPV of £171m. Refining the indexed GRC to an assessed GRC for specific assets gave £353m, a reduction of £37m. There were four major items of difference:

1. There were currently sixteen polythene plants which had a replacement cost on an Index basis of £72.5m. In 1975 conditions they would be replaced by six units costing £56m, a reduction from the Index of £16.5m.
2. Propathene - existing plants indexed upwards to £51m. Assessed GRC was only £46m, a reduction of £5m.
3. Melinex - indexed GRC £29.5m, assessed GRC £22.0m, a reduction of £7.5m.
4. Visqueen - indexed GRC £14.7m, assessed GRC £10.5m, a reduction of £4.2m.

Depreciation (GRC) would be £22.3m, as against historical depreciation of £15.4m. Erosion of working capital would be £10m.

Frost presented a progress report to the Board in July 1975. The Sandilands report had been delayed until the Autumn, so he recommended that ICI should continue its practice, which had been adopted in 1974, of referring to the overall CPP effects of inflation in the quarterly interim results and include a CPP statement in the annual accounts. Work on the replacement cost figures for use in management accounting was continuing, but so far only the results for the divisions were available. This was partly due to the work needed to prepare information for the US Securities and Exchange Commission in connection with a $100 million loan. The following table summarised the forecast results for the UK Divisions for 1975:

		GRC £m	GPV £m	Historical £m	CPP £m
Capital/assets employed					
Fixed assets	gross	3,400	1,460		
	net			750	1,375
Working capital		550	550	550	595
Capital employed:	gross	3,950	2,010		
	net			1,300	1,970
Trading profit					
Profit before depreciation		314	314	314	314
Depreciation		-107	-107	-107	-107
Conventional trading profit			207	207	
Supplementary depreciation		-130			-127
Erosion of working capital		- 88			-130
Trading profit adjusted for inflation		- 11			- 50

Frost pointed out that RC and CPP depreciation were very close - the different way of calculating it had compensated for the difference in the gross values. However, the erosion of working capital was much higher on the CPP basis, which was the reverse of what would have happened in 1974 (it seems that there had been considerable departures from the general instruction to use the RPI for the calculation).

Frost commented that the results forecast for 1975 were unusually and unacceptably poor. He went on to refer to the difficulty of judging what should be an acceptable rate of return in the highly inflationary environment: discussions between the Treasurer and the General Manager-Planning were proceeding.

These discussions with Planning Department were carried on by Crook. Planning Department was at this time moving into the use of cash flows for ranking businesses for capital investment, the idea being that cash providers would have an easier case to make than cash requirers. This was linked in their minds with calculating target returns on capital which would take account of target growth rates. The whole problem was becoming more complicated, and when the attempt was made later to allow for differing local tax regimes and inflation rates the scheme never got off the ground.

Nevertheless, on 9 September 1975 Crook and T O Hutchison of Policy Groups Department wrote to Division Chairmen putting forward a Group objective of 7% return on GRC capital employed. The figure of 7% was derived from a calculation of the Group cash flows required to sustain a growth rate of about 5% or 6% per annum, and Divisions were asked to put forward estimates of their cash generation and requirements for the years 1974-78. In a companion letter to Division Chief Accountants, Crook apologised that the note had taken so long to be issued 'but as you will appreciate the subject is complex and has occupied a considerable amount of time to obtain a reasonable consensus in Head Office.'

In December, Frost reported to the Board that the Sandilands report had been published and the Government and the accounting profession had given their broad support to its recommendations for CCA and for the formation of a steering group to develop a standard. ICI was well placed to adapt its GRC system to CCA, but it would have to do three things:

1. Revalue the assets of all major operating units.
2. Establish systems for determining the effect of price changes on stocks.
3. Familiarise management at all levels with a new basis for measuring financial performance.

The intention was that CCA information would be included in the 1976 accounts, either by incorporation in the Group accounts or by supplementary information.

The Board accepted the recommendations and Hillebrandt informed the Chairmen and Chief Accountants of Divisions and major subsidiaries on 31 December that the Board had decided that ICI should proceed 'with all speed' to introduce CCA. Following the precedents of the earlier revaluations, a working party would be set up, with a mixed membership of accountants, engineers, planners and possibly commercial people. His letter was accompanied by draft detailed instructions.

The working party was duly set up, with D E Watts as chairman - he had just become Chief Accountant in succession to Ogle. Its membership included accountants from Canada and the US: significantly, Australia considered that the expense and time involved in attending meetings was not justified. The working party had a direct line of communication with the Inflation Accounting Steering Group because Pearcy was a member of both groups.

Watts decided that it was essential to keep operating units fully *au fait* with progress. His report on the first meeting of the working party set out several general points:

1. Acceptance of the broad principles of CCA.
2. Concern about the subjectivity, *eg* in the use of indices, the assessment of the effect of technological change, calculation of economic values, *etc*.
3. A unanimous view that whatever ICI did it must be simple.

The revised instructions were issued by H E Smith, the secretary of the working party, in May. They contained various simplifications from the original draft, *eg* not revaluing plant under construction and retaining the existing basis for valuing stocks (but this was later changed to valuing stocks at replacement cost).

It is not proposed to go into all the detailed considerations of the working party: suffice it to say that in the main the methods adopted followed the lines which were eventually taken by the Inflation Accounting Steering Group. The two principal points of difference were concerned with asset lives and the gearing adjustment, and these are discussed later.

One other problem which exercised the working party is, however, worth mentioning. This was the problem of defining exactly what modern plant would replace an existing one: should it be an identical replacement, should it take in modern technology, should theoretical rationalisation of plants and sites be permitted, and if so, to what extent? The working party's final answers were:

> *The replacement cost is not limited to the replacement of existing assets. It should allow for changes in technology and some rationalisation in the number of plants and sites; such rationalisation must be practicable, realisable and economic. The technology should be available to the unit and established with a similar degree of certainty as required for its adoption in an expenditure proposal. Any assumed reduction in the number of sites must be the approved policy of the unit. The replacement cost should exclude significant and identifiable expenditure to protect the environment or for safety which is not part of the present assets but would be required in a replacement.* (Chief Accountant to Finance Director, 18 October 1976)

Some members of the Board had expressed concern about the results of the revaluation of fixed assets, and accordingly a report was produced by the Chief Accountant (attached to note from F J K Hillebrandt to Chairman and Executive Directors, 30 December 1976). This went into details of the basis of the revaluation and listed the major departures from the indexed basis. In total, the results gave increases from £2,884 million to £6,254 million in the gross value of fixed assets, from £1,425 million to £3,497 million in the net value and from £181 million to £277 million in the charge for depreciation. The increase in depreciation was only 153% compared with a 245% increase in net values, reflecting the longer CCA asset lives. In contrast with the position in 1963, it was found that specific replacement costs were not coming out lower than the indexed costs. The working party thought that the reasons were:

(a) There was some evidence that improvements in job security and conditions of work had reduced productivity in the construction industry so that it was less competitive than it was in the 1960s.
(b) The figures compared the indexed historical cost at current capacity levels with the replacement cost of current capacity, and past improvements in productivity had reduced the historical capital cost per ton/year.
(c) Detailed plant design incorporated improvements for safety, the environment and labour productivity which tended to offset reductions due to new technology.

Departures from the indexed basis were not material in comparison with the total values: they added up to £337 million, but the pluses cancelled out the minuses so that the net effect was £19 million.

One specific item foreshadowed a problem which was to give the auditors anxious thought. Fibres Division were faced with overcapacity across Europe and the working party accepted a general provision of £34 million against the whole European fibre operation. Such a general provision was, of course, contrary to the accepted practice that depreciation provisions should be related to specific assets. Whilst the fibres provision later became specific, the same problem arose in relation to petrochemical plants, where it was known that a plant would have to be shut down but it was not known which one. The auditors ultimately and reluctantly accepted a provision against the group of plants concerned. In such situations, there does seem to be sense in the original ICI system of carrying a central provision against obsolescence, or at least being able to utilise depreciation provisions across groups of plants rather than having always to allocate them to particular plants.

The movement towards publishing the effects of inflation had by this time spread across the world: Australia had published an exposure draft on CCA, and in the US the Securities and Exchange Commission was asking for some memorandum replacement cost information. In the UK, the exposure draft (ED 18) was published on 30 November 1976. In January 1977 Watts produced a further report for consideration by the Board in which he compared the 1976 results on the three bases of historical cost, CPP and CCA. At the level of profit before tax and interest, the CPP profit was £258 million as against £320 million for CCA. The inflationary gain on loans of £89 million was then brought into the CPP profit, but the CCA profit had a very much lower tax charge because it included only tax which was actually expected to become payable. Other smaller items further reduced the CPP profit so that the profit applicable to ICI was only £57 million whereas the CCA profit was £127 million. Watts said that 'in my opinion CPP is now dead.' He recommended that summarised CCA information should be included in the Directors' Report.

The 1976 Annual Report did in fact give a nod to CCA and some CCA figures were published, but it was not until 1977, following the Accounting Standards Committee's interim recommendation, that a supplementary CCA statement was published. This followed the recommended methods for the depreciation and cost of sales adjustments but used ICI's own method for the gearing adjustment.

The gearing adjustment was intended to reflect the benefit to equity of financing non-monetary assets with borrowed money (just as house owners benefited from having a fixed mortgage when house prices were rising). The recommended method lumped together both short term and long term monetary items and reduced the other adjustments by the resulting gearing ratio of borrowings to total assets. ICI split the monetary items into working capital, which attracted an adjustment 'above the line', and long term loan capital which was the numerator in a gearing ratio applied to net holding gains to give an adjustment credited to after-tax profits. ICI's method produced lower trading profits, and after-tax profits which could be higher or lower. In deciding to adopt this method the Advisory Panel on Finance noted the need for proper explanation in the Report.

A nagging problem with the CCA results was concerned with asset lives. Very conservative lives had been used in the historical cost accounts, partly as a measure of prudence in the face of rising replacement costs. The existence of Government price control had tended to discourage any lengthening, depreciation being an allowable cost. When it came to CCA, the asset lives were reassessed. Maximum remaining lives were fixed, ranging from 40 years for buildings down to 10 years for plants with changing technology and/or markets, new processes or businesses.

Despite these maxima, the reassessment produced average remaining lives of 10.5 years as against 5.6 years historical. ICI used the two different lives in the two sets of accounts because it would be wrong to use other than the best estimates for CCA, and it would be equally wrong to reduce the historical cost depreciation and thereby increase profits which were already overstated because of inflation, besides losing comparability with earlier years. This situation worried the auditors because ultimately an asset can have only one life, but for the time being they accepted ICI's persuasions.

We must leave the ICI inflation accounting story at this point. The seeds of its eventual demise in the published accounts were, with hindsight, plain to see. The system was too subjective and too complicated, and its results were difficult for managers to interpret. The asset values were a continual source of problems: if they were based purely on indices they were regarded as unrealistic, but any departure from the indices was open to doubt. Attempts to develop target rates of CCA profitablility foundered and it was budgeted cash flows which won the day. After all, concern about cash was at the heart of inflation accounting.

CCA took up a great deal of senior managers' time throughout ICI. Was this time wasted? There will never be proof one way or the other. It did demonstrate clearly that ICI's profitability was not satisfactory, and to the extent that it focused attention on the realities of selling prices, costs and conservation of working capital it reinforced the pressures for change coming from the market place.

Conclusions

From its very earliest days ICI, and especially its accountants, spent much time and thought on asset values and depreciation. Even in 1929 Coates was concerning himself with asset replacement costs, and the period ends in the midst of the great CCA debate.

Throughout, there was confusion between accounting for inflation (*ie* a general fall in the value of money) and accounting for specific replacement costs. Obviously, the two are linked and big increases in replacement costs ride on the back of a high rate of inflation, but the decision of the Sandilands Committee to come down on the side of replacement costing (egged on by the economists in the Treasury) did nothing for comprehensible accounting and ensured that the whole issue would end in chaos. Luckily, actions to control the rate of inflation in the leading currencies have succeeded in recent years so that there has been no need to depart from historical costs.

The other continuing debate was about the purpose of depreciation: was it to recover the original capital (the theoretically correct answer) or was it to provide for replacement of the asset? Here also, no clear cut answer emerged.

Chapter Seven

Auditing

Throughout this report there are references to discussions with the external auditors. This chapter focuses on how the relations with the auditors were conducted. It also refers briefly to internal auditing.

External auditors

Throughout the period ICI was fortunate in its auditors. This is not to say that the auditors were in any sense neglectful: indeed, there were recurrent debates on various points of principle, and ICI management was by no means always the winner. The auditors kept their eyes on the wider scene and avoided minor quibbles. That they were able to do so is a tribute to the general standards of integrity in ICI's accounting and, indeed, in ICI as a whole.

Thomson McLintock & Co and Price Waterhouse & Co were appointed as ICI's joint auditors immediately ICI was formed, McLintock's having been the auditors of Nobel and Price Waterhouse the auditors of Brunner Mond.

From the start, the auditors' views were sought on all material matters affecting the accounts and on the procedures for compiling them. For example, their comments were requested on the form of the standard accounts to be prepared by the subsidiaries. Not all subsidiaries were audited by ICI's auditors: we find a rather plaintive letter from Edmund D White & Sons, the auditors of United Alkali, dated 16 February 1928 saying that they had found on examining the first of United Alkali's works accounts that these had been made up on the same lines as theretofore, *ie* to show only profit or loss on each product and the result of the works[1]. White & Sons asked whether it was intended that the merger profit and loss accounts should be audited: the answer from the Treasurer was 'No'.

There were in fact twelve firms of auditors involved prior to the merger, on the chemical side alone. They were rapidly reduced to four, the fourth in addition to those mentioned earlier being Peat Marwick Mitchell.

On 8 March 1928 Peat Marwick Mitchell were having trouble with the British Westphalite Company on a subject which was to crop up regularly, tax provisions. At that time the Income Tax liability for a fiscal year was based on an average of profits for earlier years, and Peats were unhappy that ICI had decided to provide only for the legal liability in respect of the statutory profits for 1927/28 rather than the potential liability on the current year's profits. The shade of SSAP 15 was going before it. However, the auditors accepted that this was a matter of policy on which they could not comment.

In February 1929 something happened which today would attract comment. African Explosives and Industries decided to declare a stock dividend instead of a cash dividend and ICI sought the auditors' agreement - not to take the dividend to profit, which one might have expected - but temporarily to eat into pre-merger reserves rather than revenue reserves pending revaluation of the investment 'in order that the available surplus of ICI may not suffer.' The auditors gave their consent. The crediting of the dividend to profit was taken for granted.

There was some delay in preparing the consolidated accounts as at 31 December 1926 (which were for internal use only) and it was not until February 1929 that consolidated accounts for the Nobel part of the group were sent to the auditors for their comments - the other parts of the group were to be dealt with later. Another familiar puzzle surfaced in the auditors' comments: negative goodwill had been deducted from the positive goodwill and the auditors suggested that it should instead have been treated as a depreciation or obsolescence reserve. ICI maintained that 'goodwill is an item supplementary to the value attached to the fixed assets.'

In 1931, in the midst of the depression, the auditors were questioning the adequacy of the obsolescence reserve, and in particular the values of the Billingham assets. There was a serious possibility that the AGM would have to be postponed (Sidney Weysom, then an Assistant Accountant, found himself searching out possible alternative dates and venues); the Board found it necessary to minute on 5 March 1931 (Minute 2086) that 'in the aggregate, the value of the Company's interests in Subsidiaries and Associates is at least equal to the amount at which they are standing in the Balance Sheet.' This neatly sidestepped the specific Billingham question, but in fact it was found necessary to write off substantial amounts from the Billingham assets, which had been an albatross for ICI ever since its formation.

Moving on to events after the Second World War, the practice continued of clearing the auditors' questions so far as possible during the course of the audit, with a regular 'winding up' meeting between the senior partners and the Treasurer before the auditors gave their approval. These meetings focused mainly on the format and wording of the accounts, which by that time were at the proof stage, but there could be more serious points which had been referred upwards.

An example came up on the 1955 accounts (notes of meeting on 20 April 1956). It concerned the policy for translating the overseas subsidiaries' accounts, and has been referred to in the section on foreign exchange (see page 117). Briefly, the auditors wanted the newly consolidated Canadian subsidiaries translated at historical rates. ICI resisted on practical grounds, both generally and to making a late change in the 1955 accounts. Typically, it was left that ICI would each year consider whether some modification to the policy was needed for a particular case. The auditors reiterated their argument when it came to the 1956 accounts, auditors have long memories, but ICI prayed materiality in aid, and no changes were made.

The more usual course was for matters of accounting policy to be discussed at mid-year meetings. For instance, in July 1962 the possibility of another revaluation of assets was being canvassed, and the auditors were told that it might result in reductions in values. If so, it was proposed to charge reserves on the basis that the 1958 revaluation had not allowed enough for obsolescence. The auditors could not swallow this: the 1958 values had been carefully calculated and could not now be questioned. Write downs against reserve could be made only for catastrophes or if there were deflation. In the event the revaluation never took place - no doubt the auditors' views had their effect.

The meeting on 13 October 1967 was important because the new requirements of the Companies Act 1967 were discussed - amongst others, such things as whether it was necessary to split the net as well as the gross figures of fixed assets to show the amounts carried at a valuation. Conveniently, the auditors agreed that to split the gross would suffice.

The Group auditors, or more specifically, the partners who signed the report on the ICI accounts, were located in London and spent most of their time on the audit in Millbank. They were dependent on the returns from the subsidiaries and operating units, which had been audited either by their provincial and overseas firms or by other firms. Increasingly, they became more aware of their responsibilities to assure themselves of the reliability of the returns by personal contact. Their wishes, however, in this direction were not necessarily welcomed by the units on which the spotlight turned. So far as these units were concerned, there were satisfactory local arrangements which were acceptable to ICI in London, so what need was there for second-guessing?

The ICI Chief Accountant, at that time B D G Ogle, eventually accepted the auditors' position, but it still remained to convince the units selected for visits that the auditors were not overstepping the boundaries, especially if there were outside shareholders. Persuasion, plus acceptance that Head Office would stand the cost, was successful and it became a standard practice in the early 1970s.

IMI Ltd were particularly concerned, and a joint meeting was held on 28 March 1973 with them and the ICI auditors. The auditors explained that they, as the Group auditors, had a responsibilty to satisfy themselves about the audits of the subsidiaries and had to ensure that appropriate Group accounting treatments had been adopted.

The increasing regimentation of the auditing profession showed itself in other areas. In 1964 there is the first mention of representation letters to be given to the auditors by division managements, consolidating various certificates into a standard format (which in the event, one suspects, introduced some new things as well). In 1970 the Treasurer was becoming concerned about the widening area of the auditors' enquiries, which threatened to extend into speculative and sensitive papers about future strategies. There was a fine line to be drawn between the auditors' right to see whatever they thought was needed for their audit and fishing expeditions outside this. It was agreed with the auditors that they could rightly see profit and cash forecasts at a senior level but there might be other documents which, having been told about the contents, they would agree were not relevant to their audit.

Following a brief mention in 1969 of accountants' reports on profit forecasts, a topic which was then current because of a recommendation by the ICAEW and the publication of the new City Takeover Code, in 1972/73 careful thought had to be given to the extent to which the auditors should be involved in prospectuses, culminating in a meeting on 28 March 1973 at which the guidelines were agreed. Where the auditors were involved as a legal necessity, it was accepted that ICI could not impose any limitation and the existence at Head Office of voluminous reports from the operating units could not preclude involvement of the local auditors. In the case of a profit forecast, the work could be done in not much more than two weeks. In the absence of legal constraints, the scope of the work would have to be carefully defined in advance. The chief executives of the operating units did not always welcome such intrusions - it was mentioned at the meeting that neither ICI America nor Canadian Industries Ltd allowed their auditors to see profit forecasts. In the event, the auditors were never called upon to report on a profit forecast.

At a meeting on 13 November 1974 there was a discussion of the progress on computerising the consolidation. The programme was running late and so far only the balance sheet of ICI Ltd and the UK subsidiaries had been completed - many errors were being experienced in the input forms. Further trials would be completed by mid-December.

This meeting was one of the normal annual meetings with the auditors at 'working' level which were held before the meetings with the partners. Other items on the agenda were:

1. Annual timetable - there was a reduction of one working day because of the vagaries of the calendar.
2. Accommodation - a vexed subject in some years. Traditionally, the needs of the auditors come last when space is at a premium.
3. Investment reports - reports were prepared annually on a selected list of investments, including any doubtful ones.

4. Accounting policies - there would be a new paragraph in the accounting policies note about pension funding, and the auditors were concerned that ICI's policy on Regional Development Grants did not quite comply with the accounting standard.
5. Extraordinary items - application of the new accounting standard No. 6.
6. Exchange differences - expected amounts, and the now regular quarterly calculation of the open position on forward exchange contracts.
7. Inter-company accounts - the difference on these had risen to £12 million in 1973 and the auditors wanted assurance that it was not likely to grow further, subject to the effects of inflation.
8. Franked investment income - application of SSAP 8 relating to the new imputation system of taxation.
9. Corrections to T forms - materiality level to be £20,000.
10. Re-organisation of Paints merchanting subsidiaries - separation of wholesale and retail activities.
11. Revised presentation of classes of business table in Annual Report.
12. Provision for legal claims.

If any item was sufficiently important, or if the auditors were not happy about something, it would be carried forward to the meeting with the partners.

One such item concerned an investment. The book values of investments regularly received attention from the auditors and there was a system of investment reports, instituted after the February 1967 auditors' meeting, which covered both subsidiaries and others. Unless an investment was clearly bad there could be differing views about whether and how much an investment should be written down. It was sometimes difficult to persuade non-accountants that a particular investment should be written down when there were surpluses on others which amply covered any deficit. The system adopted in Australia, although strict, seemed to be better. Under the Victoria Companies Act the directors had to be satisfied that the value to the business of the investments as a whole was not less than the total book value.

The particular investment which caused the auditors to search their hearts was Carrington Viyella, and there was a meeting between Slimmings, Coates, Hillebrandt and Ogle on 3 February 1971 at which the auditors said that according to their information the carrying value was too high. Attention was drawn particularly to the considerable short fall of both tangible asset value and market value compared with book value. This was an especially sensitive investment because of ICI's position as a major shareholder in a public company and the undertaking which it had given to divest itself of the holding within a reasonable period of time.

ICI responded that the deficit of assets could be regarded as goodwill, and ICI's policy was to carry investments at cost unless a permanent and irretrievable loss in value had occurred. Nothing had happened to change the ICI Board's view of the correctness of the price paid and in fact improved profits could be achieved earlier than was originally envisaged. ICI's case for not making a provision would be set out in an investment report. The discussion was continued on 10 February at a further meeting at which Frost was present, as Finance Director. The respective arguments were unchanged, but the auditors were still worried and sought a specific expression of the ICI Board's opinion that no provision was needed.

The auditors did subsequently meet the Board, who duly confirmed ICI's opinion. In the light of subsequent events, it seems that the auditors were right to be worried - but they did not press their case to the bitter end. One view is that Sir William Slimmings and Michael Coates, the senior partners, were too gentlemanly, but in their defence ICI were at the time still hoping that their plans would work out, and the profit forecasts supported this.

There were naturally other occasions when ICI made bad investments: Cleveland Potash was one, and another was the Corpus Christi petrochemical venture in the US. Each time, it took some years for hope to be finally abandoned, and in those circumstances it is not easy for an outsider's pessimism to prevail, especially when his only real weapon is to qualify his report. It is like a judge having to give a life sentence or nothing.

That particular meeting on 3 February 1971 with the partners was exceptional. The normal year-end meetings were more concerned with the exact wording to be used in the annual report, because by that time the actual audit was almost finished and any queries would have been dealt with. The wording of the accounts, notes and directors' report was gone through with a fine tooth comb - in 1961 such an apparently simple item as the description of sales came under the microscope. The wording proposed by ICI for the Company accounts was 'Sales to External Customers and to Subsidiaries' and for the Group accounts 'Sales to External Customers'. The auditors suggested that just 'Sales' would do but ICI reported that there had been discussions at Board level on the point (apparently even some Directors must have been confused), and Unilever had had to explain their sales figures in their report. The meetings were also used to explore possible forthcoming accounting problems such as ICI's attitude to new accounting standards and studies to be put in hand on matters where either ICI or the auditors felt that some change might be needed.

In effect, the ICI audit was a continuing operation rather than a series of separate engagements. An example of this came up in 1971 in relation to possible legal liabilities for injuries or illness caused by ICI's products - an area where despite every care being taken a chemical company is particularly vulnerable. It was suggested by the auditors that a 'self-insurance' provision might be built up even though no specific cases could be identified or quantified; this suggestion was adopted in subsequent years.

A somewhat similar smoothing operation was used with foreign exchange differences. It was ICI's practice in the 1970s to take differences on capital items to reserve and differences on revenue items to profits. Because the latter fluctuated widely from year to year a suspense account was set up. In 1970, for example, the Canadian dollar had been floating and this had resulted in an increase of £1.5 million in net current assets. The balance on the suspense account was already over £1 million, and since it had been agreed that the balance should be kept at about this level it was agreed that the increase should be taken to profit over a three year period 'to avoid undue distortion'.

Hardy annuals for these meetings in the 1970s were Divisions' bases of stock valuation, foreign currencies and, at a 'nuts and bolts' level, confirmations of bank and debtor balances. A milestone was reached at the meeting on 27 November 1970 when it was suggested by Ogle and accepted by the auditors that the accounts might be presented in round £ millions.

It will be gathered that the auditors were always concerned that ICI's accounts should be seen as examples of best practice, and not just true and fair in a narrow book-keeping sense. For instance, the minutes of a meeting on 12 March 1963 record that 'considerable and very prolonged argument took place on the question of the comparability of the 1961 figures, in view of the transfer of the Metals Division, Impalco, *etc*'. This was occasioned by the hiving off of the Metals Division into a separate company preparatory to its divestment by ICI. On another occasion in 1966 they suggested that the investment of £87.8 million in British Nylon Spinners - by that time a dormant company - should be set off against the current account of £83.7 million to produce a more realistic picture even though in terms of a strict reading of the Companies Act this might not be allowed. Circumstances, however, did sometimes alter cases. At the same meeting in 1966 it was explained that the distinction which was drawn between those know-how receipts which were taken to profits and those taken to reserve was being preserved because ICI had a taxation case going on in the High Court. This time the real possibility of a large tax bill overrode accounting niceties.

At an earlier meeting, on 23 October 1963, S W Weysom (Deputy Treasurer) remarked that: 'the auditors' letter, dated 16 August 1963, which was the subject of the meeting was obviously designed to provoke a fundamental re-examination of group accounting methods'. In an internal note Moore wrote that the letter raised 'several interesting and contentious points and whether the changes which are finally made in our methods are many or few it is undoubtedly salutary to be made to re-examine and justify our procedures.' The subjects covered were familiar ones, most of which resurfaced in later years: obsolescence and revaluation; exchange losses; provisions against book values of investments; accounting for acquisitions; annual programme; and audit fees.

The discussion on obsolescence centred round three points. It was agreed that depreciation charges, chargeable against profits, should cover obsolescence but the auditors were doubtful about the policy of charging losses caused by catastrophes to reserves, even though they were also suggesting that obsolescence could be partly attributed to past years and so not all charged against future profits. The auditors were also worried that on a revaluation of assets, which was carried out because of inflation, downward revaluations were offset even though these were really due to obsolescence. ICI considered that by charging depreciation on the revalued figures they were already going further than most companies. The auditors had suggested that ICI should go back to setting up a central obsolescence provision, but ICI regarded this as a retrograde step. We may note in passing that when it came to CCA accounts it was ICI who wanted a central provision and the auditors who objected.

The subject of exchange losses was more difficult for ICI and it agreed to think again about its treatment of losses on fixed assets and current assets, both of which had hitherto gone against reserves. The auditors evidently considered that all these losses should go against profits:

> *... the Group's sterling profit for the year should consist of the difference between the sterling values of the Group's trading assets at the beginning and end of the year.* (Note of meeting, 23 October 1963)

Thereafter for a number of years differences on net current assets were taken to profits.

The annual programme of dates triggered off regular discussions year by year because there was always pressure to complete the accounts and announce the results as soon as possible. A typical year was 1961. The auditors were advised in July 1961 that the profit figures were to be announced on 22 February 1962, to be described as 'subject to audit'. In spite of this description ICI would not wish the figures to differ materially from the final published accounts and therefore the auditors were asked to let ICI know before 16 February whether they had any material points to raise. The auditors responded that for them to do this they would have to see the Divisions' accounts earlier and it was agreed that the Forms T2 and T3 (balance sheet and profit and loss account) should be received by the auditors by 8 February. ICI also undertook to bring to the auditors' notice any points on which there might be a difference of opinion.

Despite grumbles, divisions did always manage to achieve the targets which they were set, albeit by much overtime and weekend working both in accounts departments and in distribution and supply departments. This vexed question came up again at the beginning of 1972 because ICI had just suffered a very difficult year end, aggravated by power cuts. The auditors were seeking more detailed programmes for each stage of the work and fewer consolidation adjustments - 'there should be more discipline and uniformity in the completion of the merger forms.' The demise of Treasurer's Notes was regretted: 'forms should be drawn up in accordance with ICI accounting policies, set out in an appropriate manual.'

In relation to the audit fees, for many years there was little or no discussion because there was an agreed scale related to the respective turnovers of the divisions - this proposed revision in 1963 was the first since 1940. The reasons for it were familiar: inflation, particularly of professional salaries; and the grouping together of activities which meant that the tapering of the scale according to turnover had more effect. Another reason for the long period of peace was that the divisions tended to regard audit fees as a matter for Head Office. With increasing autonomy this attitude changed and it became the practice to consult divisions about the fees they were charged. The fees for 1972 caused a reference to the ICI Legal Department: the Government price freeze was in force and the Legal Department considered that no increase over the 1971 level could be paid. However, the auditors thought that the proper comparison was with their hourly rates on 6 November 1972, when the freeze was imposed.

The fee for the Head Office audit was not related to a scale. In 1950 the Finance Director reported that it had been agreed to increase the fee from 4,500 guineas, fixed in 1942, to 6,000 guineas, and by 1960 it had gone up to 10,000 guineas.

This meeting in October 1963 followed earlier discussions during the audit of the 1962 accounts when the auditors had said that there appeared to be some divergence of methods and principles. On 20 June 1963 the Deputy Chief Accountant wrote to the Chief Accountants of the major overseas subsidiaries asking for brief details of the principles which they followed for stock valuation, depreciation, profits/losses on investments, foreign currency differences and entries direct to reserves. It was emphasised that 'there is no intention of seeking to standardise the accounting procedures of subsidiaries throughout the world.' In fact, the replies did not reveal any major divergencies which were not already known about.

That such a letter was needed illustrates the loose control over the overseas subsidiaries' accounting methods which was exercised from Head Office. Equally, the choice of local auditors was influenced by the local management's views. In 1974 AB Silketvinneri in Sweden were complaining that Price Waterhouse, whom they were using, were good but expensive, and other Swedish subsidiaries were audited by associates of Turquand Young. The general rule, however, was to move towards using one of the Group auditors rather than away from them.

Despite disagreements, relations with the auditors were always excellent, both in Head Office and in the divisions. There were grumbles down the line from time to time when the auditors changed their staff and the new ones had to be inducted into ICI's ways in the middle of the year end pressure. Any lingering sores were soothed away at the auditors' parties, and most units also had an annual golf match. Agricultural Division had a cricket match instead, and ICI's analysis on the occasion of Fred Turnbull's last match before he retired has been preserved - is it fair to say that he was 'allowed' to score 66 not out?

Internal audit

For the first fifty years internal audit in the modern sense hardly existed. In Head Office there was one person - usually a new recruit - who was dignified with the title, but in reality his job was mainly to count the cash and check the canteen accounts. If extra jobs came up, he was frequently called on to do them. In divisions it was the same. Overseas, the position was little different except in the US, where Atlas Industries had a well-developed system.

Before the advent of computers with all their temptations for cunning fraud, it was difficult to justify doing more in the UK. ICI's problems were limited to fiddles with canteen and social club accounts and travelling expense claims, with one or two isolated extras such as a case of dead men on the payroll.

There were tales in the Works of things going out through the factory gates, such as the man whose bicycle frame was found to be full of mercury. No doubt some of these were apocryphal, but it is a fact that at the gates of that particular Works there was a merchant offering good prices for mercury and copper.

One argument for strengthening the internal auditors was that they could then take over some of the routine work of the external auditors, thereby saving fees. Another grew up with the demise of Treasurer's Notes. The external auditors needed reassurance that ICI's accounting policies were applied properly in the divisions.

It was, however, computers that gave the push, because right from the start it was recognised that auditors should be involved when systems were being designed. Initially, it was just the external auditors, but it became more and more obvious that ICI needed in-house computer auditing expertise. Eventually a strong central team was built up, but this belongs to a later story.

Conclusions

From the beginning, the sheer size of ICI meant that it was placed on the list of first-class clients by the auditors. This in turn meant that it benefitted from the best of advice from the senior partners, making for harmonious relations. No doubt this was helped by ICI itself being helpful. Other clients not uncommonly treated the auditors as necessary evils, only grudgingly allowed a small corner of the office to work in.

There were two occasions when the auditors felt constrained to go to the ICI Board, both concerned with asset values - the Billingham assets in the thirties and the textile investments in the seventies. On each occasion the Board achieved a Pyrrhic victory. The accounts for the year were not altered, but there were write-offs later.

Endnote:

[1] It should be explained that United Alkali had a practice of preparing their accounts works by works, the works results being combined to produce the Company's accounts - this practice carried on right down to the merger of the Alkali and General Chemicals Divisions to form Mond Division in the early 1960's.

Chapter Eight

Taxation

During our fifty year span ICI was faced with many changes in tax regimes, their main impact being felt in the UK although a careful eye had to be kept on other countries in which ICI had a significant presence.

The computation of the tax liabilities was an important and highly specialised task. However, this chapter is concerned principally with the effects which taxation had on the accounts and the accounting procedures.

Computing the cost

From its formation, ICI had a specialised Taxation and Rating Section, inherited from Nobel Industries, and from the early days of the merger questions of tax began to affect the accounts. For example, the liquidation of Nobel was triggered by the possibility of having to pay tax on its investment profits (although it was not until 1931 that the Inland Revenue finally agreed that they were not taxable). As six out of ten successive Finance Directors and Treasurers had an Inland Revenue background it is not surprising that tax received due consideration.

The Taxation Section computed the tax charges of the UK subsidiaries and conducted the negotiations with the Inland Revenue. In a similar way, the Rating Section negotiated the UK rates bills with the District Valuers.

Preliminary profit figures were sent to Head Office on Forms T4, with accompanying details about capital expenditure and unusual items which might require special treatment. The resulting tax charges were then notified back to the divisions and subsidiaries. The auditors occasionally displayed a little jealousy at not having the tax work themselves: in any case, they inspected the calculations assiduously.

Given the size of ICI, it was worth spending considerable time and trouble on even apparently small points, and ICI's expertise in its own sphere could match the best in the Inland Revenue. On occasion a case had to be taken to the Special Commissioners and even the Courts. ICI showed a good success rate with these. One case which reached the newspapers was a scheme of educational assistance for employees' children. ICI won its case that these were not taxable benefits, provoking a change in the law. Another case where honours were more even was on the taxability of 'know-how' receipts.

The shareholders, however, were not expected to understand the tax charge. In 1939, when the National Defence Contribution had appeared on the scene, the Chairman said:

> *As most of you are no doubt painfully aware, the law and the practice governing the computation of Income Tax are extremely complex, and you will not I am sure expect me to give you any details of this particular item.* (Chairman's speech at 1939 Annual General Meeting.)

Before the war, whilst the operating units were still separate companies, it was necessary to ensure so far as possible that each company was in profit for tax purposes. For example, in 1931 the price of lime from ICI (Lime) to Brunner Mond was increased to cover their kiln renewals claim - but this was done by way of an adjustment in their annual accounts, not affecting the costs.

A more important matter was the pooling agreement of the 1930s which enabled profits to be moved into Billingham and the metals companies to cover their losses, with the consent of the Inland Revenue.

Tax did not always rule the accounts. In 1933 it was noted that Billingham research expenditure had not yet been charged to revenue because of the depression, but it might nevertheless be deductible for tax.

Overseas taxation

In 1935 there was a problem about Indian taxation which was to raise its head again in later years, *viz* the possibility of India wanting to tax the UK manufacturing profit as well as the local merchanting profit. As it happened, 'free on board' prices to India for alkali were at the time lower than UK prices, but it was not possible to disclose this to ICI (India) because the agreement with Solvay prohibited it. On such occasions the Taxation Controller would act as an adviser to the local company.

The Indian problem could arise in other places where ICI had consignment stocks. To stave off this threat, ICI (Export) Ltd was set up in 1944 (ICI Board Minute 10243, 14 December 1944). This company purchased goods from the UK Divisions and itself owned the overseas stocks, receiving a modest merchanting profit on which it paid the overseas taxes.

The level of profits earned by the overseas merchanting subsidiaries was always a matter of some delicacy. They were entitled to normal commercial margins on their operations, but the divisions were reluctant to be too generous. Consequently, if there was a downturn in trade the overseas companies were liable to run into losses. This made them targets for unwelcome investigation by the overseas tax authorities. The Taxation Section in London kept a close eye on such situations and arranged where necessary that contributions should be made by the UK Divisions towards expenses incurred by the overseas companies on their behalf.

In March 1945 the Finance Director's report noted that the prices charged to ICI (Export) should give it a 'reasonable and defensible basis to enable ICI (Export) to show a merchanting profit in the overseas countries concerned'. Generally, the prices should be Home selling prices or lower.

In similar vein, in 1944 the Finance Director was enquiring into the capital structure of certain of the overseas subsidiaries 'to avoid the risk of the figures causing mis-apprehension as to the financial return on these investments'.

Basis of tax charge

The basis and description of each year's tax charge was a talking point from ICI's early days. Originally, when the Income Tax liability for a fiscal year was based on earlier years' profits, only this liability was provided for. The reasoning was this was the amount of tax referrable to the period covered by the accounts. The fact that it was calculated by reference to profits for other years was irrelevant. As early as 1927 Coates was questioning the Finance Committee as to whether the tax provision should be £675,000 based on the 1926 profits, or £925,000 based on 1927 - which he commented might be wiser. Eventually it was conceded that provision should be made for the expected liability on the current year's profit, and in the Directors' Report for 1944 it was stated:

> *Since 1931 the Board have been endeavouring to build up ... a reserve for Income Tax sufficient to cover the liability on the profits of the year, which has to be met in the year following. Numerous major taxation points affecting many past years are still undetermined, but as these points are cleared the Board hope this reserve will become sufficient to achieve their purpose.* (ICI, Annual Report, 1944)

The Chairman was subsequently able to report that in 1945 it had been achieved.

War taxes

During the war the Government made certain that profiteering would not be profitable by imposing Excess Profits Tax (EPT), which had the effect that any profits in excess of the pre-war level would be taxed at 100%. This also had the effect that, for example, ICI did not fight to the last ditch in arguments with the Government about prices in Government contracts. It was only in 1952, six years after EPT was abolished, that the liability for all the war years was finally agreed.

Other tax changes happened during the Second World War. In 1940 Purchase Tax was introduced and instructions had to be issued by the Acting Treasurer. Broadly, these laid the responsibility for administering the tax firmly on the Group Chief Accountants. Interestingly, in view of more recent debates about the reclaiming of VAT included in bad debts, abatement of tax in respect of proved bad debts was provided for, and it was emphasised that suitable arrangements for its recovery must be made.

Another war-time change was the introduction in 1940 of deduction of Schedule E tax from salaries and wages. This was the forerunner of PAYE, but in its original war-time form it provided only for deduction of amounts calculated by the Inspector of Taxes, not for computations by the employer. No deductions were to be made if the amount of the wages was less than £2 per week.

An important tax matter which had accounting repercussions has been described in dealing with asset values. This was the re-allocation of buildings to plant, instigated in 1943 by Edgar Davies, the Taxation Controller.

In 1965 Corporation Tax replaced Income Tax and Profits Tax; it was a current year tax whereas Income Tax had been based on the preceding year and the future liability might theoretically not be payable if the company ceased trading. Consequently the description changed to 'Corporation Tax - payable 1 January 1967' under a general heading called 'Deferred Taxation'. This was not decided without some hesitation. In a note dated 10 November 1965 Moore argued that the liability in respect of a current tax period should be shown as a current liability, not a long term means of finance, especially as it seemed 'more than likely that the due date of payment will be brought forward in due course.' The other doubt at the time was how to deal with the withholding tax on dividends, which at that time had to be paid over to the Inland Revenue. Should it be shown as part of the tax charge to show the total weight of taxation, or should it be grouped with the dividends as an appropriation? Moore preferred the latter course because otherwise the Company's net profit would be understated. Political points were best made in the Directors' Report or the Chairman's speech rather than in the accounts.

A more important effect of the introduction of Corporation Tax was discussed in Menzies' note to the Board of 17 December 1964. At the time, the final Ordinary dividend was paid at the end of May. The year-end programme had been accelerated and the Registrar's Department computerised so that it was now feasible to pay the dividend earlier. There was no pressure from stockholders, but 'every attempt by the Company to improve its service to its stockholders, and earlier payment of dividends would come into this category, must enhance the Company's public image'. Moreover, the introduction of Corporation Tax meant that dividends payable after 5 April 1966 would be subject to a withholding tax at the standard rate, which tax would be paid over to the Inland Revenue. The final dividend for 1965, payable on 31 May 1966, would therefore cost the Company about £26 million (£15 million to stockholders and £11 million to the Inland Revenue) as against £15 million under the existing regime. If ICI paid its final dividends for 1964 and subsequently before 5 April it might save the tax on the dividend for 1965, although Menzies warned that the Chancellor had said that special provisions would be introduced to prevent forestalling. There was also the point that a Capital Gains Tax was being introduced, so that it would be in stockholders interests for the share price to be as high as possible on Budget Day 1965 - but the price was already ex dividend on that date under the existing programme.

There were some contrary factors: Surtax payers would receive three dividends in the tax year ending 5 April 1965 so that some of them would face a higher bill and would have to pay some of it earlier; all stockholders would suffer Income Tax at 7/9d in the £ on their 1964 final dividend as against 8/3d, but the Company would pay Income Tax on its profits at 8/3d whilst recouping only 7/9d from the stockholders.

Menzies recommended that the final dividend should be advanced, and called a second interim because it would now be paid before the AGM. The Board approved the proposal in principle and in a second note in January 1965 Menzies confirmed the new dates - including advancing the 1965 AGM to 1 April. He wrote:

It is gratifying to be able to report that all divisions have confirmed that, provided abnormal sickness or weather conditions do not intervene, the new programme can be met. The cost of this achievement will be a considerable amount of additional overtime (including week-end working) both in Division Accounts Departments and in Head Office (Treasurer's and Registrar's Departments). It has been interesting to note that the greatest disruption is likely in those divisions placing most reliance on computers; computer time is planned well in advance with the result that the programme is not as flexible as in the case of divisions still adopting the more traditional methods.

As well as accelerating the final dividend, the interim would be moved from November to October.

Accounting principles sometimes had to give way to the exigencies of tax. A case in point was the treatment of 'know-how' receipts. ICI received large sums in the 1960s from the sale of 'Terylene' and polythene know-how, and argued to the Inland Revenue that these were capital receipts. They were accordingly credited to capital reserve. By 1967 it had been decided that receipts for an agreement to keep out of a particular territory were capital, but others were not. In the light of this decision, and the imposition of Capital Gains Tax from April 1965, receipts under post-April 1965 agreements were credited to revenue.

Another matter, which affected accounting procedures rather than principles, was a long drawn out negotiation with the Inland Revenue on the tax treatment of provisions against unsold stocks. The discussions turned on whether the UK Divisions were carrying on separate businesses for tax purposes. If they were, then any provisions by one division in respect of stocks sold to another division would not be allowable for tax. In order to safeguard the position a complicated arrangement was set up for the selling division to repossess the stocks. This arrangement also extended to stocks sold to UK subsidiaries. Tax on the disallowable provisions was carried in a Tax Suspense Account, because these were merely timing differences, not permanent differences.

Finally, in 1965, Clements was able to report that a settlement had been reached whereby ICI and its Divisions were deemed to be carrying on a single trade, and consequently the inter-Division stock provisions were allowable, and to this extent the procedure of repossession could be discontinued.

Deferred taxation

In 1971 the Treasurer presented a note to the Board on accounting matters in which he surveyed the treatment of deferred taxation, the occasion being a Government decision to revert to giving the incentives by taxation allowances rather than as cash grants (in fact, in 1972 the Government introduced both 100% first year allowances and Regional Development Grants). For many years adjustments had been made in company accounts to equalise over the lives of assets the effects of the benefits from investment incentives given in the form of tax allowances on capital expenditure. These had included initial allowances, free depreciation and first year allowances ('free depreciation' allowed the taxpayer to choose the years in which it took its depreciation allowances). ICI had first established such a specific 'Reserve for Deferred Liabilities due to Initial Allowances' in 1949, including a transfer from the Central Obsolescence and Depreciation Reserve to cover the years 1946 to 1948.

In ICI the practice had been to equalise only the effects of the special allowances but the more general practice, as recommended by the ICAEW, had been to equalise also the effect of the difference between the writing down allowances and the depreciation charged in the accounts. The main argument for the ICAEW method was that the charge for taxation bore a more directly proportional relationship to the accounting profit. The argument against was that it established a so-called liability for an amount that, in practice, never crystallised - all in furtherance of producing a 'relationship' between the tax charge and the accounting profit that did not in fact exist.

At the end of 1970 the total deferred tax liability on the ICI method was £39 million whereas on the ICAEW method it would have been £110 million. By the end of 1973 it was expected to grow to some £77 million under the ICI method and £170 million under the ICAEW method.

The conflict between the ICI view and the 'official' view had been foreshadowed in a discussion with the auditors in 1964, when Weysom put forward the ICI view that it would be wrong to build up a reserve to a very large figure when it was never likely to be used to meet a tax liability - the shareholders of today would be penalised in favour of those of tomorrow. The auditors, however, could not accept this. If the principle of maintaining a reserve is accepted then the size of the figures is irrelevant.

In 1971 the Treasurer considered that an accounting standard was likely to be issued within a year or so which would probably follow the ICAEW method, but as a matter of practical expediency it seemed unnecessary to depress ICI's profits by some £8 million per annum. Not surprisingly, the Board accepted the recommendation. In the event, the standard did follow the ICAEW method, but it had to be withdrawn under pressure, and the final standard was closer to the ICI method.

Government grants

Investment grants were introduced in 1966 to take the place of investment incentives given by way of reductions in tax. The immediate reactions of the accountancy bodies as to their accounting treatment were confused: ICAEW said they should be treated as reductions in the cost of the assets whereas ICAS opted for taking them to capital reserve. Meanwhile, as Frost wrote in a note to Menzies dated 21 September 1966, ICI must publish the Group results every quarter. It was not a small matter: the estimated amount of grants in respect of 1966 expenditure was £40 million. Frost's paper was the outcome of discussions at a senior level in Treasurer's Department and with the auditors. It set out five questions which had to be answered:

(*i*) Should they be treated as an addition to income or as a capital receipt?
(*ii*) If not treated wholly as an income receipt, how were they to be shown in the balance sheet - deducted from fixed assets or shown as an additional source of finance?
(*iii*) If added to income, should this be before taxation or as part of the tax charge?
(*iv*) Should they be recognised as the expenditure was incurred or on a cash basis?
(*v*) How should they be dealt with for management purposes?

It would be too liberal and politically unwise to credit the grants wholly to income, but it would be unnecessarily harsh on income to take them to capital. To deduct them from the assets was rejected because they were more in the nature of Government finance than reductions in capital cost, shareholders and management might be misled about the 'real' cost of the assets, and balance sheet figures would become a mixture. In adding the grants to income it was best to include them in the taxation charge so that the net Government burden on the Company was shown in one place.

The final solution was to take the grants to income over an arbitrary ten-year period reflecting on average the estimated lives of the qualifying assets. This was the method preferred by Hillebrandt. Frost would rather have used the same diminishing balance method as was used in the taxation capital allowance computations, which would produce a larger credit in the early years - 'as between two equally deserving beneficiaries the Board's main duty is to existing shareholders rather than their grandchildren' - but simplicity won the day. There was likely to be an eighteen months delay between incurring expenditure and receiving the grants and this would be reflected in the accounts by calculating the credit to income on expenditure incurred, but only taking credit in the balance sheet as the cash was received (there would initially be a debit balance carried in debtors for grants accrued).

On the balance sheet, ICI at first wanted to take the grants not yet credited to profits to reserve. The auditors, however, objected strongly to this on the ground that this amount could not be credited to shareholders' funds and then later taken into profits. ICI had to give way.

For management purposes the problem was thought to be fairly straightforward. For the sake of simplicity the grants would be ignored in calculating conventional ongoing returns on capital, but they would be taken into discounted cash flow calculations. This decision remained as a sore point in some divisions who considered that their ongoing profitability was being understated, which of course it was.

The accountancy bodies did eventually publish an accounting standard, effective from 1 January 1974, but ICI did not immediately adopt it. By that time Investment Grants had been replaced by Regional Development Grants, the main difference between the two being that whereas the former grants were deducted in calculating taxation allowances, the latter were not.

ICI had taken the view that the Regional Development Grants were in effect a gift from the Government which could be credited direct to profits. There was a precedent in that ICI had taken the benefit of the earlier Investment Allowances to profits because those allowances were given on top of the normal capital allowances, and this treatment matched with the Government's intention of giving an urgent stimulant to investment (a corresponding transfer to capital reserve was made).

This (the credit to profits) had been done from the start of the grants in 1972, but the standard said that they should be spread over the life of the assets. To adopt the standard would therefore reduce ICI's reported profits. A paper went to the Advisory Panel on Finance on 13 July 1976 recommending that ICI should adopt the standard not because ICI agreed with it, but because continued non-compliance would result in continuing qualification by the auditors, which would mean that ICI's accounts were unacceptable in the US, and because City and public opinion supported the accountancy bodies in gaining adherence to standards. The recommendation was accepted.

One consequence of ICI's original treatment was that thought had to be given to what should be done in the interim accounts. Should credit be taken for grants relating to the actual capital expenditure in the period, or to a proportion of the forecast expenditure for the year? It was decided that the latter course should be followed, because otherwise variations in the quarterly pattern of spending could distort the trend of profits. This decision was in line with the usual way in which the tax charges were computed: such items as capital allowances were computed as a proportion of the amount expected for the year.

A practical difficulty with the grants was that the numerous claims had to be certified by the auditors. Since ICI wanted to put the claims in as soon as possible to obtain the money, this generated considerable pressure (and fees) for the auditors as well as for ICI.

There were similar investment subsidies in Germany, and the auditors of ICI (Europa) Fibres were objecting to the short period of three years over which they were being taken to profit. The auditors considered that their treatment should be consistent with the treatment of the UK Grants. This was typically the sort of situation in which a consolidation adjustment would have to be made if the amounts were material.

Other tax matters

For 1972 ICI had to deal with the advent on the scene of ICI Finance Ltd. This company had been set up with two principal objectives - the management of ICI's treasury activities, *ie* cash management and the management of currency exposure. In addition, it was seen as a way of optimising the Company's tax postion. ICI Finance was accepted as carrying on trade as a finance company. As such it was able to obtain tax relief in respect of losses on currency borrowings (and pay tax on any gains) in a way which might not otherwise have been possible. Its first activity was to factor the Company trade debtors. It acquired the debts on commercial terms, *ie* at a discount from their face value, and as the debts were its stock in trade it did not have to bring the discounts to profit until it realised them. Tax on the discounts existing at the year end was therefore deferred. For Group accounting purposes it was agreed with the auditors that consolidation adjustments would have to be made to bring the discounts into profit. There was some doubt between ICI and the auditors whether the tax saving was merely a timing difference or an actual saving - in 1975 ICI accepted the deferred tax treatment (by which time the discount deferred amounted to £20 million). In later years ICI Finance's activities expanded to include a Group cash management role, leading to some highly complicated book keeping and management accounting to show the Group position.

The introduction of Value Added Tax (VAT) in 1973 called for extensive detailed changes to the accounting for purchases and sales, the general objective being to segregate the VAT and account for it separately. This involved some six months work on redesigning the computer systems. Handling VAT was a new experience for Customs & Excise and it had to try to ensure that almost every business in the land was paying over its proper tax. The young man delegated to do this for the ICI Group had previously spent his time in checking bonded stocks in distilleries.

The new imputation system of Corporation Tax introduced in 1973 brought some problems and benefits. In 1972 the payment of the interim dividend was deferred to 1973 so that there was no Schedule F tax on it which would otherwise have had to be paid over to the Inland Revenue.

It was important that the Advance Corporation Tax (ACT) paid when ICI paid its dividends should be fully recovered against the mainstream Corporation Tax, but in 1974 this recovery would restrict ICI's relief from UK tax in respect of overseas tax unless something was done. The answer was to delay the dividends from subsidiaries for 1973 until 1974, when they would be paid as Franked Investment Income. ICI's ACT would be in effect transferred to the subsidiaries who could carry it back to 1973. The delay in paying the dividends until late 1974 would enable decisions to be taken when a much better picture of the profit position was available. By far the biggest subsidiary involved was ICI Finance, with 1973 profits of £17 million. Crowe (at that time Taxation Controller) commented that ICI Finance was fulfilling a role which was not envisaged when it was set up.

Apart from the practical need to ensure that ACT was fully recovered, it posed some difficult accounting problems. Doubts about the principles of when to take credit for its recovery against the mainstream liability were settled by SSAP 8, first issued in August 1974. However, if profits were low and capital allowances were high there could be severe doubts about the prudence of assuming that the ACT would be recovered, but if it was assumed that it would not be recovered and later it was recovered there could be very large swings in the tax charge from year to year. Fortunately, the interaction with the deferred tax provision ameliorated the difficulties.

The Petroleum Revenue Tax (PRT) on North Sea oil profits was introduced towards the end of the period. It would not affect the published accounts until 1978, but provisional decisions on its treatment had to be made for the purpose of profit forecasts.

Although basically a tax on profits, PRT had its own special features such as 100% allowances for capital expenditure, a 75% uplift on these allowances in place of any allowance for interest on borrowings and a charge on one half of any increase or decrease in stocks. It was allowable against Corporation Tax on profits within a 'ring fence', *ie* North Sea oil profits.

These features suggested that the tax was not so much a tax on profits as a levy in the nature of a royalty. If it were regarded as a royalty there would be a case for charging it against profits only when the liability to pay arose, whereas if regarded as a profits tax it should be subject to the usual deferred tax policies. The practical difference was large. It was estimated that only £2 million would have been paid by 1981 but, depending on the exact method of calculation, as much as £133 million might have had to be provided.

ICI decided that despite the special features PRT was basically a tax on profits and should be treated as such. To compute the PRT liability was not exceptionally difficult but its interactions with Corporation Tax were complicated especially when it came to accounting for deferred tax. There was, for example, a need to set up deferred PRT provisions and corresponding negative Corporation Tax provisions but it was not clear that the 75% uplift should be deferred, ICI decided that it should not.

There was also the question of whether PRT should be treated in the management and financial accounts as a deduction in arriving at oil profits, *ie* as an expense, or as a tax charge on those profits. ICI decided that for its published accounts the proper treatment was as a charge on the oil profits and Petrochemicals Division was instructed to follow the same treatment in its management accounts, although it would have preferred to regard the tax as an expense.

The ICI Taxation Section did not deal only with the Group tax affairs. Its members became expert on the tax complications of seconding people overseas, and at home it had to keep a careful watch on possible tax liabilities on benefits in kind. In 1952 the Inland Revenue's (and the Company's) scrooge-like attitude to wives going abroad with their husbands was met by a rule that, for the expenses to be claimed, the visit by the wife had to be authorised by the Chairman or a Deputy Chairman as being in the interests of the business.

All in all, ICI was well served by its tax experts. The horrendous complications of double Excess Profits Tax (in India and the UK) and later of Franked Investment Income, Group Relief, Double Taxation Relief *et al.* were handled to the best Group advantage - notably by Henry Bagley, who also bore the brunt of the auditors' enquiries. The rating experts' successful negotiations with District Valuers should not be forgotten, saving many millions of pounds over the years.

Conclusions

Just as with a human being, death and taxes are always with a company - although death is not quite so certain. Considering its small size, some dozen people, the Taxation and Rating Section was a good investment for ICI. It had unparalleled expertise in dealing with the incursions of tax into ICI's business. It cannot be said that any one company could have much influence on the total weight of taxation, but at least it could ensure that its own burden was minimised within the law.

Chapter Nine

Management Accounting

In the preceding chapters the concentration has been mainly on financial accounting matters, with a bias towards the ultimate effects on the published accounts.

We turn now to management accounting. However, in ICI's early days there was no such thing as 'management accounting'. The regular reporting of product profits can be recognised as a form of it, but in the absence of any fixed/variable cost analysis and with overheads allocated arbitrarily, it was not helpful for management action.

In this chapter we see how the traditional costing developed into more modern Company-wide systems of reporting: in chapter ten the divisional systems are discussed.

Organisation

In 1926 the newly-formed ICI was blessed with four detailed but different costing systems. Each of the four constituent companies had systems for calculating product profits, but the Dyestuffs production methods of handling a multitude of products manufactured in batches demanded radically different systems from those of the other three, all manufacturing on dedicated plants by processes which were either continuous or worked in large batches. Among these three, Nobel concentrated on costs in relation to the market place whereas Brunner Mond was used to the detailed technical examination of cost comparisons with the other Solvay process companies. Brunner Mond was also very conscious of United Alkali, and as early as 1872 Sir John Brunner was comparing their costs using the Leblanc process with Brunner Mond's using the Solvay process. Including raw materials, wages, all overheads and freight to Liverpool the Leblanc soda ash cost £9.7s.6d per ton as against £7.8s.3d for Solvay. In both Nobel and Brunner Mond there was a tradition that costs were highly confidential.

In December 1926, a committee was set up to standardise the costing systems between Brunner Mond and United Alkali, the Chemical Group, which largely amounted to agreeing on methods of allocating overheads. There was a variety of methods in use, and after some argument the Committee finally agreed that Head Office and Local Administrative Expenses should be apportioned over manufacturing and repair wages. The format of the cost sheets was also standardised. The Costing Department (A R Young) wanted cost reports by all companies to be put on the same broad basis, but the Costing Committee suggested, for example, that the Chemical Group should use a 28-day costing period, whilst leaving Nobel on its quarterly system.

The Committee's final report on 17 March 1927 on the 'Standardised Costing System' has a grand introduction:

> *For the purpose of obtaining the maximum advantages from Cost Sheets of the various products manufactured by the Combine, the Executive Committee have decided to adopt a standardised method of Costing which will be put into operation at the earliest possible moment, and these regulations are being issued to all Companies in order that all preparations necessary to attain this object can be made immediately.*

The ICI organisation inherited the Nobel tradition of detailed central collection and recording of costs in a Technical Costs Section under the Technical Director. These costs did not necessarily agree with the costs shown in the product trading accounts. Minto, ex-Nobel, initially proposed collecting only financial information from the subsidiaries, not product information. Butchart, ex-Brunner Mond, wanted product information. In the event, both were collected, the product information by way of the system of Standard Statistics (see later). The product trading accounts were prepared by allocating expenditure to specific products apart from certain items which went direct to profit and loss account. However, not all items allocated to products were included in the costs. The costs were prepared using conventions laid down by the Costing Department, such as standard rates of obsolescence, whereas in the financial accounts obsolescence was provided centrally. This fracture between the costs and the product trading accounts was gradually knitted together, but even after the Second World War the Divisional Technical Departments did not know the full costs taken into the product trading accounts - Billingham was one example. It had to seek information from the Accounts Departments on such items as overhead allocations when preparing expenditure proposals.

The detailed interest in the costs taken by the Chairman and Deputy Chairman is proved by references to a book of costing charts kept for them by the Costing Department. In 1927 also the Chairman wrote to Henry Mond 'I require ... if a product is made in more than one factory, a comparative sheet of costs and make'. Detailed cost sheets and lists of overhead expenses for each costing period were collected by the Costing Department.

The Treasurer's Department was organised to deal with finance and with the production of the financial accounts. The first (unpublished) consolidated accounts, for 1927, were prepared by Minto and presented to the Board, with comments, over Coates' signature. For many years, even after the Costing Section came under its wing, Treasurer's Department concentrated mainly on the financial accounts. It is true that annual budgets had to be submitted covering, as well as capital expenditure, expenditure on research, welfare, trade associations and publicity, but these were merely requests for formal approval.

In the Groups the emphasis was reversed. The local Boards were regarded from the Centre, especially pre-war, as responsible primarily for producing efficiently what they were told to produce. This applied mainly to the chemical companies - Dyestuffs and the Metals Group were from the start somewhat of a law unto themselves, but the emphasis was still towards costs of production.

The general basis of the costing information was the total rolled-up cost, with little attention being paid to any analysis between fixed and variable costs. When export profits were low there was discussion about costing them on a marginal basis, but this did not enter the main costing systems. (P C Dickens, Treasurer, wrote a note on 21 October 1931 about the dangers of using marginal costs.)

However, Winnington (Chemical Group) had a complaint to make to the Chairman in 1929. The existing system of rolling up the charges for obsolescence and Works General Charges in process costs meant that the total amounts charged to final products were lost. Furthermore, a decrease in make of one product resulted in the other products bearing higher charges. The obsolescence charges were related to plants of varying ages, with varying capital costs. The complaint came through to Coates, and his proposed solution was to base obsolescence on replacement costs and to pre-determine the unit rates annually on the basis of forward estimates. He put his suggestions to Young, and an Executive Committee minute of 3 December 1929 records the outcome. There is no mention of replacement costs, but as from 1 January 1930 obsolescence, works general charges and special maintenance are to be estimated and obsolescence is to be charged against sales of the final products, works general charges are to be charged against make of final products, and one thirteenth of the estimated special maintenance is to be charged to costs in each period.

Besides becoming involved in these detailed matters of costing methods, Coates was also keeping an eye on the wider scene. In 1936 he took advantage of the close relations between du Pont and ICI to undertake a detailed comparison of the respective groups' accounts. du Pont were very forthcoming, and a thick file resulted.

In his preliminary report to the Board, Coates compared the total figures of each group. In size they were at first sight comparable at about £100 million total assets, but du Pont had much higher provisions for obsolescence and depreciation whereas ICI had £18 million of goodwill against du Pont's £6 million. 'Our goodwill figure seems to be comparatively high'.

Total turnover was also comparable at about £43 million, but du Pont's profit and return on capital was much higher, £11 million as against £7 million and 18.3% as against 10.7%, 'du Pont's do seem to be able to make much more profit than we can.'

Coates suspected that the difference in profitability was due to a different mix of products, and he was able to have a second look. This confirmed his suspicion: du Pont's interests in ethyl alcohol, tetra-ethyl lead, cellophane, pigments and rayon were much more profitable than ICI's interests in alkali, lime, metals and fertilizers. These conclusions do not seem to have influenced ICI's broad product strategy to any marked extent before the Second World War. However, it is interesting that after the immediate post-war years more and more emphasis was put on the overall shape of ICI's portfolio of businesses.

It is also interesting that despite the severances which followed the anti-trust case, it was still possible for ICI to be allowed in 1978 to make a detailed study of du Pont's (and Dow's) financial and management accounting systems.

After the war, new winds started to blow in the accounting world. There was talk of variable costing, budgetary control and standard costing and in some divisions there were developments in these directions. As early as 1952, Hillebrandt reported on a visit to Canadian Industries Ltd, which was already preparing monthly divisional accounts within seven days after the month end, but he was very junior then and no action followed in the UK.

On 24 September 1957 Sir Ewart Smith addressed a five page memorandum to Menzies on the subject of 'Profitability and Cost Consciousness'. He wrote:

> *Under modern conditions of competitive trading there is a feeling that ICI staff generally may not be as cost conscious as those in some other progressive companies ... . There is considerable variation between the divisions in this matter, due no doubt in some cases to the influence of monopoly trading or to price-fixing arrangements to which we formerly adhered ... . In some divisions information on costs and profits has been made available only to a relatively small number of senior staff, whereas the modern and desirable approach is to give appropriate information as far down the line as possible.*

After this broad introduction he moved to points of detail such as including a charge for capital in costs, inter-merger transfers at market price and the basis of allocating overheads. In his reply dated 29 October 1957, Menzies was able to point out that a good deal of thought had already been given to the questions, but he did comment: 'There is perhaps more flexibility in our system than you are aware and it may be that the time has come to appoint a committee to study our experience and endeavour to codify it.'

Cost Systems Committee

Eventually, in 1961 the Board set up a Cost Systems Committee chaired by L H Williams with Menzies, W D Scott, H Smith, the Treasurer (Frost), Sales Controller and Purchases Controller as members. Its remit was to:

Arrange for the cost systems employed throughout the Company to be studied with the object of establishing:

(1) Whether they provide in suitable form and at the appropriate time such data as is necessary to enable the different managements to run their respective parts of the Company's business in the most effective way, and at the highest level of profit for the Company as a whole.
(2) Whether cost and profitability data is made available to all levels of management that can make constructive use of it.
(3) The effectiveness with which managements use the data that is available to them.
(4) The suitability of the data at present available for the preparation of proposals for capital expenditure, and whether the form in which these proposals are at present prepared is the one best suited to the work of Division Boards, the Capital Programme Committee and the Board.
(5) The suitability of the data they provide:
  (a) for fixing prices to external customers, or, where prices are fixed by circumstances outside the Company's control, for deciding that the business is to the Company's advantage;
  (b) for all internal Company transactions, including the supply of services by one division to another, or by Wilton and similar sites.
(6) The suitability of the methods employed within divisions for pricing, or otherwise dealing with, intermediate products of their own manufacture, which are used by them in subsequent manufacturing operations.

(ICI Board Minute 19276, 25 May 1961)

The Committee was to make such recommendations as it thought fit, and also to review the methods of recruiting and training accountants.

It will be understood that there were several hidden agendas behind the remit. The talk about the advantages of budgetary control and standard costing had reached senior levels of management in some divisions, coupled with disenchantment with fully rolled-up costs when trying to understand the economics of parts of Divisions' businesses: some divisions had moved accountants closer to the business by stationing them in product group management; the use of discounted cash flows for calculating returns on capital in expenditure proposals was in the offing; and the pricing of Wilton services was a constant irritant. Was there also a feeling that Treasurer's Department was not playing its full role in these developments, and was too secretive about cost and profit information?

The Costing Section, in particular, had come in for some criticism. Before the Second World War, its main function had been to receive and report on the detailed manufacturing costs. No doubt its reports had been read with great interest, but there is no record of this beyond the reference to the interest of the Chairman and Deputy Chairman which is noted earlier. During the Second World War it was much concerned with contract negotiations with the Government, and it had been accused of trying to impose standardised works overheads across the board, which would no doubt have simplified the negotiations. Another of its functions which grew to prominence after the Second World War, the interest in the cost reports having died away, was to examine the financial cases in expenditure proposals. The feeling grew that it was attempting to rewrite the cases made by the divisions, despite the Division Chief Accountants' certificates that they had been properly drawn up.

It has to be remembered that the detailed product costs were regarded as different and separate from the product trading accounts. The Costing Section had originally responded to the Technical Director. In May 1930 the standard reports to the Board included a quarterly Technical Report which covered costs of production, whilst the Treasurer produced a chart of gross profits by product. This organisation was reflected in the Groups: in Nobel, the Commercial Section of Technical Department was responsible under the ICI Costing Department for the correct application of the costing system to the Nobel factories. Even after the Costing Section moved into Treasurer's Department in 1930 it still did not handle the trading accounts. Moreover, in that year the Treasurer issued an instruction that information about running costs going outside a Group was to be supplied only by the Costing Section, and then only to staff authorised by a Director or his deputy.

During the Second World War attitudes began to change. In 1940 Coates instructed that Executive Managers were not to be excluded when the Management Board discussed profit figures. In 1943 there was discussion about a new organisation, and J M Henderson, the Head of the Section, recorded that the Cost Controller should be independent of the Treasurer. Coates responded that at present there was no real costing function: the policy would have to be decided after the war.

However, a new Scheme of Organisation was put forward in October 1943 by the Chairman and Deputy Chairman which originally had a separate Cost Controller. Following a memorandum from J L Armstrong to the Chairman this was changed so that the Treasurer would 'delegate to the Cost Controller' the Costing Section's functions. Armstrong argued that the Group Chief Accountants were responsible for costing, which was linked to the audited accounts *via* the product trading accounts (although in one unidentified Group there was a 'cleavage which had to be ended'). The Treasurer should have a say in the conduct and methods of the Company's cost accountancy.

In 1945 a Costing Committee of accountants was set up to consider a list of proposals by the Cost Controller, including such items as a 'normal' cost system, standardised collection and analysis of expenditure, funding of maintenance, and LIFO stock valuation. The Committee finally reported to a Division Chief Accountants' Conference in 1950, rejecting most of the proposals. It did agree that depreciation should be included in costs.

In 1947 Drummond at United Alkali had criticised the reports being produced by the Costing Section, which included almost every conceivable ratio. Drummond complained that a number of the ratios were wrong, questioned their usefulness for action, and pointed out that there were no ratios of volumes of sales or production. Why should the ratios which were needed, not be calculated in the divisions?

No complete report appears to have been made by the Cost Systems Committee to the Board. Hillebrandt was in Paints Division at the time, and recalls that he had to work over Christmas on a description of the Paints costing systems in preparation for a visit by a sub-committee, but he never heard any more of it. He doubted 'whether this Committee produced any worthwhile results other than giving some useful education to those who served on it and on its sub-committee which visited divisions in turn.' However, it is a fact that all the above subjects were tackled over a period.

As an example of the interest taken by some members of the Board in financial matters, in 1962 Michael Clapham addressed lengthy papers to the Board on the subject of ICI Investment Policy. His concern was more with the geographical spread of the Group than with the spread of products. He noted that by 1961 about a quarter of the Group was overseas, whether measured by place of manufacture, profits or capital. He then went into detailed analyses of the overall rate of return which should be earned by ICI to meet its cost of capital, and the consequential returns which should be earned on new projects according to their foreseeable lives (the shorter the life, the higher the return). He next classified the countries in which ICI had investments according to their economic and political stability into four groups, ranging from the developed countries with a minimum acceptable return of 12.5% to Brazil, Ceylon, Ghana and Kenya with a minimum acceptable return of 28%. Clapham was here anticipating work which was to be done by the Planning Department some 14 years later.

His second theme was that ICI would be unable to finance the required rate of development overseas from its own resources, and should positively encourage the overseas companies to seek local finance, if necessary letting the ICI percentage interest fall, but not below two thirds.

Clapham's papers do not appear to have been followed up by identifiable actions. However, they do illustrate the conflict which ICI faced between its desire to grow internationally and the limitations of the finance available, especially when profits were down.

Management accounting systems have to be designed to fit the management organisation, and in the 1960s the ICI organisation was being reappraised by a Board Organisation Committee, partly with the aid of an external study by McKinsey & Co. One of the results was the introduction of profit centres within the divisions so that each major product, group of products or service was managed as a business. Internal transfers of services and intermediates were priced at commercial prices. Accountants were attached to the profit centres as part of the management team. The divisions were encouraged to develop their businesses and systems in their own ways, with the Division Chairmen taking personal responsibility. So long as the broad information needs of the Centre were satisfied, divisions did not need to conform to any set pattern of costing system.

Control groups

Another outcome of the Board Organisation Committee's work was the setting up in 1963 of the Control Groups Department. Its function was to service the new Control Groups, of which there were three, each chaired by a Deputy Chairman and monitoring three divisions. Divisions would report to their Control Groups on their budgets for the current year and estimates for the two following years and would meet with the Control Groups twice a year. The Costing Section of Treasurer's Department was abolished. However, the Profits & Forecasts Section survived, despite a suggestion by L H Williams that it too should move to Control Groups.

So the management accounting function of Treasurer's Department - such as it was - was taken away from it. It can be speculated that this move followed naturally from the emphasis which successive Finance Directors and Treasurers had given to their responsibilities for finance as against management information. There were strong management accounting resources in the divisions, but not in Treasurer's Department. There were conflicting views outside the Department, from some divisions, that there was too much interference in their affairs (a popular name for Head Office was 'Millstone House'), and in Head Office, that there was a need for sharper management information.

From the divisions' point of view, Millbank was something which had to be managed. In financial and accounting matters this job fell to the Division Chief Accountant, who had to understand the Treasurer's Department views so that the divisions' proposals did not conflict with them.

The Control Group system did improve the understanding in Head Office of divisions' circumstances, but at the same time the preparations for the meetings imposed a heavy load on the top Division managers. The word 'Control' was unfortunate, because in time the Control Groups, aided by an enthusiatic secretariat, did try to control the divisions. In due time the name was changed to 'Policy Groups' - following a precedent set for the overseas subsidiaries, where 'control' would have been unacceptable.

There was obvious scope for mismatching and friction between Treasurer's Department, which retained the responsibility for Group profit and cash forecasts, and Control Groups Department - indeed, the creation of the latter could be seen as pure empire building. The Control Groups could, of course, have been serviced by a suitable controllership organisation within Treasurer's Department (a suggestion to this effect was made by A Fryer in 1970), and this is what eventually happened - but not until just after the period.

Standard definitions

From time to time the new divisional freedom caused problems at the Centre when attempts were made to compare like with like across division boundaries. These problems led to the setting up in 1964 by the Board Organisation Committee of the Standard Definitions Panel, whose job was to produce definitions for those accounting terms which were used for reports to and by Treasurer's and Control Groups Departments. The Panel was chaired by C M Jennings of Control Groups Department and included Ogle, Hillebrandt and J K Steward.

The Panel duly produced its list in May 1965. The suggestion that a uniform accounting system should be developed was discounted: 'the Panel has not considered it part of its remit to suggest a uniform accounting scheme for the whole of the ICI Group and, indeed, would question the wisdom of establishing one.' The Panel recommended that the definitions should be used by all parts of ICI in the UK and as regards the legal accounts by the whole of the ICI Group. Overseas companies, therefore, including companies in Continental Europe, could continue to use their own definitions for management accounting. Despite the Panel's recommendation that the list should be reviewed every three years, it was not revised until 1973.

In 1969 the Treasurer issued a paper which surveyed the position and set out the aims, as he saw them, of ICI's management accounting systems:

> *The aim ... must be to see that the right kind of management accounting data is made available at the right time to every level of management in order to do its job effectively.*
>
> *The system must:*
>
> - *take account of (a) the management organisation; (b) the commercial and technical environment and (c) the techniques available;*
> - *make use of, not duplicate, the system for providing the financial accounting data for statutory purposes;*
> - *be flexible and capable of responding quickly to changes in demands.*

The Treasurer proposed to rely largely on initiatives from the divisions, with some limited support from Head Office. In course of time it became clear, however, that more positive leadership was needed from the Centre.

In 1971 J C Brown, Technical Director, carried out a 'technical audit', and his report contained some criticism of Works accounting - some Works managers were not getting the right information to be able to control their costs effectively, and they should receive information about their products' profitability. This report was discussed at that year's Treasurer's Conference on the basis of a paper by A Fryer. In relation to product profits he had some pertinent remarks to make: 'Presented with such a demand some of us I think would be faced with a dilemma because our present systems are not designed to meet such a requirement ... . Clearly we need to discuss with the manager concerned the reasons underlying his request; we need also to see if there is a popular demand for this type of information; will it be put to constructive use; and the cost of providing the information. Given this we then have to agree with all concerned the specification, and in the case of works profits, the specification may be a problem particularly in a division which is not accustomed to giving such information. The specification needs a definition of 'profits'. Are we talking about profits under the control of works managers, works operating margins, works gross trading profits, works net profits, or are we talking about works cash flow ... . He goes on to elaborate on the problems, and concludes: 'I think most of us would ... be reluctant to accept as valid some or all of the Audit Report's criticisms.'

The Treasurer's point about the need for flexibility was underlined in 1972 by a change in the organisation of the Control Groups. Three groups were set up:

1. For the international businesses where it would be appropriate to look at performance on a world-wide basis.
2. For the 'heartland' businesses where it would be appropriate to look at profits on a rolled-through basis.
3. For the market-orientated businesses where the UK and Continental Western Europe should be regarded as one market, and the Control Group should be looking at performance on a cross-border basis as well as by individual profit centre.

There was also at this time the business fields study by Planning Department, in which the capital was rolled through across division boundaries to the final external sales. The report raised a number of concerns such as organics' poor growth rate, why was Heavy Organic Chemicals less profitable than the inorganics, was plastics competitive enough, *etc*, all in effect directed towards ICI's overall shape.

Now came an echo from the past. Soon after the formation of ICI there was a Chart Room in which the Directors could study data about sales and product costs. In the early 1970s the Board decided that they needed a Chart Room where they would be able to see at a glance the total ICI Group financial picture and its breakdown into businesses and territories. The room was duly set up, but it received only a trickle of visitors and soon faded away.

Another new arrival in the early 1970s was the involvement which Staff Committees were encouraged to have in improving office efficiency: the comment was made that this would create more work, not less.

Management accounting working party

A management accounting working party was set up in 1973, chaired by Ogle, with representatives from the divisions, ICI Europa and Planning, Overseas and Tariffs & Trade Departments. Its remit was to examine the difficulties in producing information on a matrix basis and to propose standard definitions. In the light of the regrouping of the Control Groups in 1972 and the UK entry into the EEC, the working party was also asked to study the presentation of sales statistics, and sales, profits and capital employed of the operating units in the UK and Western Europe.

It still did not recommend a standard Groupwide information system, and even within the UK it considered that the imposition of a standard system would be unjustified in view of the existing investment by each division in its own management accounting system. However, it did recommend a tightening up of the standard definitions, despite the view of one division that standardisation was to be deprecated because different divisions were selling different products, frequently in different markets. Revised Standard Definitions were issued in March 1974.

One item on which the working party focused its attention was the definition of number of employees. There had been increasing emphasis on reducing numbers of employees as a way of cutting costs. It might be thought that there could be no difficulty in counting heads, but questions were continually arising: was an employee on secondment still an employee? What if he was on long-term sick leave? Was it establishments that had to be counted, including temporary vacancies, or just actual numbers? Do two part timers equal one full timer? The final definition, agreed with the Central Personnel Department, took up a whole page. The basic rule was that all personnel having a contract of employment with the unit should be included, apart from personnel seconded to another unit.

In continental Europe the problems were acute. The divisions were being encouraged to take a pan-European view of their businesses, which meant that they each wanted management information which fitted their own systems. However, the major European subsidiaries were multi-divisional. The solution was two fold: the standard definitions (which were mandatory in Europe but only advisory elsewhere) and a pan-European accounting system which would provide the information needed by the Divisions together with consolidated information for continental Europe as a whole, and the separate legal accounts of each company. Naturally, the new system would be fully computerised.

The monthly sales statistics presented to the Board also needed attention. Down to 1972 these had been confined to the sales of the UK Divisions and subsidiaries, split between Home External and Export. The total sales of the Europa companies were then added to it, but without removing the duplication with the export figure. The working party recommended a presentation on a Western European basis. This recommendation was followed up by the new Management Accounting Data Department. There is a letter dated 4 September 1975 thanking divisions and ICI Europa for producing monthly UK sales indices of price and volume for the Commercial Director's report, but going on to say that the next step was to produce similar information for sales in Europa territory. Sales from the UK would have to be split between Europa territory and the Rest of the World.

The working party's recommendations took into account the decision of the Board in 1974 to introduce a matrix organisation. Each business would be managed on both a product and territorial basis, thus multiplying the accountants' problems. Although confining its recommendations to Europe, the working party foresaw the time when the Board would want management information on a classes of business basis world-wide.

Another problem which worried the working party was volatile exchange rates, which made the monitoring of overseas business increasingly complex. It recommended an urgent study to produce a standard procedure for the preparation of plans and monitoring against them. As late as 1979 the problem was still worrying the Controller, who proposed uncoupling the units' detailed budgets from the reports to the centre, so that the latest forecast exchange rates could be used for the latter.

In 1974 the accounting years of the Europa units ended on 30 September. This timing difference had been kept in being in order not to delay the preparation of the consolidated accounts. However, it was an obstacle in the way of preparing Western European management accounts. Plans were made to change the statutory accounts to the calendar year, and in advance of this the management accounts were put on to a calendar year basis.

Another reorganisation took place in 1976, when the Inter-Divisional Policy Group was established. Its objective was to coordinate the world-wide strategies of the 'heartland' businesses of the Mond, Petrochemical and Plastics Divisions. Immediately, there was a demand for suitable management information to support it.

Management Accounting Data Department

These new organisations reinforced the need for more control from the centre of the development of management accounting across the Group. Also, there was a need in the centre for more co-ordination of demands for information. The General Managers recommended that there should be one focal point in Millbank for the collection of all accounting data. In 1974 the Management Accounting Data Department was set up under B F Crook, formerly Finance Director of Mond Division and latterly of Petrochemicals Division.

The nucleus of the new department was the old Profits & Forecasts Section of Treasurer's Department. This section had existed for many years, its task being to collate and present to the Board the actual and forecast profits and cash flows of the divisions (plus income from overseas subsidiaries and other sources). It also put together the Main Product Statistics. Its output gave the total Company position, but was inadequate to satisfy the demands for management information which were now emerging.

The Management Accounting Data Department did much work in improving the completeness, timing and analysis of the data produced and in co-ordination with the Planning and Policy Groups Departments.

One example of its work was ensuring that the Board received consistent sales data. Sales were naturally reported in the Treasurer's reports on profits, but they were also reported by the Commercial Department and there were differences. The origin of the two routes for the data lay in the formation as long ago as 1936 of the Sales Statistical Service Department. Its function was to provide 'all statistics relating to the company's sales' and for this purpose it was to receive copies of all invoices sent out by Groups and by those divisional offices which invoiced sales. Inevitably, differences with the accounting figures crept in due to credit notes, rebates, *etc*. Only by establishing just one stream of data was the problem eventually solved.

By 1977 there had been considerable progress in making the periodic profit reports to the Board more useful and, at the same time, shorter. A preliminary report on the profits for 1976 was presented to the Board on 4 February 1977, followed by the final report with the proposed distributions by 18 February. This report (which included the first forecast of profit for 1977) comprised ten pages plus ten schedules. It contained explanations of changes derived from variance analyses and of exchange rate movements, and a summary for the first time of the results in CCA terms. One schedule showed the results as the City would see them, *ie* the financial ratios such as earnings per share and price/earnings ratio. The supplementary notes for the Finance Director contained a wealth of extra information, including notes on the general economic background, the performance of ICI's main competitors, detailed comments on the performances of the operating units, more details of the variance analyses and the exchange effects, and the composition of the tax charge.

However, the Management Accounting Data Department sat uneasily between the Treasurer's, Planning and Policy Groups Departments, and in 1977 its work was transferred into Treasurer's Department and an Accounting Development Manager (H Verbeek) was appointed.

The Board's concern about the quantity and usefulness of the data it was receiving continued. In 1975 a Board information working party was formed which concluded in general terms that there was a need for improved product and territorial information.

By this time, Planning Department was taking a close interest in methods of judging the relative attractions of different fields of business and geographical areas. It was endeavouring to develop a scientific system which related the required rate of return on capital to the growth rates and the costs of capital of specific businesses. By this system it hoped to identify the 'cash cows', *ie* the cash positive businesses, and the absorbers of cash, and set targets for them. The details were worked out at some length, but ultimately the system was found to be too complicated for practical application. The future prospects of a particular business remained a matter of judgment and quality of management rather than scientific proof.

The saga continued: in 1977 a statement of Group objectives which was adopted by the Board included a task to decide on a new format of management accounts.

This report does not follow through the later events in the journey towards a Group system of information which was flexible enough to cope with changes in the demands from management, but a landmark to note was the appointment of a Controller in 1979, with widespread support from the operating units and from the General Managers. At last Treasurer's Department had moved decisively to embrace management accounting as well as finance and statutory accounting.

Standard product statistics

It was noted earlier that almost from the formation of ICI, subsidiaries were required to report their periodic profits to the centre.

These reports showed both the total profit and its allocation over products, with some items being treated 'below the line' as profit and loss account items not allocated to products, and other items allocated to products but not included in costs. Instructions were issued from Treasurer's Department about the form and content of the returns, which were known as the standard or product statistics.

To start with, reports were made for thirteen four-weekly periods. In 1930 the method was instituted of using standard unit rates for obsolescence and Works General Charges (*ie* works overheads) to enable 'more correct comparisons of costs to be made in future as between various works having the same products and at the same time to enable the preparation of period costs to be accelerated'. The Costing Section, which at that time was attached to Technical Department (but was shortly to be transferred to Treasurer's Department), issued a memorandum aimed at standardising procedures.

The Treasurer's circular introducing the new procedure explained that the alterations would obviate the rolling up into costs of obsolescence and Works General Charges. Obsolescence would be calculated at a standard unit rate on sales and noted on the period costs and profit and loss accounts. The necessary estimates of sales would be supplied by Head Office - note that the subsidiaries were running factories, not businesses. Works General Charges would be calculated at a standard unit rate on output and would appear as a separate charge in the period cost sheets of final products. Estimates of output would again be supplied from the Centre. The apportionment to products and services would be based on Process and Ordinary Repair Wages.

The actual charges for obsolescence and for Works General Charges would be compared each period with the absorption at the standard unit rates. Over- or under- expenditure on Works General Charges was to be charged off in the 13th period, after allowing for allocations to stocks. Obsolescence was provided centrally so that, although it appeared in the cost sheets, it was not charged against the subsidiaries' profits.

Special Maintenance was similarly to be charged into costs at a thirteenth of the year's budget.

After the end of the year, the actual charges were spread back to produce thirteen revised profit and loss accounts.

In October 1930 the same treatment was accorded to Local Administrative Expenses (overhead expenditure at Group Head Offices) so that in future it would be possible to combine them with Works General Charges as Works Overheads and allocate the combined figure in proportion to process and repair wages.

The Groups' profits for each period, before providing for obsolescence or ICI Central Services, were reported to the Finance Committee. The total provisions for obsolescence at standard rates and for Central Services and other expenses were deducted and investment revenue added, to arrive at a total ICI Ltd profit which was then converted to earnings per share.

The system of thirteen four-weekly periods did not last long, for on 28 July 1930 the Treasurer wrote to the Group Chief Accountants to tell them that it would be abolished in favour of quarterly costing. He asked for their views on whether this should be introduced immediately, or not until 1931. He hoped that 'the reduction of returns consequent on this change will afford such relief to Group Chief Accountants and their staffs as will enable them to exercise, in the periods between returns, a more detailed examination and analysis of the cost figures'. It is not clear what, if anything, had been going wrong, but 'estimated profit and loss accounts are still required on a twenty-eight day basis ... .'

A meeting of Group accountants was held in September to discuss such things as the need to apportion wages because of broken weeks, and irregular dates of stocktaking. The advantage of calendar costing was said to be that it would enable the Company to produce half yearly audited balance sheets, and quarterly if necessary, with the least possible delay.

Following the meeting, it was confirmed that quarterly costing would start on 1 January 1931. The quarters would be calendar quarters, salaries and suppliers' accounts would be paid monthly (instead of every 28 days as hitherto), estimated profit and loss accounts would be prepared on a calendar month basis.

New forms for the reporting of standard statistics were issued. There was evidently already some concern about the number of forms being used, because the covering letter asked questions about what other forms could now be dispensed with. The forms were approved in draft by the Finance Committee before being put before the Group Executive Boards.

There were in all sixteen forms, numbers T168 to T183. In addition to the monthly profit and loss account they included information about production quantities, stocks quantities and values, external and inter-merger sales quantities and values, monthly and cumulative realisations, costs and profits per unit and in total for each product and Works. They also included quarterly figures of production costs per unit showing the main heads of costs, and of capital expenditure and Special Maintenance showing sanctions and expenditure. The Metals Group was already demonstrating that it was different: it was the only Group keeping records of unfilled orders (Form T173).

The summary profit and loss account (Form T168) showed the gross trading profits by products followed by profit and loss items such as interest, ICI Bonus, compensation for loss of office and Special Expenditure. Investment revenue and inter-merger loan interest completed the build up to net profit.

The various changes in the costing systems during 1930/31 imposed strains on the Groups' accounts staffs, and an order was issued that there were to be no more costing changes without the approval of the Executive Committee.

There was also concern about another topic which would re-surface later, namely the circulation of costing and financial information. The Treasurer issued instructions in November 1930 that in future no information about running costs would be supplied to anyone except by the central Costs Section (which had now moved into Treasurer's Department). The Section would give information only to people authorised by the Director in charge of the Department. Therefore, all information about costs passing from one group to another was routed through the central Costs Section. The Treasurer, however, had to backtrack in December. He did not intend to prevent 'informal discussion' of costs between authorised members of staff, but to control 'official information'. One problem which may have lain behind the

Treasurer's instruction was inconsistent data: it was noted in 1931 that there were problems with reconciling makes because of internal usage, non-standard expressions of make (*eg* alkali should be expressed as 58%) and timing differences between shipments and invoicing.

If that was the reason, problems did not disappear. It was noted earlier that in 1936 a separate central sales statistical department was set up, which would receive a copy of every invoice and compile statistics for the sales departments, but very soon there were complaints that it was impossible to reconcile the figures with the accounting reports.

The extent to which detailed control was exercised from the centre is shown by an instruction issued in 1930 (no doubt as a result of the onset of the Depression) that no important alterations in factory outputs were to be put into operation until the effect on profits had been submitted by the Treasurer to the Chairman. This instruction was found to lead to uneconomic handling of the make and stock position. Instead, estimates of shipments for the ensuing quarter would be made by the Sales Department and the Works Executives would use these as the basis for deciding on makes.

A simplification to the standard statistics was made in 1938. The Form T168 was still required to be revised for each quarter to show the revised quarterly profits in total, but the supporting details of sales, overheads, *etc* shown in Forms T169 to 174 were no longer required. There was a further relaxation in 1956 when revised profit figures for each quarter were dispensed with. It was emphasised that the unrevised quarterly statistics should show as accurately as possible the actual profit for the period, including any adjustments for stock write-offs, depreciation, *etc* which previously might have been dealt with only at the year end.

After the Second World War the main user in Treasurer's Department of the operating statistics (as the standard statistics were now called) was the Profits & Forecasts Section, where they were the basis for explanations in the Board reports of variations in divisions' profits. There were detailed changes to the statistics in 1946, and in 1951, following discussion at the Division Chief Accountants' Conference, it was decided to issue a 'Chart of Activity Headings' which showed the total quarterly expenditure of a division under the headings of manufacturing, works overheads, packages, sales and sales service, freight *etc*, other profit and loss account items and capital. This summary statement was backed up by a detailed analysis of works overheads under nineteen headings, many of which were further sub-divided. Carrying on the Brunner Mond tradition, the longest list was for Welfare expenditure, including such items as juvenile meals, music relaying scheme, recreation, housing grants and suggestion scheme. When overheads came to be allocated to the responsible managers in the 1960s, the Chart was swept away.

In 1959 the Finance Director was given the task of considering how up-to-date information on the profitability of major products could be reported to the Board. Information on turnover was reported monthly, but it was to be some time before monthly profit estimates were reinstated: it seems to have been forgotten that they were produced regularly before the war.

Statistics of main products

As well as the standard statistics there was a procedure for reporting in some detail the trading results of the main division products. This happened twice a year in the form of Statistics of Main Products. For each main product the sales, cost of sales, trading profit, capital employed and return on capital were shown, split between home and export and comparing the current year with the previous year. The results were shown in quantities and unit rates, the differences in unit rates being multiplied by the quantities to give 'sterling equivalents'. Remembering that initially no distinction was made between fixed and variable costs, it will readily be realised that the sterling equivalents were, to say the least, hard to follow.

The statistics were 'laid on the Board table' and used as background papers for meetings between Board members and members of the Division Boards. These meetings were instituted by Chambers in 1949, as an extension of the regular Finance Director's Conferences. Chambers explained in a letter to W M Inman, Chairman of Alkali Division, that the object was to give the Board in London a better understanding of divisions' policies, particularly in relation to products showing low returns on capital. The divisions' policies for their capital expenditure programmes would also be discussed. In 1951 the Finance Director was joined by the Commercial Director, and later the meetings became Deputy Chairman's Conferences. Later still they were replaced by meetings of Control Groups.

The division representatives, who usually comprised the Chairman and one or two other Board members and the Chief Accountant, were asked to raise any problems of a financial nature affecting their division. In 1950, for example, Plastics Division was concerned that it was having to carry the research costs on synthetic fibres and this was affecting its apparent profitability and manpower numbers. Another problem, which had accounting overtones, was that patent and know-how licences were being given in exchange for shares. Whereas in the ordinary licence for royalties the division would get the benefit, in these cases any dividends were taken into the Head Office accounts. Despite occasional complaints from Plastics and other divisions, investment revenue continued to be dealt with in Head Office.

A Group organisation problem was foreshadowed in 1950 by Paints Division, who complained gently that it was spending a lot of time and effort in supplying technical and commercial information relative to potential ICI overseas investments. At that time the divisions were responsible only for UK operations. In due time, world-wide product organisations were set up, Pharmaceuticals being a forerunner in this.

Divisions were also asked their opinions about topics with which Chambers was concerned, such as any problems in implementing the revaluation of assets.

The meetings had as background reading a note by A Lyons, the Cost Controller, summarising the make up of the division's capital employed, the capital programme and sundry operational data about manpower, cost ratios, sales, *etc* (the Costing Section received quarterly cost statements from divisions for all main products). The Statistics of Main Products were used as a basis for questions about products which apparently were not profitable or were too profitable.

This latter concern may seem surprising, but it has to be remembered that ICI was in a monopoly position in the UK for a number of products, and the Board did not want to be involved in monopoly enquiries unless it felt it had a good case. A case in point was Alkali's prices for soda crystals: up to 1949 there had been determined Government pressure upon ICI not to raise the price of this product, but 'it had now been taken out of the Cost of Living Index, so it was reasonable to suppose that prices would be increased.'

The origin of the Statistics of Main Products can be traced back to 1930. Coates wrote to the Treasurer that capital should be allocated over products to show the return on capital by main products - he suggested using the Billingham practice. Accordingly, the Treasurer issued instructions that 'each subsidiary company shall allocate the capital employed over the various products manufactured in order that percentage returns of profits to capital may be examined'. The figures were to be included in the subsidiaries' annual reports, and the method to be used was set out in detail. It was based on the practice already in force in the Fertiliser Group.

Factory buildings, plant and services were to be allocated according to production or usage and rolled through to final products. Unproductive capital was to be shown separately and capital coming into production during the year was to be included proportionately. Other fixed assets including goodwill, land, laboratories, offices, patents and trade marks, and preliminary expenses were to be allocated in proportion to the productive capital, as was working capital. The result was that the total of share capital, reserves (including obsolescence reserve) and loan capital was allocated to products. In the following year there were second thoughts about preliminary expenses, which were excluded, but goodwill was still included.

The first results of the exercise were presented to the Finance Committee by the Treasurer on 5 November 1931. The results for 1929 were:

	Average Capital £m	Profit £m	Percentage Return %
Alkali	18.3	2.1	11.3
General Chemicals	11.4	0.5	4.7
Dyestuffs	5.0	(0.1)	(2.6)
Lime	1.0	-	4.0
Fertilisers & Synthetic Products	21.6	1.0	4.9
Leather Cloth	2.0	0.2	11.1
Metals	6.2	0.6	8.8
Explosives	12.6	1.2	9.9
Miscellaneous & Foreign Merchanting	9.0	0.6	6.2
TOTAL	87.1	6.1	7.0

The Explosives capital included investments of £3.6 million on which a return of 9.3% was obtained, and ICI Ltd is shown as having £9.7 million of investments giving a return of 6.5%.

The results of over sixty products were given (including dyestuffs as one product).

The basis of allocation was re-examined after the Second World War in 1948. By this time the divisional structure had replaced the main subsidiaries and items such as goodwill and obsolescence reserves had disappeared from the divisional accounts. The allocations started with the divisional capital invested at the year end as shown in the divisions' balance sheets. In some cases these included assets used by other divisions and appropriate transfers were made, the main items being the services assets at Wilton. The basic rule of including the major fixed assets at their gross values was retained but some notional working capital figures had to be introduced. Debtors held on the central Winnington sales ledger could not be identified directly with a division, and the allocation had to be calculated; balances with overseas sales companies were taken as two months shipments. Cash was taken as a round sum equivalent to one twelfth of total salaries and wages. There had been some grumbling about the allocations of Head Office capital, but after dealing with the trade debtors and creditors this was relatively small.

Hitherto no working capital had been included in respect of inter-divisional sales, which were settled *via* Head Office current accounts. This was adjusted in 1955, when in effect it was assumed that one month's credit should be allowed for. A further adjustment was made in 1956, capital expenditure had been growing, and correspondingly the total of creditors related to it had become material. These were now to be omitted from working capital and instead deducted from capital under construction.

As mentioned earlier, in about 1960 there was concern that with the use of rolled-up costs the comparisons between one year and another could be misleading. For example, an increase in sales of one product attracted more fixed costs to it so that the profits on other products appeared to increase. The allocations of capital employed were affected similarly. In July 1960 the Treasurer instigated a discussion at the Division Chief Accountants' Conference His note starts 'There is a feeling that the form of Main Product Statistics leaves something to be desired in that it is possible to draw misleading conclusions from the figures ... controversial items that immediately spring to mind are the treatment of fixed and variable charges and the splitting of each Division's activities over a specified number of products or product groups'. His note referred also to other statistics for Head Office, and it was followed up by a working party which reported in July 1961.

The main change proposed by the working party was the separation of fixed and variable costs and introduction of the 'Operating Margin', *ie* the Net Sales Income after deducting variable selling expenses, less the Plant Cost of Sales excluding depreciation. Fixed selling expenses and overheads were deducted separately to give trading profit. This new format would be used for the quarterly operating statistics as well as for the statistics of main products.

The use of variable or marginal costs was not entirely new. As early as 1931 (in the middle of the depression) a memorandum on marginal costs was approved by the Central Administration Committee and circulated by the Treasurer. The memorandum opened by recording that 'the use of marginal costs has become noticeable in increasing degree in the various reports which come before the Administrative Committee. While the use of these costs is justified in certain cases, there are serious dangers in connection therewith.' It went on to list some of the dangers, such as using them for existing secure production, not taking account of all the extra costs involved in additional output, using them for new products, *etc*. It instructed that all marginal price contracts should be reported to the Costing Section.

It will be seen that under the working party's proposal, Plant Cost of Sales did still include fixed costs, but only those directly attributable to the product. It did in fact turn out to be a successful compromise.

As seen earlier in the mid-1970s a search was underway for improved systems of management accounting. At that time the rate of inflation was high and the inflation accounting debate was in full swing. The decision in 1974 to move to an inflation adjusted basis is part of the examination of the whole inflation accounting story in chapter six.

By 3 December 1975 the standard product statistics on this new basis were being reported to Management Accounting Data Department on a series of 'M' Forms, which had replaced the old operating statistics. H Verbeek wrote to Division Finance Directors with details of the quarterly Management Summary which was to be sent to Policy Groups: 'The purpose of this summary and the narrative is to provide the Policy Group with a digest of the information they require - at the same time rationalising the flow of data to Millbank by integrating them with the 'M' forms received by MADD.' The Management Summary was a two-page document supported by some two pages showing sales, profits, profit ratios and manpower statistics, with comparisons with earlier periods and with budgets. The system was not confined to the UK, it had at last become a world-wide Group system.

The Treasurer's Department series of 'T' Forms other than the product statistics was still used for reporting the financial results and forecasts. The actual 'legal' results were still dealt with by Merger Accountancy Section. This apparent anomaly, that two separate groups of people were involved with the actual results, was kept in being because successive senior managements in Treasurer's Department saw it as a reassuring cross check on the accuracy of the work. It did not finally disappear until after MADD had moved back into Treasurer's Department.

One complication which both groups had to handle was 'management adjustments'. These were items which, for one reason or another, were considered to appear in the wrong operating unit in the financial accounts and so were moved across in the management accounts. An example was the effect of the arrangements between the divisions and ICI Finance Ltd whereby ICI Finance factored its trade debts. The bad debts and discounts were transferred back to the divisions for management purposes. There were also notional charges such as royalties passed between one unit and another in the management accounts when there were no formal agreements. Over an extended period these latter adjustments were eliminated.

Also within Europe there existed another series of forms. These were the 'E' Forms which were used in the (Continental) European Accounting System, operated in conjunction with the ICI Europa Computing Centre. They were designed to enable the production of product statistics on a cross-border basis which reconciled to the accounts of each legal entity. The emphasis was on full details of selling and administrative costs, most of the Europa activity at that time (1976) being selling rather than manufacture.

Head Office expenses

One of the first decisions taken when ICI was formed was to build Imperial Chemical House. This decision followed automatically from the policy of taking strong central control of the operations of the constituent companies. What also followed was that running the Head Office building and the people in it, as well as other activities elsewhere in the UK which were controlled by Head Office, would require a lot of money which would have to be funded by the operating units. The money came under two heads, Central Services and Sales and Sales Services. Later on the third head of research expenditure appeared.

Sales and Sales Services Expenses were the costs of the Regional sales offices plus the central Sales Control, Central Publicity and Shipping

Departments and the Central Sales Ledger Section. All the other Head Office Departments comprised the Central Services.

To begin with, the central administrative expenses were charged out in proportion to the interests of the four constituent companies in the ICI share capital:

	%
Brunner Mond	43.265
Nobel	42.290
British Dyestuffs	6.831
United Alkali	7.614

This soon changed. In 1929 the total cost of Central Services was £1.2 million and this was charged out to the companies in proportion to profits. Whilst this was sensible in that the cost fell on those companies best able to bear it, it was hardly satisfactory for comparisons of profits year by year. For instance, the allocation to Billingham was £302,000 in 1929 but only £43,000 in 1930. Accordingly, Coates suggested that for the purpose of internal profit comparisons the basis should be capital employed.

The total Central Services expenditure gradually increased. By 1950 it had reached £3 million, but this included 'non-departmental' expenditure of £1.3 million. The biggest items in this were advertising, pensions and pension fund expenses, research and overseas office expenses, but there were numerous other items such as donations and subscriptions, ICI Magazine, Central Works Council Meeting expenses, law charges, raw materials inter-merger stock adjustment, *etc*.

At that time it seems that there was no proper budgetary control. The expenditure was reported to the Finance Committee by the Treasurer and in a note dated 8 February 1952 Chambers records that he discussed the figures with Cotton, the then Treasurer. He would like to be able to confront each Director responsible for a Central Service with the numbers in the department and the total cost and ask whether he considered the numbers were adequate or excessive. For every non-departmental expenditure which could not be allocated or charged out, the Director responsible would be asked for his budget. Chambers' note concludes: 'It is understood that the Personnel Director does not accept any responsibility for determining or limiting the number of persons employed in each Central Department. This matter needs discussion, but probably the budget control is best left to the Finance Director and the control of the actual employment, *ie* the quality of persons taken on, left to the Personnel Director.' So it seems that Chambers was still not envisaging that budgetary control might pass to the departmental managers.

Chambers' interest in budgetary control of overhead expenditure was not new. In 1949 he was thanking the Treasurer for a copy of the Dyestuffs Division Departmental Budgets 'which I found most interesting and useful'. He asked for copies of similar budgets for other divisions. If they were not prepared, he wanted to know how the other divisions coped with the problems of financial control. To this, the Treasurer had to admit that he did not know the extent to which other divisions had similar systems - he would make enquiries.

For many years the allocations of Central Services received by subsidiaries/divisions were treated as something of an extraneous nature, not allocable to products. This changed in 1953, when an instruction was issued that in future they should be charged in product trading accounts.

As early as 1949, Division Chairmen were asking Chambers for more information about the basis of allocating Central Services, but now that the amount of Central Services directly affected product profits, divisions naturally became more interested in the amounts with which they were being charged.

Central Services Investigation Committee

A Central Services Investigation Committee chaired by a Deputy Chairman was set up in 1952 (ICI Board Minute 14378, 27 March 1952) with the remit to:

(a) Examine the expenditure and the reasons for its growth and the current procedure for control.
(b) Examine methods of control - *eg* money budgets, establishments.
(c) Report and make recommendations.

In 1953 it asked the Treasurer to show how the total and composition of the expenditure on Central Services might be given to division chairmen for their information. His first attempt illustrates the ignorance of management accounting in Head Office. It analysed the expenditure by type and showed salaries *etc*, which took nearly half the total, in one sum, and it attracted severe criticism. Chambers wrote to Armstrong after a meeting of the Committee on 25 June 1953:

> *The other members of the Committee held very strongly that the issue of a summary on the lines suggested was useless or even worse than useless, because it lumped together expenditure which was unconnected ... division chairmen are not very interested in the aggregate of the charges for 'Cables and Telegrams' ... . They are interested in how much it costs to run the Development Department, the Technical Department and so on.* (Chambers to Armstrong, 26 June 1953)

A statement on the lines suggested by Chambers had already been issued to the Board, and Chambers asked Armstrong for a similar statement to be issued to division chairmen - the figures not to be disclosed to anyone below Managing Director level.

The Committee reported to the Board on 30 November 1954. The source of the Board's concern shows in the total expenditure, which had risen from £1.13 million in 1938 to £2.05 million in 1946 and £4.20 million in 1953. The Committee pointed out that whereas the expenditure had increased approximately 3.75 times compared with 1938, gross sales had increased approximately 5.33 times.

The Committee had garnered reports from all the Heads of Departments and had interviewed them. Its report gave them a clean bill of health. It rejected a system of formal establishments, but approved the recent action of the Treasurer in asking for annual budgets from the Heads of Departments.

The Committee suggested that it should continue in being, to scrutinise the annual budgets, but its work extended beyond this. In 1959 it sent to divisions details of the total Central Services and Central Selling expenses for 1956 to 1958 and the budgets for 1959, together with the allocations to divisions. Divisions chairmen were invited to express their views frankly regarding any Head Office department or departmental function or activity.

An analysis of the replies was circulated to the Board, with the comment: 'It will be observed that there is a substantial measure of agreement regarding those departments which appear to them to call for scrutiny'. (J L S Steel to Chairman and Executive Directors, 12 June 1959.) The analysis included comments summarised in the following four paragraphs.

The Treasurer's Department received a reasonably clean bill of health, with some reservation about procedures in the Costing Section, and whether it was really necessary to gather so much detail about product costs, sales realisations, departmental expenses, *etc*.

Generally, there was more concern about excessive costs of the activities rather than their existence. For instance, the General Chemicals Division commented that 'it is our feeling that substantial reductions could be made without loss of efficiency', and Dyestuffs wrote 'the cost of the majority of the Central Departments is far too high'. Several divisions suggested removals of some of the activities from London, which would reduce costs and narrow the perceived gap between the divisions and Millbank. Pharmaceuticals suggested: 'we might consider the transfer of some of them to an appropriate site much more centrally situated to all divisions' (it so happened that their preferred site was Crewe, very near them).

Other comments focussed on the need to decentralise. Metals considered that the existing pattern dated from the time when the Company was still not too large for detailed centralised direction: 'We consider that the whole philosophy of ICI central control needs re-examining'. Nobel suggested that the authority of the divisions in certain matters should be increased.

Specific targets for criticism were Sales Control, whose costs had increased by 50% over three years; the cost of prestige advertising; Development Department, which cost three times as much as Research Department; Economic Planning: 'We could manage without this department' (Heavy Organic Chemicals); the Overseas Departments;

Central Staff: 'there is a striking contrast between the costs of Central Staff and Central Labour Departments.' (Alkali Division); the Estates Department ('... appears to be largely superfluous'); and Work Study, which had done a fine job in the past, but was now doing a lot of missionary work outside ICI. The Akers Research Laboratory and the Central Instruments Laboratory were of doubtful value. One department which attracted bouquets rather than brickbats was the Legal Department: 'we feel this is a department from which we derive an excellent service' (Nobel Division).

Divisions were now being given more information about the make up of their charges, but this only served to add to their questions. The charges depended on the total expenditure and on the bases by which it was allocated. Pressure built up gradually under both these heads. The total expenditure became the responsibility of the Central Services Control Group, which inherited the mantle of the Central Services Investigation Committee, but as late as 1966 it would still have been true to say that the budgetary control system was not fully developed. Departments prepared their budgets for the forthcoming year, but they were not asked to explain deviations of the actual quarterly expenditure from the budgets.

The bases of allocation were refined over the years. The most satisfactory was by reference to the actual effort, but this could be used only for a minority of the activities. For departments such as Treasurer's an arbitrary basis such as capital had to be used for most of the expenditure. Other bases were numbers of employees and sales.

In 1971 certain manufacturing activities were transferred between divisions. A meeting of the Chief Accountant with the divisions affected discussed the necessary actions such as transfers of fixed assets and stocks, the presentation of forecasts and comparative figures, *etc*. Among the items on the agenda was the allocation of Central Services. It was originally proposed not to alter the existing allocation for 1972, based on the actual figures for 1970. The divisions objected to this, and as a result the basis for all divisions was changed to the latest long-term forecast.

In 1973, following discussion at the Treasurer's Conference, the allocations were re-examined. By this time the expenditure totalled nearly £13 million. It was re-affirmed that there were still good reasons for allocating the total expenditure to the divisions rather than keeping some of it (*eg* Directorate) as a corporate expense, or allocating part of it to overseas companies. The reasons were partly commercial - to make sure that all expenditure was taken into account in fixing selling prices and judging profitability - and partly fiscal - to make sure that due tax allowances were obtained.

Unlike Central Services, Sales and Sales Service Expenses were, after 1936, costed so that the allocations to the operating units were intended to reflect the actual expense of selling their products. Before then, according to a report by J G Nicholson, the allotment to the Groups was arbitrary and depended to some extent on ability to bear the charge.

Initially, the allocations were limited to a total for each Group (later, division) but in 1947 the analysis was carried down to approximately 75 product groups. The basis of the analysis was the actual time spent by outside representatives plus, where possible, other selling office personnel. To this basic cost was added an allocation of the Regional Office expenses and the ICI Sales Controller's Department expenses. It was stated that the primary object of the new basis was to ascertain the quarterly cost in each area. This cost would be related to the gross sales realisations so as to build up, in relation to each product group, the Regional and average total Home Market cost of selling per £100 of sales. The amounts involved were not small: by 1949 some 2,500 people were covered, at a total cost of £2 million. Also in 1947 the Commercial Director reported to the Board that in future an annual budget of expenditure for Regional Offices and Sales Depots would be submitted.

Central research expenditure was allocated either arbitrarily or, where possible, by reference to work done. In 1978 there was considerable dissatisfaction with the allocations of the Corporate Laboratory and Central Toxicology Laboratory. For the latter, it was found possible to charge out a good part of its cost specifically, and the balance was spread equally over the user divisions. The Corporate Laboratory expenditure totalling over £5 million was allocated in proportion to divisions' own research expenditure, the theory being that this reflected their need for research and financial commitment to it. This theory was not universally accepted - it could equally be argued that a division which spent a lot of its own money on research did not need the central research. Because of this dispute the Research Director found himself having to determine the allocation arbitrarily.

Sundry expense items

Instructions were issued from time to time about the treatment of specific expenses. One such instruction was issued in May 1932 and to show the language of the time, and the complexities in trying to calculate 'normal' costs (which were not the same as the total costs charged against products), it is quoted in full. It was all about the transfer value of redundant or idle plant which was used for maintenance:

In order to encourage the use of material already in the Company's possession, it has been decided that the following procedure be adopted in dealing with Maintenance Charges in cases where a renewal or replacement can be effected by utilising material from redundant or idle plant.

If the book value of the plant used for renewal is not in excess of the current replacement cost of the same item of plant in the same condition, then the full book value of such plant should be charged to special or ordinary maintenance account according to the nature of the maintenance work.

If, however, the present value of the plant to be utilised is below the book value, it is desired that the full book value be charged to maintenance, but in order that costs should include maintenance charges on a present-day basis, the following procedure is to be adopted:

(a) Capital Account should be credited with the full book value exclusive of any original installation costs.
(b) Special or Ordinary Maintenance Account (included in costs) should be charged with the present-day value of the plant used, the

present-day value being agreed between the Plant Manager and the Chief Accountant.
(c) The difference between the full book value (a) and the value charged to maintenance (b) should be debited either to special or ordinary maintenance suspense account.
(d) Any original installation costs remaining in Capital Account should be written off through Special Expenditure Account, for which Form T. 63 should be submitted for formal approval and purposes of record in this Department.

At the end of the year the items charged to the Special or Ordinary Maintenance Suspense Account are to be transferred to the appropriate product trading account and absorbed into the maintenance charges in that account.

Any costs incurred in dismantling the redundant or idle plant should be charged to Special or Ordinary Maintenance, the present-day value being arranged on the assumption that such costs form part of the job.

A note must be made at the foot of Form T.169 of the amounts held in suspense, quarterly and cumulative.

(Treasurer to Group Chief Accountants, 12 May 1952)

Research expenditure was always an important item of expense, and the local Group budgets for it had to be approved centrally, but accounting for it did not pose unusual problems and it was not considered necessary to include it in Treasurer's Notes until 1940 - the main concern was whether the expenditure was bearing fruit. A circular from the Treasurer in January 1933 summarised the rules. No expenditure could be carried forward from one calendar year to another without express authority from the Finance Committee, and then only in exceptional cases and in connection with research operations of major importance (some expenditure at Billingham was in fact carried forward). In no case would research be accepted as a charge in Head Office accounts. Unsuccessful research was to be charged into works overheads.

In November 1934 a committee was set up whose duties included apportioning general ICI research and planning the costing of specific branches of research. In November 1938 the Treasurer issued a circular to implement decisions taken by the Research Executive Committee. Research expenditure was categorised into five headings and the allocation of each was laid down:

(a) Research directed towards minor improvements in the manufacture of existing products - to plant cost.
(b) Research directed towards radical alteration to existing processes - to Works General Charges (later changed to cost of the product).
(c) Research on new products or ventures - to Local Administrative Expenses.
(d) Technical Service - to Selling Expenses.
(e) Activities of research laboratory personnel on developing the market for new products - to Local Administrative Expenses.

The annual budgets had to be summarised under these headings, as had the quarterly reports of expenditure. There were also four more headings which, although not strictly research, were included in the research budgets. These were process control and routine analysis, library and patents departments, technical service by other than laboratory personnel, and development and techno-commercial departments.

Each investigation that was to cost more than £500 had to receive sanction, for which purpose a Research Expenditure Memorandum had to be prepared. For expenditure over £2,000 sanction had to be sought from the Research Executive Committee.

Neither the 1933 nor 1938 circular made any special mention of research capital expenditure, such as buildings and multipurpose plant. This followed the rules for capital expenditure, and after the war, in general, the only other expenditure which was carried forward was research work directly associated with design of a production plant, when it might be capitalised as part of the plant. It has been noted in chapter eight that a certain flexibility was introduced following changes in taxation allowances.

The number of headings in the classification expanded over the years, so that by 1962 there were no less than 25 categories or sub-categories. It was then decided to reduce these to ten, and options were introduced to charge Works Overheads instead of plant cost. There was also the possibility (with the sanction of Treasurer's Department) of charging Special Expenditure where expenditure was quite unrelated to existing products. At the same time, specific Head Office sanctions were discontinued except for expenditure relating to new products and processes, and then only for items exceeding £20,000.

In 1936 there was a change in the method of costing obsolescence and depreciation. Depreciation of leasehold buildings and plant was now to be included in costs of production, and not charged direct to Trading Account. Obsolescence was not to be charged as well, unless obsolescence was a probability in addition to depreciation. This change would bring the costing and financial accounts into line and simplify the preparation of Form T3 (the merger profit and loss account).

The onset of the Second World War brought some new items to be dealt with. One was deferred maintenance, *ie* repairs which had to be deferred because of war-time conditions. It was decided that deferred maintenance would not be included in costs but charged direct to trading account. The estimated liability was to be based on current prices, adjusted by a percentage addition to advance it to the estimated price level at the time the actual repairs would be carried out - a matter of some difficulty, when no-one knew in 1941, when the instruction was issued, either the duration of the Second World War or the future rate of inflation.

Canteen accounts were a prolific source of circular letters. Works canteens hardly existed before the Second World War - everyone went home for their meals, although there were mess rooms with limited facilities on the plants, but the need for maximum output and the exigencies of rationing brought them into being, a movement encouraged by Government.

From the start (in 1942), the ICI canteens were subsidised, and from the start a standard form of canteen trading and profit and loss account was introduced. The monthly loss (subsidy) was charged to overheads.

The Central Labour Department was in charge of canteen policy, in particular for controlling quality: and the level of subsidy as a laid down percentage of the costs of the meals. To do this it instituted detailed monthly returns of food consumption, numbers of meals, cash receipts, *etc* and suggested a system of keeping the canteen accounts to provide the information. This was treading on the Treasurer's preserves, and in March 1943 the Acting Treasurer issued a joint letter with the Office Organisation Department which included: 'We therefore recommend, very strongly, that in the interests of economy and efficiency the departments in the Groups normally responsible for such functions (*ie* costing and store-room accountancy) should accept similar responsibilities in respect of canteens rather than that a separate organisation should be instituted on the lines suggested by the Central Labour Department.'

The canteens dealt in attractive items such as cigarettes, beer and confectionery as well as food, canteen defalcations became a regular feature over the years.

Forecasts and budgets

This section deals with profit forecasts and related matters: cash forecasts are considered in chapter twelve.

Early in ICI's life, operating units were required to prepare forecasts of profits. As early as 1927 the subsidiary companies were asked to make Estimated Profits Returns for 1927, 1928 and 1929.

In 1929 the Finance Committee recorded the forecasting procedure. It will be seen that both sales and costs were forecast by the Centre, so that the role of the subsidiaries was reduced to inserting the profit and loss items and doing some arithmetic:

(a) Commercial Department - quantities
(b) Technical Department - quantities by Works
(c) Commercial Department - Works realisations per ton, Home and Export
(d) Technical Department - total cost including Central Services

(e) Treasurer's Department - collect the above information and distribute it to the subsidiaries
(f) Subsidiaries - prepare profit and loss accounts, to include profit and loss items
(g) Treasurer's Department - consolidate

Then in a circular from the Treasurer dated 3 December 1930, the Groups were advised:

> *The President has approved a certain procedure with regard to the forecasting of ICI Profits. Will you please communicate to your Group Board the following decisions in order that the Treasurer's Department may be in a position immediately to give the Management the information required:*
>
> *1. Forecasts are to be prepared quarterly as well as for the whole year, and will also be revised as often as is considered necessary. [Revisions were to be reported to the Chairman and President, and if they so decided, to the Finance Committee].*
> *2. The Technical and Commercial Departments of ICI will give forecasts of make and deliveries each quarter as well as for the year and in the intervening periods will keep the Treasurer's Department informed of any changes whether in the nature of increased or decreased stocks at home and abroad, increased or decreased demand for our products and increases or decreases in net realisations, or other causes likely to affect the forecasts. [Coates noted in 1931 that the Central Intelligence Department prepared forecasts of sales and realisations].*
> *3. No important alterations in factory outputs are to be put into operation before the effect on profits of such alteration is submitted to the Chairman and President by the Treasurer's Department.*

This letter reinforced one issued the previous month, calling for anything affecting current or future profits to be notified at the earliest possible moment.

The need for these letters is brought out in the profits forecast presented to the Finance Committee on 6 November 1930, which showed a decrease in profit from £6 million forecast as recently as 20 August to £5.3 million.

During the Second World War it seems that the frequency of profit forecasts became twice yearly, the first being submitted to Head Office on 31 March (relaxed in 1943 to 15 May) and the second in September.

This system continued after the Second World War, with the addition of a final estimate in January. When Chambers came on the scene he 'felt that the ICI Headquarters was not well served in the matter of budgets (*sic*).' In a discussion with Drummond at Winnington he said that he wanted something like the Dyestuffs system whereby the forecasts were kept up to date month by month and compared with the actual results. He did not like a system of estimates which many months later were the subjects of inquests. (It may be noted in passing that inquests into discrepancies between forecasts and actual continued to feature beyond the end of the period). Drummond said that he agreed with the objective, but there were great practical difficulties. A monthly reporting system had existed some 20 years ago but had been abandoned.

Changes followed: quarterly forecasts, with supporting forecast standard statistics, were introduced. In addition, statistics of main products were required twice a year (see under Standard Statistics).

By 1958 the system of profit forecasting had become more formalised. A circular of 27 January laid down the requirements, replacing the relevant section of Treasurer's Notes. It emphasised the need for the involvement of all responsible departments in the division and set out the steps to be followed. Commercial Departments would forecast the sales, Supply Departments the availability and cost of raw materials, Production Departments and other technical departments the production quantities and costs, and Accounts Departments the overheads. Explanations were required of the differences between successive forecasts. The forms to be used - Forms T3(A) - were based on the Form T3, and were used for reporting interim actual profits as well as forecasts. The instructions applied to the UK Divisions. Overseas subsidiaries were still not included in the general scope, but the circular did say that certain of them might be asked to submit forecasts.

The forecasts were still unsatisfactory: in September 1961 the Board decided that the relationship between forecast and actual profits for the past three years should be examined.

The procedure was changed again in 1967, when the first and second forecasts were linked to the Autumn and Spring Control Group meetings. Comparisons would now be made with the profit plans agreed at the Autumn Control Group meetings or, for overseas subsidiaries, the appropriate policy group meeting. The detail was cut down: operating statistics were not now required.

A recurring problem was the agreement of forecast prices and offtakes between supplying and receiving divisions. The instruction was, naturally enough, that these should be agreed between the respective divisions, but differences would keep creeping in, and sometimes the two divisions would be in dispute about the prices. The assumptions used in the forecasts had to be specified, so that Head Office could cross check them.

In 1969 the need for more formality was emphasised, when the auditors were asked to review the forecasting procedures in case they might have to examine a forecast at short notice if ICI made a takeover bid. The assumptions behind the forecasts had to be properly documented, and the accounting policies had to be the same as those used in the published accounts.

The forecasts of the divisions and subsidiaries were handled by the Profits and Forecasts Section of Treasurer's Department. They compiled reports for the Board dealing with the latest quarter's actual results alongside the latest forecast for the year. They backed up the Board reports with more detailed analyses for the Finance Director and Treasurer. Taking as an example the report on the results for 1970 and first forecast for 1971, the Board report (dated 12 February 1971) comprised eight pages plus five appendices. The supplementary report covered 22 pages plus eight appendices.

A bad year had been 1970, because higher sales had been offset by higher costs, the UK Divisional profits were £45 million below Plan. The divisions were forecasting 19% better profits for 1971, but the report said that this forecast should be viewed with some reserve. It went on:

> *It is worth noting that the possibly optimistic forecast of trading profit for 1971 is no more in amount than that achieved in 1969. When the substantial further investment of funds which has taken place in the meantime is taken into account, profitability will have declined ... the forecast for 1971 looks even worse when increased interest payable and reduced interest receivable on our temporary liquid resources are taken into account, and worse still after bringing in the increased incidence of tax.* (Treasurer's report to Board, 12 February 1971)

Alongside the summation of the units' forecasts, Head Office produced its own view, usually (and for 1971) a lower figure. In fact, it was not to be until 1973 that profits recovered. By this time all material overseas subsidiaries were in the system, so the report covered the Group profits rather than just the UK Divisions.

A comment by Profits and Forecasts Section to the Finance Director emphasised the need for a centralised management information system in Head Office. The selling price indices produced by Tariffs & Trade Department and used in the report differed from indices produced by Control Groups Department and used in their reports to the Board.

Government contracts

ICI first encountered large-scale Government intervention in its prices during the Second World War. In common with British industry as a whole, everything was geared to the war effort. ICI's ordinary peace-time products such as fertilisers were still demanded, and there were new demands for explosives and ammunition and new products such as polythene and 'Perspex'. As well as operating its own factories, ICI operated a number of agency factories for the Government.

Many products were supplied to the Government on normal commercial terms, but others were on a cost plus basis and the fees for operating agency factories were also the subject of prolonged negotiations. These usually turned on ICI's charges for overheads. In 1941, for example, the Board minuted that there were arguments about the fees going on with the Ministry of Aircraft Production and the Ministry of Supply. It was agreed that ICI's systems for allocating Works General Charges, Local Administrative Expenses and Central Services should continue and any disputes would be referred to a firm of Chartered Accountants to arbitrate. In 1942 it was recorded that the rates for 1940/41 had been agreed, as percentages of direct wages and salaries.

The arguments dragged on, and in 1944 agreement was reported that the profit rates on direct contracts would be 8.3% on cost for 1941 and 9% for 1942 and 1943; on indirect supplies, ICI would credit the Ministry with discounts of £1.4 million for 1942 and further amounts for 1943 and possibly 1944. There would be no charges for overheads on construction and operation of Agency factories for 1943 onwards 'until the end of the Second World War against Germany'. ICI would also pay over to the Industrial Ammonia Control of the Ministry of Supply excess profits on fertilisers over the 1938/39 base. It has been noted elsewhere that with Excess Profits Tax at 100%, ICI may not have been too concerned.

As late as the 1950s, ICI was still receiving fees for managing agency factories. Running costs were claimed back from the Government monthly - with a contingency allowance in March because the Government's cash accounting system would make it difficult for it to pay out any under estimate in the following financial year!

Price controls

Towards the end of the period ICI, along with all other companies, was having to cope with price and dividend controls.

Dividends were controlled by Treasury Orders and in general the gross dividend was not allowed to rise by more than 10% in a year (this led to some very peculiar percentage rates of dividend - for example, 18.1912 in 1975), but if there was a share issue this could be over ridden. In 1976 permission was obtained for a 25% increase, so that the actual amount of the dividend for 1975 was increased by the ratio of the numbers of stock units in issue at the respective year ends and then further increased by 25%.

From its formation, ICI had monopolies or near monopolies in the UK in a number of important products, *eg* alkalis, explosives and fertilisers. In consequence it was careful to keep its prices down, sometimes too far down for comfort, when prices generally were rising.

After the Second World War the Monopolies Commission came into being. Fertilisers were a particularly sensitive area because of farming subsidies. There were recurring suspicions that ICI was making excessive profits at the expense of the taxpayer. Therefore, in 1958, ICI had to face a formal enquiry by the Commission. After much labour, the Commission reached a favourable verdict. ICI was found to have acted reasonably and its monopoly did not operate against the public interest. All the same, ICI had to agree to limit its fertiliser profits 'voluntarily' to 10% on capital, capital being defined to include pre-1949 plants at their written down value and later plants at cost; depreciation was charged at 10%. This was followed in 1962 by an understanding with the Board of Trade, to be effective until 1967, under which profits were not to exceed 11% on undepreciated capital, based on the cost of a modern plant.

In the course of the hearings the Commission encountered problems with ICI's 1950 revaluation of assets and its method of calculating returns on the gross capital before deducting depreciation. Accordingly Chambers produced a 21 page memorandum of justification. This became well known, in ICI accounting circles at least, as 'Chambers' taxicabs', because it started with an example of a man owning 20 taxis. It demonstrated the true theoretical return on discounted cash flow principles and the need for revaluations in the face of inflation. It then went on to apply the reasoning to a typical chemical plant, and showed that the ICI method gave a close approximation to the true return whilst having substantial practical advantages over other methods.

After the enquiry ICI still found itself under pressure from the Government Departments, who were themselves under pressure from the Public Accounts Committee. The departments wanted to compare ICI's fertiliser profits with those of British industry as a whole - on the basis of written down historical cost capital. Having been cleared by the Commission, ICI resisted these further demands.

Government 'requests' for restraint in prices to contain inflation were encountered in 1948 and again in 1956. On the first occasion ICI agreed to reduce its home prices by £1.25 million, but in 1956 it merely agreed to reaffirm its policy of stable prices. Statutory price control was looming in 1965 - the Government was calling for companies to explain their reasons for price increases. Accordingly, the power of Division Chairmen to change prices, which had been vested in them in 1964, was rescinded. The reason was that the Board wanted to be sure that price increases would be justifiable if there were to be an enquiry: Bagnall had to explain in January 1966 that it was not the object to freeze prices.

However, political events supervened: on 20 July 1966 the Government announced a price freeze for six months, to be followed by a six months period of 'severe restraint'. The only exceptions were increases necessitated by increases in the cost of imported materials, seasonal factors, or action of the Government. Applications for exemption had to go to the Board of Trade.

By February 1967 ICI was considering what submissions it should make to the Board of Trade in respect of the second half of 1967. With few exceptions, the Company had not increased prices since early in 1965 and it was anxious to return to its normal practice, although how far it would be allowed to do so was still not known: the criteria were still under discussion between the Government, the CBI and the TUC.

In submitting proposals, divisions were asked to give:

a. a description of the product, mentioning any changes in it.
b. the present and proposed prices and the price trend over the previous three years.
c. the gross annual sales value.
d. the reason for the proposed increase, and, where it was due to cost increases, details of them.
e. any savings which had been made by improved methods of work.

This list was the minimum which the Government would require. Head Office also wanted information about items such as: profitability, capital employed, comparative prices elsewhere, *etc*.

The devaluation of sterling in 1967 provided an opportunity to increase export prices (in sterling terms) and also gave an incentive to divisions to apply for increases in their UK prices. Dyestuffs was one such division, and in 1968, following discussions with the Board of Trade, a 12 page memorandum was submitted in support of a price increase of 8%. The memorandum comprised a resume of Dyestuffs' business, emphasising its complexity, the large number of products (3,000), the demands of the customers for deliveries from stock, the research and technical service required, and the strength of foreign competition with reducing protection (at this time home produced dyes still enjoyed a 33% protective duty against non-EFTA imports).

Productivity was shown to have risen steadily over the period from 1962-69: employee numbers had fallen from 12,000 to 10,400 and sales per employee increased from £3,142 to £5,940. Much play was made of the need for an adequate return on capital to justify the planned expenditure of £30 million on modernisation and expansion.

The question of what was an adequate return on capital evidently caused some difficulty, and Hillebrandt wrote a note on 18 September 1968 which discusses the required rate of return for ICI as a whole and relates this to the rate of return as a percentage of capital employed (at Gross Present Value) for dyestuffs. There were doubts, however, about using this approach: it was decided that it should be sufficient to state that the return, even after the proposed increase, was inadequate.

In October 1968 proposals on similar lines to the dyestuff lines were made by Mond Division for soda ash, caustic and chlorine, using much the same arguments, but the Dyestuffs proposal had been referred by the Board of Trade to the Prices and Incomes Board (PIB): both cases were aimed at increasing profitability, and J L Tedbury, in a note dated 22 October 1968, said 'It seems that we may have to come out more into the open with what we consider to be a proper return on investment, which is a subject we have so far avoided.'

To show the scope of the enquiries which had to be faced, a letter dated 17 October 1968 from the Prices and Incomes Board to E H Massey, Assistant Chief Accountant at Dyestuffs Division, listed:

1. A statement of assets purchased and disposed of year by year from 1958 to the present, with figures of depreciation.
2. The profits of the division year by year, with details of provisions made for future capital expenditure (this question shows the depth of ignorance in official circles about ICI's finances, and indeed about rudimentary accounting).
3. An outline of the investment plans for the next ten years.
4. An example of the method of appraisal of capital expenditure, and the procedures involved.
5. Examples of your costing system.
6. A grouping of your plant to illustrate the utilisation of your plant.
7. Copies of the Divisional management accounts for 1965 to 1967 and forecast for 1968.
8. Details of personnel by categories, with wage bills.

A meeting with the PIB in December 1968 showed that ICI had still not satisfied it: something on the lines of Hillebrandt's paper of 18 September would probably be necessary. This was duly sent to the PIB on 24 December.

Concurrently with these negotiations, ICI was endeavouring to persuade the PIB to allow wage increases related to its Manpower Utilisation and Payment Scheme, which was aimed at reducing restrictive practices, very much in line with the Government policy 'to encourage agreements which raise productivity.' That it was in line with Government policy did not deter the PIB from searching enquiries and suggestions, for example, that 'since in simple terms the sum set aside for wage increases could equally well be applied in price reductions without disturbance of profit or investment policy, it will be necessary to show that the wage (and salary) increases are necessary to contain prices in the future.'

These references to the PIB led to reports to Parliament. Generally, ICI was successful, after much effort, in obtaining what it wanted. It did, for example, succeed with the wage increase noted above, but it did not succeed with a corresponding increase for the salaried staff because in their case it could not point to a specific agreement aimed at higher productivity. Consequently the staff received only 3.5% as against 6.8% for manual workers. It was only with the introduction of the Staff Development Programme that higher increases could be obtained.

By 1973 all prices were formally controlled by the Price Commission, proposed increases had to be submitted to them for approval. Very quickly, the preparation of submissions to the Price Commission became a growth industry for the ICI accountants because details had to be given of the reasons, usually higher costs, for the increases. The controls also provided much work in Commercial Departments, but in one way their burden was eased: a price increase allowed by the Commission tended to be accepted by the customers. Paints Division even found themselves teaching the competition how to prepare their cases. So, paradoxically, one effect of price control was to reduce the competitive pressure to contain costs. It can be argued that this period of price control did severe long-term damage to British industry by attempting to shelter its home market. The Mond Division, for example, saw 25% of its UK market disappear as its customers lost out to cheaper foreign products. In the following section we encounter more effects of price control.

Inter-merger[1] selling prices

From the start, and especially between the chemical companies, substantial quantities of products were transferred around the Group. Accordingly, rules were made about the prices to be used.

Transfers between plants at the same works were made at 'working cost', *ie* plant cost plus direct Works General Charges, but excluding any allocation of overheads. Transfers between companies were made at market value (as always, except Dyestuffs, where transfers were at normal cost). The profit was shown separately on the cost sheets, and local and ICI administrative expenses were excluded from costs.

In 1928 the Executive Committee set up a committee of H D Butchart, A K McCallum and A R Young to recommend whether inter-merger sales should be at cost, or a fixed percentage above cost. They reported on 22 March 1928 that neither should be used, but the basis should be fair market value, to be fixed by Sales Control. Their reasons were: the existence of minorities; confusion - the same product made at different plants would be priced differently; a percentage on cost would lead to the least efficient company making the most profit; if the cost were above the market price, the purchaser would be disgruntled. Finally, 'the committee considered it very undesirable that the costs of materials manufactured by the various Companies in the Group should be broadcasted all over the country'.

However, the Chairman disagreed. In his view, company boundaries should be ignored to have the true rolled-up cost. He also wanted to know the 'fighting', or marginal cost. The figures could be worked back at market value if necessary. Coates replied that 'cost' was only Works cost, excluding administrative and profit and loss items - the total cost was only worked out at Head Office. It was unusual to need to know the base cost; there were the disadvantages listed by the committee, and there could be problems with Government contract enquiries.

The committee's view prevailed, and Costing Department was instructed to provide actual costs when requested by the Sales Section.

Transfers between works in the same Group were, as from mid 1930, made at 'a working cost to be decided by the Chief Accountant of the Group concerned, working in collaboration with the Treasurer's Department (Costing Section).' This cost was plant cost plus Works General Charges at standard rates, plus obsolescence at standard rates. Packages and carriage were added where appropriate.

Transfers between one Group and another were at fair market values, fixed by the Commercial Department. The necessary instruction was issued to Group Chief Accountants by the Treasurer on 16 May 1930.

The above rules applied to finished products: transfers of raw materials, stores or work in progress were made at holding values or market price if lower.

Dyestuffs had special arrangements to obtain the costs of inter-merger purchases for their normal cost system, and inserted the fair market values by a profit and loss account entry each period.

Occasionally, items of plant were transferred between subsidiaries. The prices were fixed by the Treasurer at either the Income Tax written down value or the current replacement cost. It is not stated how the Treasurer decided on one basis rather than the other, but no doubt the tax position played its part. However, when plant became surplus under schemes of concentration 'or other matters of policy', the Controller of Purchases fixed the price, consulting with the Treasurer if the book value was £1,000 or more.

In 1931, with the onset of the depression, marginal pricing became more common. A circular from the Treasurer referred to certain Group companies such as Paper Goods Manufacturing, Nobel Chemical Finishes and the Kynoch Press where special consideration should be given to their quotations for inter-merger business. If quotations from outside suppliers were lower, these ICI companies were to be given the opportunity to match the quote, so long as it would yield a contribution to overheads. If there was a likelihood of an appreciable order being lost, the matter was to be taken up with the Commercial and Treasurer's Departments so that it could be examined in the light of the true comparison of cost to ICI. Even in these cases it will be noted that the companies concerned could not make their own decisions. It was emphasised that the ruling did not apply to 'routine transfers of staple products.'

In 1937 Dyestuffs were complaining to the General Purposes Committee about inter-merger purchases of its raw materials. It could, for example, make sulphuric acid more cheaply itself. The Treasurer responded that price concessions were always possible. However, the general rule of fair market value for transfers between Groups (later, Divisions) continued during and after the Second World War.

By 1949 inter-Divisional transfers were running at £11 million a year, of which £7 million were at fair market value. Of the rest, £1.8 million were at cost plus a return on capital and the remaining £2.2 million were at cost plus a percentage, or other bases (one such other basis was a transfer at cost plus a notional transfer of capital). A note by the Treasurer in 1950 referred to the long-established practice of dealing with transfers where there was no fair market value by negotiation between the divisions concerned, with the approval of the Controller of Purchases. Disputes were settled by the Controller of Purchases and the Treasurer.

The revaluation of assets at 1 January 1950 presented a problem. The generally accepted rate of return on capital for inter-divisional transfers was 12.5%, but to apply this rate to the heightened asset values would produce a sudden increase in profit for the supplying divisions and put pressure on the receiving divisions. The Treasurer proposed that no new inflationary element should be imported into a transfer price merely by reason of the revaluation, and where necessary the rate of 12.5% should be reduced, but 12.5% should still be used where modern plants were involved.

The 1958 revaluation caused the same problem, but it was found that there would not be much change if the percentage were based on net replacement value. Accordingly, the latter was adopted *pro tem*, but if a receiving division suffered a material increase in price as a result, the two divisions should fix an agreed price.

Plastics Division mounted a serious attack on ICI's methods in 1958. Its sales were £36 million, it was faced with falling selling prices, and its inter-merger purchases totalled £17 million. It wrote: 'Our German competitors arrange that all internal transfers of materials are at cost, leaving the fixing of the appropriate profit margin as the last operation in the chain. This enables rapid decisions to be taken and this is particularly important if low prices have to be quoted for additional business. Transfers of materials at cost are, of course, standard practice inside ICI Divisions and it is only on inter-Divisional transfers that 'profits' appear. It is often overlooked that, although they may have some divisional significance, such 'profits' are unreal from the ICI point of view, until the material concerned is ultimately sold to an external buyer'. The preference was to split the profits with the supplying divisions in proportion to capital, rather than those divisions continuing to receive fixed returns on their capital. Dyestuffs (for nylon polymer) and Heavy Organic Chemicals (for ethylene) agreed, but General Chemicals (for vinyl chloride and methyl methacrylate monomers) jibbed.

The matter was referred to Millbank, and J H Townsend, the Sales Controller, was instructed to examine the problem, for which purpose he held a meeting attended by the respective Division Chairmen with the Purchases Controller (W A M Edwards) and the Treasurer (Frost). The meeting confirmed that where there was a genuine relevant commercial price, this should be used. If not, on balance they favoured profit sharing as against a fixed return for the supplier: in any case, they emphasised the need for co-operation 'down the line' between the divisions.

In the midst of the debate, R C Todhunter addressed a note to his fellow Board members in which he advocated the use of commercial prices not only between divisions, but also within divisions. In his note he pointed out that the world price of ethylene was well above the agreed inter-division price, but he was ahead of his time: internal transfer prices were only to come in the wake of the McKinsey investigation in the 1960s.

Menzies' response to the Townsend review was unenthusiastic: 'I am not myself very much in favour of profit-sharing as an alternative to commercial prices ... it is a rather poor substitute' (P T Menzies to J H Townsend, 28 September 1959). The outcome of the particular ethylene debate was that Edwards laid down a specific price.

However, a further consequence was that in January 1961 Menzies and W D Scott (Commercial Director) issued a lengthy statement about inter-division transfers which later found its way into Treasurer's Notes. The statement examined the principles involved, the over-riding principle being to obtain the maximum long-term profit. The method adopted should give a true picture of the profitability of each stage of manufacture and should make the supplying division sensitive to competitive influences, but there should be active co-operation between the divisions, including full interchange of information. [However, theory and practice are not always the same: I clearly remember that when General Chemicals Division lost control of Plant Protection the shutters came down on the free transfer of information about Gramoxone].

The statement set out four possible methods:

(a) Commercial price. This method should be used wherever a genuinely relevant price was available, or where one could be synthesised by allowing for differences in quantities, packaging, etc.

(b) Fixed returns on capital, or shares of profit. The method of a fixed return on capital was simple, but suffered from the drawbacks that the supplying division was insulated from competition and the receiving division had less incentive to

expand sales. For these reasons a method based on profit sharing was preferred; a price so derived should stay firm for two or three years and should not be retrospectively adjusted.

(c) Retrospective profit sharing. This method might be appropriate for a major new product, where close collaboration between the two divisions 'down the line' was essential.

(d) Cost. Not appropriate to ICI's divisional organisation.

All inter-merger prices had to be notified to the Central Purchasing Department. Disputes would be settled by a panel consisting of the Purchases and Sales Controllers and the Treasurer. It was emphasised at a Division Chief Accountants' Conference that information on costs should be passed down the chain - contrast the attitude in 1928.

The Bagnall rules

The subject surfaced again in 1965, when an Inter-Divisional Prices Committee of the Board was set up, with Bagnall as chairman. The Committee reported that the policy adopted in 1961 had worked well for the great majority of transfer products, but there had been difficulties in the case of a number of major products because either it was not always clear what was meant by 'commercial price', or because there was no genuine relevant commercial price. It gathered information on no less than 25 products where there was disagreement between divisions. The disputes panel was no longer effective because of changes in organisation.

The Committee commented that the alternative methods (transfer at cost plus a fixed return on capital, profit sharing and transfer at cost) were at variance with the principle of a division Chairman's personal responsibility and were considered unacceptable. However, they did think that profit sharing might have a place during the development phase of a joint venture between two divisions. The method of transfers at cost was used by Union Carbide & Chemical (UCC), but its organisation was different. It was not suitable for ICI even though it did allow the division making the final sale access to all the facts for its commercial decisions. The method of cost plus a return on capital insulated the supplying division from competitive forces and removed the incentive for cost reductions.

The Committee classified inter-divisional transfers into three categories. The first two covered products where there was a genuine relevant commercial price, or one could be simulated from other transactions. The third applied if the first two were inapplicable, for instance where special plants had to be built to satisfy large-scale requirements of a consuming division. In effect, the Committee's solution was that a commercial contract should be set up between the divisions, the price being that used in the expenditure proposal. It listed 11 products which it felt were in this category at the time, but the Commercial Director should be able to change the list.

The Committee went on to recommend the principles which it considered should apply to all transfers:

- *a. The prices and arrangements should maximise the overall profit.*
- *b. There should be prompt disclosure of costs and other data.*
- *c. A division should normally be able to buy its intermediates at a price at which with competitive costs it can make an appropriate profit.*
- *d. Where a division puts down substantial capital for another division it should be entitled to expect for some years a price comparable to what it would have obtained at arm's length.*
- *e. Co-products from a multi-product plant should normally be credited at their market price.*
- *f. A division could not maintain high prices in order to reward an obsolete and high cost process.*
- *g. Competitive commercial prices did not include 'distressed' parcels or low priced offers designed to break into the market.*
- *h. A transfer price should normally be uniform across the Company.*
- *i. But there could be special prices for export or other special business.*

j. Escalation clauses should be limited to major raw material prices.
k. External purchases by one division on behalf of another should normally yield it neither profit nor loss.
l. The other methods of which it disapproved, as mentioned above, should not normally be used.

(Report of the Inter-Divisional Prices Committee, 19 April 1966)

The Committee recommended that the same principles should apply to transfers overseas, but they might have to be modified by such things as finance, foreign exchange, taxation, anti-dumping legislation and tariffs.

Finally, the Committee put the responsibility for operating the transfer policy on the Commercial Director.

The principles laid down by the Committee came to be known throughout the Company as the Bagnall Rules. They stood the test of time quite well, but disputes did still arise in connection with major products such as monomers transferred to Plastics Division.

A prime example of the application of the Bagnall rules arose in 1969. At that time Dyestuffs Division was responsible for the manufacture of Nylon salt and its polymerisation. It was agreed that the polymerisation should be transferred to Fibres Division, but it did not accept that it should take over the manufacture of Nylon salt because this would impair its concentration on the activity of making and marketing fibres. Nylon VIII was being built, and Fibres Division had produced estimates of its requirements for the end of 1973 which showed a difference of 100 million pounds weight between the maximum and minimum - equivalent to the whole output of Nylon VII or VIII. Naturally enough, Dyestuffs wanted some safeguards before it would commit capital to meet the higher estimates, and at the time all it had was an agreed price. The two Division Chairmen were therefore 'encouraged' to enter into a notional contract with a sliding scale of prices and clauses covering minimum offtakes, prices for supplementary quantities, escalation, *etc*. In the early 1970s the two divisions agreed to share profits and losses in proportion to the capital employed on nylon.

The eventual solution to this and other problems came after the period, with the formation of ICI Chemicals and Polymers, which brought together most of the major transfers under one umbrella.

The disapproval of cost plus a return on capital as an acceptable method was immediately reversed in one area. This was the supply of services, where E J Callard and Menzies argued that there was less guidance to be obtained on commercial prices. In a note to the Capital Programme Committee they went through various calculations of the cost of capital and the need to provide part of the cost of growth out of profits. They finally arrived at a target rate of return of between 10% and 12%.

The Bagnall rules came under pressure in 1973 with the introduction of Prices and Incomes control and the setting up of the Price Commission. R W Pennock ruled that where Category 1 or Category 2 products were involved (*ie* commercial prices or simulated commercial prices) the inter-merger prices could only be increased if the Price Commission had allowed a corresponding increase in the external price. For Category 3 products, only costs which would have been allowable by the Commission could be taken into account.

Later in 1973, the Price Commission agreed that inter-merger prices could be used to transmit allowable costs to consuming divisions, and in 1974 prices were allowed to be increased to take account of a proportion of capital expenditure. ICI decided to apply the whole of this latter change to external prices.

The effects of the price control were twofold: in some cases inter-merger prices, increased by higher costs, had risen above world prices; and in others, inter-merger prices were different from external prices for the same products. An example of the distortion was Pure Terephthalic Acid and Dimethyl Terephthalate (PTA and DMT). In 1975 the free market Continental price was £285/tonne and the Courtaulds price was £265/tonne, but Petrochemicals Division's controlled price was only £260/tonne. W B Duncan ruled that the lower of the commercial price and the controlled price had to be used.

These problems were discussed with division representatives in 1976. It was agreed that in principle the Bagnall rules were still valid. Where distortions arose because of the price code, divisions could negotiate commercial prices, but these should be limited to cases where the effect was greater than £0.5 million per annum, and the effect would be shown in reports to the centre as 'below the line' adjustments.

Questions of inter-merger prices entered overseas trade as well, because a large and increasing part of the exports went to the merchanting subsidiaries. Some went on agency terms, when the local company would receive a commission to cover its expenses and yield a small profit; the rest went into its stocks and it was meant to be able to make a normal merchanting profit on this business. Naturally, divisions wanted to minimise this profit, and we have seen that from time to time the Taxation Controller had to point out that awkward questions could be asked by the local tax authorities if a company traded at a loss.

These arrangements were fine when export prices were good, but there were many occasions when they were not. In 1936 Coates suggested to the Chairman that marginal costs and capital should be used when considering the profitability of exports *via* the foreign merchanting companies, and in 1939 there was a suggestion to the Management Board that exports should be stopped altogether, or restricted to the Empire. This was rejected because it would make plant and personnel redundant, impair the Company's standing and be unpopular with the Government. The Treasurer had noted that there were small profits on trading, if the large write offs in China, Palestine and Spain totalling £863,000 and exchange losses of £400,000 were excluded.

The same problems arose in 1949, when divisions were encouraged to bring their prices down to plant cost if necessary, with corresponding reductions in the inter-merger prices by the supplying divisions.

Conclusions

Broadly, there are two objectives and therefore two kinds of management accounting. The first, closely related to financial accounting can be called macro-accounting. The financial accounts tell the Board what profit has been made in a period and the management accounts tell it which units/products have produced the profit/loss.

The second kind is more commonly called costing and is traditionally directed to fixing selling prices, in conjunction with a target mark up.

Both kinds of costing could be seen at work in ICI, and for many years they were looked on as quite separate activities. It can be seen that even when the Costing Department became part of the Treasurer's Department successive Cost Controllers tried to continue the tradition.

Ultimately, and largely as a result of pressure from the operating units rather than the centre, the two kinds merged together. It was only after the end of the period that a Controllership function was established.

Why was the change so long in coming? Part of the answer lies in recruitment and training. Until after the Second World War qualified accountants were relatively rare beings in the operating units and the only organisation teaching some management accounting was the Institute of Cost and Works Accountants. The word 'costing' hardly entered the vocabulary of a chartered accountant, let alone a former inspector of taxes. Nor was it UK practice that company directors were thought to need management training. Engineers came up against costs as part of their training, but chemists did not.

Despite these lacunae, the ICI Board had a good supply of profit information and sufficient ammunition for its periodic battles with Government departments, especially during the post-war times of material shortages, doctrinaire policies and inflation.

At the end of the period ICI was still learning how to manage a truly multi-national business, as opposed to a British-based international one – but then so were many others.

Endnote:

[1] The term 'inter-merger' has been used, this being the form commonly used to denote 'within the ICI Group', although semantically 'intra-merger' might be more correct.

Chapter Ten

Divisional Systems

Prior to the merger, Brunner Mond had always paid close attention to its costs and exchanged information with Solvay, because the foundation of its success was the economical use of the raw materials by good engineering. United Alkali had been forced to look closely at costs by the competition from Brunner Mond. When ICI was formed, one of the first actions was to set up a Costing Committee to iron out the differences in the costing systems. In July 1927 standard costing regulations were issued to all companies in the Chemical Group - significantly, not to British Dyestuffs Corporation. Nobel had also had a detailed costing system, primarily for financial control, and the costing system in use at the Nobel Companies was now adjusted 'to coincide with the main ideas of these standard regulations'. A schedule of definitions explaining terms to be used in various financial and other returns was issued to all companies.

Attempts were made from time to time by the Head Office Costing Section to introduce more uniformity into the divisional costing systems, but these were stoutly resisted. The costing systems of the newer divisions tended to be inherited from their 'parents'. Plastics, for example, started with the Billingham systems whereas Pharmaceuticals followed Dyestuffs.

The systems, however, tended to drift apart, and this movement was encouraged in the mid-1960s by the Division Chairmen being given personal responsibility to run their businesses.

The following sections indicated that there were indeed considerable divergencies.

Agricultural

The division originated in the Synthetic Ammonia & Nitrates company at Billingham. That company was formed in 1920 by Brunner Mond under pressure from the Government to take over the Ministry of Munitions plant intended for the production of synthetic ammonia.

The first production of ammonium sulphate was on an experimental plant at Runcorn in June 1921, built to settle the design for the original production plant at Billingham. The Runcorn plant was later transferred to the Castner-Kellner Alkali Co Ltd.

Production of ammonia and ammonium sulphate at the Billingham factory started in 1923, and by 1926 it returned a modest profit of £138,000 on total capital of £5 million. It subsequently had a chequered history, with expansion of fertiliser production going hand in hand with ever-falling prices. Good profits were made on a variety of industrial products which had originally been merely by-products. There were hopes of putting surplus plant to good use in making petrol, but costs were high and it was only the war which kept the hopes alive and the petrol plant was finally closed in 1958.

The original name of the company was changed to Fertilisers & Synthetic Products in the thirties. After the war it became Billingham Division and then, after Heavy Organic Chemicals was split off, Agricultural Division returned to its origins.

By the end of 1924 Brunner Mond had already invested some £3 million, of which £1.5 million was the cost of the main plant. This included £300,000 of salaries and general charges incurred during construction, including interest on the purchase price from the Ministry of Munitions. Tax has always to be borne in mind: there is a comment in the report on the accounts that 'amounts of £36,581.2.11d for salaries and £9,937.18.10d for general charges might be considered to be in the nature of Capital Expenditure but have been treated as an expense against profit and loss account as it is believed that such expenditure is allowable as a deduction against profits by the Inland Revenue authorities'.

The first Secretary and Chief Accountant of the company was P C Dickens, who was to succeed Coates as ICI Treasurer, and as might be expected the accounts followed the Brunner Mond format. In the early years the accounts included just three product trading accounts, for ammonia, ammonium sulphate and Runcorn. There were some external sales of ammonia, but the bulk was transferred to ammonium sulphate. The detailed actual costs were compared with estimates for the original 30 ton plant and the extended plant (to 50 tons). Despite the detailed calculations of costs, the allocations of salaries and general site charges to process as opposed to the general profit and loss account appear to have been arbitrary - 33% of salaries and 40% of general charges. In the first year there was some confusion between tons and tonnes - ammonia sales were shown in tonnes and sulphate sales in tons. Costs for both were shown per ton.

In the customary Brunner Mond style, a guest house, Norton Hall, was an early acquisition, as were houses for the employees and a sports ground. A 'sundries' account shows the relative income and expenses.

The clerical work was already becoming mechanised - there is an item for Hollerith expenses in 1924, and in 1926 a Burroughs Ledger Posting machine was acquired.

In 1927 the accounts began to be more complicated: trading accounts appear for sodium nitrite, ammonium nitrate, ammonium bicarbonate and nitro chalk. Minor changes were also needed to move over to the new ICI standardised costing - mainly the exclusion of local administrative expenses from manufacturing costs. The advent of ICI was also reflected in a decision by the ICI Board to write off some debenture interest which had been held in suspense and part of the debenture issue expenses, therefore reducing the £70,000 credit balance on the profit and loss account to nil, but research expenditure of £59,000 still appeared as an asset.

In the early years, as much as two-thirds of the output of sulphate of ammonia was exported. Capacity was being increased world-wide and when the depression came ICI joined the international cartels aimed at regulating production and sales. Records had to be kept of sales quantities and prices by markets, and financial adjustments made if the actuals departed from the agreed figures, or if various expenses had to be met. These records were kept by a special section in London. The Second World War brought these arrangements to an end, and exports became less and less important until after the war only some 10% was exported.

In the UK ICI early came to an agreement with the by-product producers of ammonia to set up the British Sulphate of Ammonia Federation. This was managed by ICI. The members made their own sales, but the sales were pooled and each member received the pool price.

In 1932, under pressure from the ICI auditors, over £2 million was written off the Billingham assets by credit from ICI reserves, the largest item being £790,000 for the No 2 Ammonia Plant. The capitalised research, now totalling £80,000, was also written off. These sums were only part of the total amount written off during the 1930s as it became more and more clear that the investment of over £22 million in fertilisers was never going to earn anything like a reasonable return. In 1933 the net trading profit on ammonium sulphate was just £218,039.

During the Second World War the division operated four shadow factories: Mossend; Prudhoe; Dowlais; and (jointly with Shell) Heysham. All were bought cheaply after the war, but the only one to survive for any length of time was Heysham, which became wholly ICI owned.

By 1950 the division was producing 15 main products. The costing was very complex. There were primary gas producing plants in series with treatment plants to take out carbon dioxide, neutralise, separate, *etc*, with waste gases appearing at different points and being recycled or receiving further treatment before sale. The waste gases were credited to the processes at estimated realisable values, which might be based on the cost of the cheapest alternative. Fred Turnbull, a former Division Finance Director, was a works accountant at the time and admits that he never fully understood the costings, which were still on an actual rolled through basis. One problem which is common to other chemical plants was that accurate costing depended on accurate measurements, but in the series of plants the hydrogen stream was measured and the nitrogen stream estimated.

The accounting methods in use at this time can be taken as representative of other divisions as well, and would have been largely unchanged since the advent of the Hollerith punched card machines pre-war. It would be tedious to describe in full detail all the paperwork that went into the preparation of the accounts, and a brief outline must suffice. The capital and revenue costs were built up largely from data from the Works offices, Supply Department and the Chief Engineer's Department. These records of labour and materials usages went to the Statistical Services Department for analysis and summarising on the Hollerith machines, and then to Accountancy Department. Sales data came from the Distribution Department, again *via* the Hollerith machines.

The Accountancy Department produced numerous reports for division management and for Head Office. Probably the two most important for management were the Division Chief Accountant's quarterly reports on commercial statistics and on costs and profits. Copies went to the Sales Control Department and the Treasurer respectively, but there were also monthly reports of capital expenditure, and more frequent and detailed information was prepared at the works on such things as materials efficiencies and maintenance costs. A basic tool for all the analysis work was the cost code. This had the form: xx/xxx/xxx, the prefix being used for the type of expenditure, the mainhead for the process or product, and the subhead for details needed by the works. One problem which had to be sorted out in the late 1940s was that the codes differed from works to works. A similar but more severe problem surfaced some years later at Wilton Works, because the Dyestuffs Division's codes used a different format from the other divisions, as well as different numbers.

In due course low pressure integrated ammonia plants came along, and the division changed from using coal (and creosote) to oil. These changes simplified the costing, but the costs were still rolled through so that responsibilities for them were blurred.

In 1958 there came the divisional reorganisation which split Billingham in two. Broadly, the oil cracking operations were transferred into the new company ICI (Heavy Organic Chemicals) Ltd, later a division. It was important that ICI's tax bill should not be unduly inflated as a result of the reorganisation. The internal 'statistical' profits for 1958 were evenly divided at over £6 million each, but legal agreements between the two entities resulted in HOC showing a profit of only £2,000. The two main adjustments were a commission of 10% on HOC products sold by Billingham and a charge of 16% on sales for the supply of technical information.

Then in the mid-1960s came the McKinsey investigation and the fashion for product groups and business areas. These entailed transferring products internally at commercial prices. Turnbull recalls that at first he was opposed to this, but J C Brown (later an ICI Director) maintained 'how can you run a place when nobody knows what profit they are responsible for', and Turnbull had to admit that he was right.

The new system was in place by 1971, with profit and loss accounts for each product group and also for each works. Overhead charges were meant to be negotiated rather than imposed, but this could mean that overheads were piled on overheads: for instance, the accounts department was under pressure to accept an allocation from the personnel department, but the rolled through costs still survived, although now done only once a year.

Also in the 1960s, standard costing was introduced. In fact, its first application was in the Clitheroe catalysts works in 1958, where there were standard batch costs with fixed and variable costs split.

In 1960 Turnbull was given the job of selecting the Division's first computer, which was an IBM 1401 - the first truly commercial computer. There was in the Division at the time an accountant, Martin Simons, whose comment was that 'putting Fred Turnbull in charge of a computer was like putting Genghis Khan in charge of a creche'. Wages were the first application, then costing. The ambivalent attitude in ICI to this strange new machine which threatened to cut across traditional departmental boundaries was illustrated by the way responsibility for it shifted around: first accounts, then personnel, then management services, then back to accounts.

In 1957, the accountants were heavily loaded with work on the revaluation of assets, which bore heavily on the older divisions with their plants dating in some cases to before the merger. They also had to cope with monopoly enquiries into fertilisers and cement and with the Price Commission. In common with other divisions, they found that so long as cases were well prepared, these impositions could be very helpful, customers found it hard to resist 'official' price increases.

A task imposed from within ICI was the preparation of Control Group, later Policy Group, reports. Although the centre made some attempt to keep these short, they were nevertheless voluminous, and even more voluminous were the aides memoire demanded by the Division Directors to avoid being bowled out by a fast one, but they did have the advantage of forcing the division to think about its strategies.

Dyestuffs

It has to be remembered that the Dyestuffs Division was effectively the UK dyestuffs industry. The British Dyestuffs Corporation had been set up after the 1914-18 war with the specific object of competing with the German dyestuffs manufacturers, and ICI inherited this object. The Division manufactured a full range of dyes in seven works and, apart from supplying the home market, exported all over the world (but mainly to the former colonies).

The Dyestuffs costing system was for many years unique in ICI. It derived from the problems of costing thousands of products made in batches in multi-product plants, using numerous intermediates. In these conditions it was a practical impossibilty to calculate the actual cost of any one product period by period.

Apart from the methods of manufacture, the chemistry was also strange to the rest of ICI, which was used to relatively simple reactions. The dyestuffs chemistry was based on complicated organic chemical reactions, and took in the developing manufacture of synthetic pharmaceutical products and, post-war, nylon. For a period after the Second World War production extended to colour photographic materials but, although the products were of good quality, the venture was never a commercial success and, despite an attempt to pull it round by a link up with the old established Ilford Ltd, it was eventually discontinued.

One product did not fit into the usual dyestuffs pattern, namely nylon polymer. Production started during the Second World War on a 300 tons *per annum* plant at Huddersfield. After the war a 5,000 tons *per annum* plant was built at Billingham, and production was successively increased to some 250,000 tons *per annum*. The scale of production and the use of single-product (but multi-stage) plants distinguished nylon from the other products of the division. The nylon story and the problems with British Nylon Spinners Ltd and Courtaulds are recounted elsewhere: eventually it was decided to transfer the polymer production away from Dyestuffs Division.

The solution to the dyestuffs costing problem, adopted in 1922, was a system of standard costing called 'normal' costing. Before the beginning of a year, production programmes were drawn up for each works. The total expenses of the works were budgeted and allocated to products using estimated yields, intermediates being costed into final products at their normal costs. The variations of actual expenditure from budget were recorded as 'works results' and, for purposes of returns to Head Office, allocated to product groups on the basis of the normal costs.

Any kind of standard costing system was practically unheard of before the Second World War, and even in 1949 George Beale, who joined the division then recalls that as a newly qualified accountant he hardly knew what they were. The Dyestuffs system must have been practically unique.

The organisation of production was very largely decentralised to the works, each of which had a strong 'Commercial' Department headed by an accountant. All production expenditure and production-related overheads were charged out to the works, which produced monthly and quarterly accounts showing the total normal costs and the differences of these from the actual costs, *ie* the works results. At the year end the costs were transferred back to Division Headquarters and amalgamated with the sales, selling expenses, research costs, *etc* to produce the Division's accounts. Apart from costing, the Commercial Departments also looked after sections concerned with cash and wages, traffic, packages, stocks and stores, *etc*. Many staff were needed: at Huddersfield in the 1950s, for example, there were some 400 staff (including 32 hardwood coopers making and repairing casks).

The setting of the normal costs each year was a lengthy process, taking up to four months. It started with sales forecasts for each product, which were translated into a production programme which took into account the economic batch size. Material requirements were then calculated using percentages of the theoretical yield based on actual achieved yields. The material usages were evaluated using prices for raw materials fixed by the Division Supply Department and normal costs for intermediates. The end result of this stage was a 'production quota' for each works, which was broken down by the Works' Production Planning Departments into quotas for each product. The Works then prepared the normal direct product costs.

Expense budgets for Works General Charges and Local Administrative Expenses were prepared and allocated to products on the basis of items included in the normal direct costs.

Works costs were prepared for 4/5 weekly periods. Production was evaluated at normal cost, the price and efficiency variances being taken into the works results.

Selling was quite separate from production: finished products went into stock and thereafter came under the control of the Distribution Department. It has been said that if the people at the works knew the selling prices, they would not cut their costs, and if the sales people knew the costs they would go and reduce the selling prices.

There was a link between selling and production in that revisions to the sales requirements were fed back into the Works Production Planning Departments.

As late as 1949, Harrison, the Chief Accountant, found himself having to explain the costing system to Chambers at a conference, and elaborate on the reasons why the Division could not allocate capital employed over products and why, even if they made the necessary effort, the results would be of little value. He explained that the Division's method of control over product profitability was to examine annually the ratios of profits to normal costs.

Although the normal cost system worked well, it had the drawback that it was not based on flexible budgetting. There was some provision for changing a normal cost or for introducing one for a new product, but not for adjusting the normals for changes in volume or pattern of production. Accordingly, in the early 1950s Norman Lawton, then at Huddersfield Works, started experimenting with flexible budgets.

Materials costs for each batch were in general wholly variable, but expenses for services, wages and stores were found to be partly fixed. His method was to graph the actual expenses at varying levels of output, so that the expected cost for any output level could be read off. By taking advantage of occasions when works production was down to 60% of normal, because of severe wintry weather or floods (to which Huddersfield Works seemed to be particularly prone), or when it was up to 115% because of exceptional demand, he was able to establish the actual effects on costs within these limits. Maintenance costs were handled separately, but by the same general method. The form of the reports on works results which were presented to division management is shown in the following table:

Summary of works results

(month) 19___

	Costing Period. .....weeks £
1. <u>Works efficiency</u>	
(a) Materials results	
(b) Expenses results against flexible budget	
(i) Manufacturing	
(ii) Services	
(iii) Ordinary maintenance (excl. overheads)	
(iv) Maintenance overheads	
(v) Works overheads (incl. special maintenance)	
TOTAL WORKS EFFICIENCY VARIANCE	________
2. <u>Volume variance - expenses</u>	
3. <u>Seasonal variance - expenses</u>	
4. <u>Price variance - expenses</u>	
5. <u>Accounting changes</u>	
TOTAL WORKS RESULT AGAINST NORMAL SITE COST ABSORPTION	________
6. <u>Price variance - materials</u>	
Raw materials	
Fuel	
Others	
7. <u>Price adjustments to products</u>	
Revised normal site costs	
Corrected normal site costs	
New and experimental manufactures	
Other manufactures	
TOTAL DIFFERENCE BETWEEN NET VALUE OF PRODUCTION AND ACTUAL COST	________
<u>Actual cost of production</u>	________
<u>Net value of production - works basis</u>	________

Net value of production: Materials
Expenses

The new methods were adopted throughout the division. Sales, however, were still separated from production and, in particular, the volume variances were reported as part of the works results although they may well have originated in changes in sales. The resolution of this had to await the coming of computer systems.

In 1956 a committee was set up to investigate the potential use of a computer for accountancy work. It was headed by Cyril Wilkes, an office machinery specialist, and had members from the Accountancy, Production, Engineering, Statistical and Overseas Sales Departments and Blackley (Manchester) Works. A decision had already been made that there should be a full-time team to make the detailed investigations, and the committee's job was to recommend which areas should be tackled.

The Committee reported on 30 November 1956 that the most urgent task was to produce a system for providing monthly figures of profitability of the overseas trading results by markets and product groups. After that, there should be a more fundamental review of the division's systems, the aims being to speed up the provision of all basic information and the provision of data which were sufficiently flexible to permit the rapid calculation of the effects on cost and capital employed of changes in plan, increased/decreased sales, *etc*. More specifically, it recommended that examinations should be made of the method of providing basic operating data, the possibilty of computerising the calculation of normal costs, the possibility of measuring the effectiveness of capital employed (both fixed and working), and the possibility of providing more detailed maintenance cost data. The payroll was generally one of the first tasks to be put on a computer, but this was not recommended because it was already known that it was feasible, and Nobel Division was already investigating it.

The list of work gave plenty of scope for the full-time team, and a Ferranti Pegasus computer was bought in 1957. Remarkably, the job of devising how to put the normal costs on to the computer was done by one individual, T E Heywood, by ten days of intensive work; he then led a small team which over several months implemented the task. It brought with it savings in labour, speedier and easier revisions and improvements in production planning and reporting, and it opened the way for further advances.

When the payroll was eventually transferred to the computer the calculations were done in Manchester and the output taken to the outlying works by train. This arrangement was not always trouble free. At Huddersfield on one occasion the train forgot to stop, and on another occasion the output missed the train at Manchester because an ICI Director commandeered the car. The impact of the computer, however, on the number of staff was dramatic. At Huddersfield in 1964 there were 24 wages clerks, 10 comptometer operators and 40 cost clerks. By 1967 there were only 4 wages clerks and the comptometer operators had all gone. Admittedly, part of these decreases was due to the fall in the total number of employees on the site - down from 4,000 to some 1,500.

It has been noted that the success of Brunner Mond depended on good engineering rather than clever chemistry. The other ICI operations also relied heavily on their engineers, and even in a division with such complicated chemistry as Dyestuffs this was still true. The industry was and is capital intensive, and it followed that the costing of capital and maintenance expenditures was important.

The dividing line between capital expenditure and maintenance was not always obvious. If a complete unit of plant was taken to be, say, a pressure vessel, then its replacement was capital, but if the unit was taken to be the production plant of which the pressure vessel was a part, then replacement of the vessel was maintenance. In dyestuffs, with its multi-product batch plants, the 'unit' tended to be the vessel rather than the plant. The total capital expenditure therefore appeared to be high, and correspondingly the depreciation charge would be high. This effect was not consciously brought out in management reports.

The importance of correct costing of capital expenditure, particularly during the commissioning of a new plant, was reflected in the detailed instructions issued to the engineers, which ran to nine full pages.

The basic normal cost and other systems and the accounting organisation to run them lasted throughout the period, but there were many changes triggered either by external requirements from Head Office or elsewhere or by the division's own initiatives. There was a continual search for improvement, formalised in the annual Division Costing Conference, where new ideas were thrashed out.

Fibres

The origins of Fibres Division go back to the refusal by Courtaulds Ltd in 1943 to agree to British Nylon Spinners taking up the manufacture of 'Ardil'. ICI thereupon decided to go ahead independently with work on synthetic fibres, and initially Plastics Division was given the responsibility for the spinning and evaluation of them.

The polyester 'Terylene' had been invented by the Calico Printers Association in 1941. Initial development was slow, and it was not until 1947 that the agreement was signed under which ICI was granted an exclusive world-wide licence (excluding the US).

Development work then started in Plastics and Dyestuffs Divisions - Dyestuffs was to make the polymer. Pioneer plants were set up at Hillhouse and Huddersfield Works.

It was realised early on that much work would be needed in developing the market in conjunction with the textile manufacturers, and for this purpose a specialised sales force must be created. On the production side, ICI had to learn how to make satisfactory fibres, which involved quite different processes from their usual ones. The Plastics organisation grew into separate Fibres Commercial and Development Departments.

Then in 1951 the first large scale manufacturing plant was authorised. The expenditure proposal was submitted jointly by Billingham Division, who would make the starting materials, para-xylene and ethylene glycol, Dyestuffs Division and Plastics Division. In order to press on with erecting and starting up the plant as quickly as possible and to organise the development and market appraisal work the 'Terylene' Council was formed on 8 March 1951.

The Council had an equivalent status to a Division. It was given financial responsibilty for the new plant, and it was charged with progressing the whole 'Terylene' effort through the Dyestuffs and Plastics Divisions, who would act as its contractors.

A Secretary and a Chief Accountant, A A (Bert) Swinbank, was appointed in 1952, together with three additional members of the

Council, including J R Whinfield, the co-inventor of 'Terylene'. The Council's headquarters were initially located at Welwyn, but in 1953 it acquired its own site in Harrogate. Extensions to the new plant were authorised, various new appointments were made, overseas licence agreements were entered into and separate financial accounts were prepared. The new organisation was growing up, but it was not until 1956 that it achieved the official status of Fibres Division.

The new division took on responsibility for 'Ardil' from Nobel Division. Work on this product had started before the Second World War, but there were endless problems and it was abandoned in 1957.

The 'Terylene' business went on growing, and then in 1964 ICI acquired Courtauld's 50% of British Nylon Spinners and in 1965 the division took nylon under its wing. The BNS management had until then been in the happy position of running a highly profitable 50/50 company. There was a locked private ledger and a private cash book which contained the details of the financing by the partners and the directors' expenses, which were not meagre.

In 1971 the fibres intermediate plants were transferred to Heavy Organic Chemicals Division, and Fibres took the polymer plants from Dyestuffs.

The division made good profits until the 1970s, but then the UK textile trade went through a bad time and there were pressures on prices. ICI tried to assist the textile industry by acquiring textile companies (Intex Yarns) but this turned out to be a disaster, and it was eventually sold. ICI also acquired a major interest in Carrington Viyella which was Fibres biggest customer, but because of Government worries about monopolies that company was kept at arm's length from the division.

The accounts are now considered. Until the end of 1951 the total expenditure was regarded as research and development and was written off in the accounts of the Dyestuffs and Plastics Divisions as either special expenditure or works overheads. In 1952 a trading account was set up for filament yarn - sales of staple fibre were still negligible - but the net total expenditure was again charged to 'special expenditure' by the two divisions.

In 1953 the 'Terylene' Council started to take over the accounting, but this process was not completed until the end of 1954. One reason for the delay was the difference between the Dyestuffs and Plastics systems. It was the Plastics system which was adopted. Product trading accounts were prepared in 1953 for both filament yarn and staple fibre, but the net loss was charged off as special expenditure together with expenses not included in the trading accounts, a total of £800,000.

At the end of 1954 the new 5,000 ton/year plant was started up and the financial accounting followed the normal ICI lines, except that there were still substantial charges against special expenditure for research, *etc* not regarded as being applicable to current trading.

To start with, the costing was modelled on the plastics systems, but the costing of the polymer still used the dyestuffs system. Then in 1965 nylon came in and with it came the British Nylon Spinners systems. So the division had three different systems, added to which the product costs were compiled in the Technical Department up to 1965, and they were not integrated into the product trading accounts, which did not distinguish between grades.

The Fibres system was inherited from traditional 'chemical-type' costing, with fixed expenses and overheads allocated to products wherever possible. This was acceptable at first because only staple fibre and one grade of filament yarn were produced.

By contrast, BNS had a big range of deniers - from stockings to tyre cord. Until 1965 they had been capacity limited, so the incentive was to maximise profits by maximising the output and margin from each machine. Overheads were not allocated back to products. From the late 1950s standard costing was adopted, the standards being targets based on work study. There were always large variances, and when bad times came in the mid-1970s more realistic standards were used. Because of the orientation towards production, the accounting was on a four-week basis rather than calendar months and everything was measured in weekly terms.

The BNS systems were seen to fit the fibres situation best, and they were adopted (aided by a strong influx of accountants from BNS). When ICI started using the operating margin for management reporting, operating margins per machine were instituted, and used as an aid in production planning.

With the raw materials coming from other divisions the question of inter-merger pricing was bound to crop up. Indeed, there were lengthy negotiations between ICI and Courtaulds when BNS was still a joint company. It had been agreed that Dyestuffs would be paid cost plus a fixed return on capital. With inflation, the return on capital began to look small and ICI was not willing to put in extensions without some increase.

The purchases by Fibres from other divisions did not cause so much friction, but when the bad times came in the early 1970s a loss sharing arrangement was made with Heavy Organic Chemicals, the total loss being shared in proportion to capital.

Until just at the end of the period, Fibres was primarily concerned with the UK. Overseas companies were set up in Australia, Canada, South Africa and the US but Fibres was only involved in giving them technical support. Continental Europe was an exception. BNS had set up selling companies and also a factory at Oestringen in West Germany. Then in 1975 pan-European management accounts were prepared. Separate UK sterling and European Deutschmark accounts were done first and then they were merged, but there were problems with fluctuating exchange rates and with differences in the accounting systems. For instance, UK exports were converted at forward booking rates whereas European sales were converted at spot rates. These problems were still there when our history closes.

Leathercloth

The Leathercloth Division was an offshoot of Nobel's interest in the motor industry and in outlets for nitrocellulose. It originated from the amalgamation of three producers under the wing of Nobel, production being eventually concentrated at Hyde in Cheshire.

By the late 1950s it was still small, so much so that it was considered to be too small to exist as a separate division, and it became ICI (Hyde)

Ltd, responding to Paints Division. It was ultimately to leave ICI altogether.

The interest in the division lies with standard costing. Until the 1960s the system was still basically the Nobel one, of actual costs. Then there was a discussion about standard costing at a Division Chief Accountants' conference and Kerr, the Division Chief Accountant, volunteered to be the guinea pig to experiment with a system.

At that time the division's historical costing system was quite inadequate to serve the purposes of management. The quarterly costs were not produced until some 10-13 weeks after the quarter end, and were based on poor capital records, a shortage of instrumentation and an absence of records of stocks in process. Production was treated as finished before it had gone through the embossing and finishing stages.

To remedy these defects there was a need for additional staff and some expenditure of money. The necessary enthusiasm of senior management was lacking, time went by, and eventually other divisions went ahead independently.

Mond

The Mond Division was born in 1964 by the amalgamation of Alkali Division (ex Brunner Mond) and General Chemicals Division (ex United Alkali). The new name was a revival: Brunner Mond had become ICI (Alkali) in 1931. Alkali had already absorbed the Lime and Salt Divisions. In spite of being apparently the final triumph of Brunner Mond, in fact it was mainly the General Chemicals directors who composed the new Board (when the Alkali representation had been whittled down to one, he is said to have remarked that he was 'the last green bottle').

Alkali had continued since the merger to concentrate on the making of soda ash and related products. Pre-war, it was part of the world-wide Solvay grouping which shared out markets and also shared technical information, which was kept highly secret. The division made an excursion into plastics when polythene was discovered in its laboratories just before the war, and it fought a long rearguard action to keep it but eventually it went to Plastics Division.

Brunner Mond had bought into the Castner-Kellner Alkali Company, making electrolytic chlorine and caustic soda, but this went to United Alkali after the merger. With the demise of the Leblanc process, General Chemicals majored on electrolytic chlorine and chlorinated products, for which there were expanding markets, especially for monomers such as vinyl chloride and methyl methacrylate and cleaning agents such as trichoroethylene. They were also involved with crop protection chemicals - to the extent that for a time after the Second World War Plant Protection responded to General Chemicals.

The ambience of the two divisions also differed. Whereas General Chemicals had grown up poor, Alkali still had traces of the old Brunner Mond 'gentlemen's club' atmosphere epitomised by the Winnington Hall Club. The writer still has the silver serviette ring with his name on it which he was given in 1964, and it is recalled that even after the Second World War one still dressed for dinner. It also helped a young accountant if he was a cricketer, because David Drummond, who was Chief Accountant for many years, was determined to win the inter-departmental cup.

The accounting systems of the two divisions were diametrically opposed. Alkali had continued the centralised Brunner Mond system of detailed actual costs which were kept closely guarded. The costing section had a large 'Private' notice on its door, and the division's profits were for many years known only to the Chairman and the Chief Accountant, apart from a brief glimpse by the other Directors at Board meetings. This secretive attitude was reinforced by the existence of the Solvay agreement.

By contrast, the General Chemicals system showed traces of the origin of United Alkali from the mergers which took place before ICI was formed. The accounting was largely decentralised to the works, which produced their own profit and loss accounts, so that the production of the division accounts was, in part at least, a consolidation exercise. Even so, information about product profits was jealously guarded. It was not until 1959 that the Technical Department was allowed free access to it.

One other difference was to cause much debate among the engineers and accountants, and had to be resolved at Division Director level. In General Chemicals all purchases of materials for construction were immediately charged to specific jobs, but in Alkali there were large holdings of unallocated construction stocks. In the end the General Chemicals system was preferred.

In both divisions the costs were prepared on a rolled up actual basis. In 1964, however, there came the McKinsey study and the advent of product group organisations. Products were henceforward transferred between groups at commercial prices. This did not give rise to too many difficulties, except in the case of power, which was generated and used in large quantities by General Chemicals. Complicated calculations had to be devised to simulate the terms on which power was bought from the National Grid, allowance being made for co-produced steam. In Alkali it was process steam which was the main product, with power as a by-product, so that the basis of the pricing was steam from so-called package boilers.

With the merger of the divisions it was decided to embark on a completely new costing system which would be centralised on the IBM 1401 computer. This took many months to design with the almost full-time efforts of Edmund Allen, one of the Assistant Chief Accountants (later an ICI Assistant Treasurer), in co-operation with the Management Services Department, but it was eventually successfully implemented. It allowed for the internal commercial price transfers, but could also produce both 'rolled up' costs, *ie* with the costs of intermediates not analysed but shown as one figure, and 'unrolled' costs - it was accordingly referred to as the division cost model.

An early change in the costing principles of Mond concerned electrolytic chlorine and caustic soda. General Chemicals had since 1928 costed these by equating the cost of caustic soda with caustic from the ammonia soda process, with the balance of the cell room cost going to chlorine. In 1939, however, some drawbacks were pointed out, in particular that the cost of chlorine varied according to the cost of ammonia soda caustic. This created difficulties with Government contracts, which contained cost clauses. The system was therefore changed to a 'mixed ton' basis, ie the costs of the two co-products were split in proportion to the tonnages. By 1964 chlorine had become the dominant product and it was decided to treat caustic as a by-product, credited to the process at its sales value. The co-produced hydrogen was always treated as a by-product, normally credited at its value for fuel - although there were arguments in the North-East, where some was used as a process material.

These costing conventions, and others such as hydrochloric acid which cropped up in various processes and salt which came from the electrolytic diaphragm cells, both credited as by-products, were essential for the ongoing cost reports. They were merely conventions: a different convention could change the apparent economics of downstream processes. By-product hydrogen was in a similar category. In 1941 it was noted that the Castner-Kellner and Pilkington Sullivan profits were affected by the standard value put on hydrogen, which had been determined many years ago and was far below the present day value. Its real value was either the cost from an alternative method or the value of a product which contained it, after allowing for the values of other materials. For the writing of expenditure proposals the real economics had to be considered. Also, their impact on possible monopoly enquiries had to be borne in mind.

IBM was not the first computer to be considered in the division. General Chemicals was slow off the mark, but Alkali already had a small Hec 4 computer and had looked at an Emidec acquired by Plastics (reputedly because EMI used a lot of plastics). Only the central processor was made by EMI: the two Powers Samas printers had activated needles - according to Peter Kennington of Alkali it was like attaching a quill pen to a computer. The acquisition of the IBM 1401 followed from a detailed investigation in 1961 by a small team led by Kennington, which recommended computerising many of the basic distribution, supply, payroll and costing procedures.

Payroll procedures have not been examined to any extent, but the Alkali investigation threw into relief a problem which arose every time someone suggested using a common procedure for two or more separate works. It would be discovered that, even if the rules were meant to be identical, various local Spanish customs had grown up. To get rid of them was a serious undertaking, involving risks of disgruntlement and even strikes. For instance, as between Alkali and Salt a note identified eleven differences ranging from differences in the hours recorded for each shift of men on continuous shift working and in the handling of holiday pay, to the way people paid for their ICI Magazines.

One of the objects of the formation of Mond was to save overheads. In the accounts departments the impact was dramatic: staff numbers came down from 460 to 180 over just a few years. Many retired early, and the younger ones found other jobs. Remarkably, it is thought that only one person could not find employment. Undoubtedly, ICI's generous redundancy terms helped a lot, but much of the credit for the success of the operation must go to Arthur Fryer, the Deputy Chief Accountant.

Fryer had started from school with the Salt Union in 1926 and come into ICI when the Union was taken over in 1928 (because ICI was afraid that the Salt Union would start making soda ash). He was to retire as an ICI Assistant Treasurer.

After 1976 the merging process continued with the formation of ICI Chemicals and Polymers, bringing together Mond, Agricultural, Petrochemicals (formerly Heavy Organic Chemicals), Plastics and Fibres.

Nobel

Nobel was one of the two strong companies in the ICI merger, and before the Second World War its business continued to flourish with the help of international agreements which gave it a practical monopoly of explosives in the British Empire.

Then came the intensive war effort at Ardeer and at a number of Government Agency factories - at the peak 12,500 people were employed at Ardeer alone.

After the Second World War the pre-war pattern was partially re-established: in the 1950s Nobel was supplying most of the requirements of India and South Africa, but local manufacture steadily grew and the more recent history has been one of decline. Even in 1952 Nobel's proportion of the total ICI capital employed in the UK had fallen to 9% from 23% at the time of the merger, and the trend did not reverse.

Elsewhere it has been seen that much of the original ICI financial accounting system was derived from Nobel. Similarly, the costing systems of Paints and Leathercloth Divisions started with Nobel. The philosophy was very exact detailed actual costs: costs were calculated to four decimal places of a penny by an army of people, including 14 people who did nothing but sort cost cards into 'syllabus order number' (*ie* cost codes), with two comptometer operators to add them up. Detailed trading accounts were produced for each product and each grade. So far as possible costs were allocated direct to products, and if this was not possible then to the process, then department, then factory. Overheads were for many years allocated on the basis of wages, changed in the 1950s to 80/20 wages and capital (Nobel was slow to become capital intensive because of the nature of the product, but starting in the 1950s much effort was put into mechanisation as a safety measure: the safety record was always good, but there was a danger of being priced out of the market because of lower standards abroad).

Eventually there came to be less emphasis on minutely detailed actual costs and more on the variances of actual from budget, although in the period the division did not move over to standard costing. One reason for the move away from the detailed calculations was the shortage of staff and calculating machines during the war. At one stage there was only one calculating machine and, for example, to avoid having to dip tanks to calculate the acid issued to the next process, tables were produced to convert the calibrations on the tanks.

The division had the usual equipment of accounting and Hollerith machines and in 1953 they acquired an Elliott computer, which was first used to calculate wages. In due course an IBM 1401 was bought and used for other systems.

The cost reports were prepared at the factories in accordance with instructions from the division headquarters, and sent in to the accounts department. The factories did not know the profits - in common with other parts of ICI, until the mid 1950s the only people other than the

Chief Accountant who saw the full division picture were the Chairman and the two Deputy Chairmen.

The accounting for the war-time Government Agency factories was straightforward because it was simply a matter of recording the cash expenditure and reclaiming it from the Government. Claiming against contracts for manufacture in the division's own factories was a different matter. There, the price depended on the costs and there were countrywide comparisons of the costs of different manufacturers. In practice, it turned out that Nobel's costs were the lowest and the Royal Ordnance Factories' the highest.

The decision in the early 1970s to split the division and transfer the chemical side to Organics caused problems: for chemicals, the Nobel system had to be changed to the Organics normal cost system. This was done in a six month period, and the two systems were run side by side: Eddy Innes, a former Division Chief Accountant and Managing Director, made the point that accounting systems are a mechanism for people to understand what the figures mean. You can have as many systems as you like as long as the management understand the reports, but like must be compared with like. In a widespread group the important thing is to pick a few basic things like cash and profits and monitor on these. To have too detailed common systems is to make things too rigid, it is not easy or quick to change a large computer system.

Paints

The Paints Division originated, as did so much else in ICI, with Nobel. In 1925 Nobel Chemical Finishes was set up to exploit du Pont's 'Duco' nitrocellulose finishes in the UK and the Commonwealth. It was initially a joint company, 51% owned by Nobel and 49% by du Pont. (Perhaps the only survival of this collaboration is the name 'Dulux' for ICI's paints).

The original works were at Stowmarket, but it quickly became apparent that a manufacturer of suitable undercoats was needed and Naylor Brothers was acquired. Its works were at Slough, and were to be the division's headquarters.

Naylor Brothers was losing money when it was bought, partly because it had no reliable records of costs. This was gradually put right, and Nobel Chemical Finishes was one of the few places in ICI in the 1930s where costing information was widely disseminated. It was also unique in having its Chief Accountant, Douglas Gordon, appointed as its sales manager (he was later to become Managing Director of Lime Division).

The company came fully under the ICI umbrella in 1936 when du Pont was bought out - by this time it was growing rapidly and becoming more closely linked with the rest of ICI.

During the Second World War the division was wholly devoted to Government contracts for such things as camouflage paints, but afterwards it began to penetrate the retail decorative paint trade, with such success that in the 1950s it was summoned to Millbank to justify its 'excessive' return of 20% on capital. ICI was not used to this kind of highly competitive retail business.

Until the 1950s the division's attention was mainly concentrated on the UK. There were then some minor developments in France, Ireland, India and Malaya and in the 1960s some negotiations in Continental Europe which did not come to much. It was only towards the end of the period that there was the significant acquisition of Wiederhold in Germany. There were large ICI paint interests elsewhere, but they were managed independently of the division. In the UK the Leathercloth Division became part of Paints, as ICI (Hyde), and excursions were made into, among other things, wallcoverings and merchant businesses.

When ICI entered the paints field, and for many years afterwards, paint making was more of an art than a science - it is said that the first major plant recognisable as a modern chemical plant was the alkyd resin plant at Slough sanctioned in 1954. In such conditions accurate measurements of usages and efficiencies at the various stages do not exist, and it becomes impossible to produce accurate costs. Cost information for management was produced, but it took time to achieve the required accuracy.

The ready availability of cost data to division management was not carried through into profit data. As in other divisions, only the Chairman and Managing Directors saw the quarterly accounts before the board meetings, the other directors had to make do with a quick sight of them at the meetings.

Paints was ahead of some other divisions in starting to change things after the Second World War and especially after Dudley Shrimpton joined the division from Alkali in the late 1940s. He was appointed Chief Accountant in 1949, having first voluntarily spent some time in the works as a labourer. He made the revolutionary announcement that the primary responsibility of the Accounts Department was to help the division managers to manage. Profit figures were for the first time revealed to assistant departmental managers and research group heads.

Paints was one of the first divisions to acquire a computer, when in 1956 they purchased a Leo. Initially it was used for distribution, supply, costing and sales statistics. Management information was given a higher priority than the routine applications in invoicing, accounting and payroll, even though the financial case must have been less clear cut. The emphasis on management information was carried through in the 1960s into applications concerned with sales forecasting: stock control and production planning.

In 1950 the division was planning a standard costing system, and a lengthy report was produced by a Standard Costing Committee. The system centred round the costing of batches, using standards for raw materials, for intermediates and services and for production costs. Fixed expenses were allocated to batches on the basis of standard times for processing. Intermediates and services were charged to batches at prices which included their allocations of fixed costs, if a marginal cost was required for purposes of sales cost estimating, this was calculated specially.

The 1950 report provided for cost sheets to be prepared for each batch, and in 1957 more emphasis was put on this in proposals for batch costing and product accounting on the computer.

By 1966 a computerised operating margin analysis system had been developed so that, for example, it was possible to demonstrate that the large number of small customers in the industrial market, buying even larger numbers of products in small quantities, could never be profitable to ICI.

In 1969-70 a comprehensive review of the costing system was carried out by a team headed by David Arthur at the request of the then Division Finance Director, J M Hollingsworth. By that time ICI had adopted the 'operating margin', *ie* the profit before charging overheads, as the basis for reporting product profits, and the team recommended that the Business Area trading accounts should show the operating margin and also the net margin after deducting directly allocated overheads. Information for price fixing should also be based on the operating margin.

The team recorded that the main purposes of the costing and management information system were:

1. Budgetary control of departmental costs.
2. Budgetary control of business area profits.
3. Cost and profitability information as a basis for decisions.

On this occasion discussions took place with Dyestuffs Division, but the differences in the production processes prevented the adoption of Dyestuffs systems. The system which was proposed was an evolution rather than a revolution. It would centre round the actual (not standard) costs of each batch, which would be stored in a data bank. From this, the routine product and works costs would be produced, and it would also provide the data needed for *ad hoc* enquiries. Standard raw material prices were abandoned because it had been found that they tended to be stable for a period and then suddenly break, it was essential to work on the current prices. A new feature would be an index of fixed capital utilisation. Paints is less capital intensive than other divisions (60% of the total cost is materials), but even so it is obviously important to make the best possible use of the plants.

At the time, the calculations of quarterly cost of sales figures were still being done manually and took about 20 working days - a severe bottleneck. They would be computerised. Details of trading results by product, customer, market *etc* would as a result become available. In due course it would be possible to integrate with the distribution stocks system, which had not been designed for and was not suitable for accounting purposes. There were other manual systems which had survived through the years - for instance, freight was allocated to products by adding together the volume and value 'because it looked about right'.

The recommendations were implemented over a period. Together with the appointment of business area accountants, they completed the change of the Accounts Department from seeing itself as an arm of Treasurer's Department to being fully involved in helping to manage the business.

Petrochemicals

The Petrochemicals Division was the successor of the Heavy Organic Chemicals Division which came into existence in 1957, originally as a separate company. It was formed mainly by the splitting off from Billingham Division of the Oil Works and Olefine Works, so it initially inherited the Billingham costing systems. It also took over responsibility for the Wilton site.

Apart from dyes which was always regarded as something strange it has been seen that the traditional chemical plant was built to produce one specific product. It might have some by-products, but these were subsidiary to the main product and their value was credited to the cost of the main product.

The same method was adopted when the first oil cracking plant came into production at Wilton in 1951. It was conceived as essentially an ethylene plant (for polythene) and the by-products were credited to the cost of ethylene, but four or five tons of feedstock were needed for each ton of ethylene, and the by-products gradually became more important.

A possible alternative might be to attempt to cost the co-products separately, but either way there were problems, and in 1959 Fred Hillebrandt, then an Assistant Accountant (later to become ICI Finance Director) put up proposals for abandoning the attempt and, instead, treating the process as the profit centre. His proposals had particular reference to the olefine works, where petrol was treated as a by-product and credit given to ethylene for its sales value. Similarly, propylene was credited at an arbitrary price.

His proposals were rejected, but by 1960, when the gross replacement cost of the three plants then operating had reached £31 million, Menzies and C Paine found it necessary to address a note to the Board on the subject of costing the olefine complex. Their note summarised the destinations of the products as follows:

Gas	Quantity tons *pa*	Destination
Ethylene	113,000	Polythene(Plastics Division); Ethylene Oxide & Glycol (HOC)
Propylene	72,400	Isopropanol & Acetone (HOC); Butanol; Propylene & Glycol (HOC); Polypropylene (Plastics)
Petrol	146,600	Petrol blending (HOC)
Butylene	34,000	Butadiene (HOC) & other plants for fuel
Tail gas	46,600	Methane Steam plant (Billingham) Hydrocyanic Acid (General Chemicals)

They pointed out that hitherto the cost of producing ethylene had been the full cost of operating the plants, less the value attributed to the by-products. Furthermore, the whole capital had been attributed to ethylene.

The commercial situation had now changed. The by-product streams had become more valuable to the extent that markets had developed for most of them, so that commercial values could be assigned to them.

It was no longer adequate to regard the olefine plants as producers of ethylene, with the other gases treated as by-products. There were problems, however, in allocating the costs and capital according to some convention based on value, volume, weight or other characteristics: 'the significant features are, firstly, that the olefine complex is an indivisible entity and, secondly, that we are interested mainly in the values of the products for use as chemical raw materials within ICI'.

The best solution was to treat the olefine complex as one cost entity and to make no allocation of operating costs or of capital employed. Apart from such processes which required little further revenue cost or capital to make saleable products (*eg* petrol blending), the costing of the derived products would be based on the commercial values of their raw materials:

> *This procedure would cut across our established ICI practices under which all costs of operation and all sums of capital employed are rolled forward for inclusion in the final product offered for sale by a division. There is, however, adequate justification for adding this complication to our costing structure.* (P T Menzies and C Paine to ICI Board, 14 December 1960)

This decision opened the way for the transfer of products within a division at commercial prices.

In course of time the division developed sophisticated systems for identifying the most profitable mix of products and, with the help of computer controls, adjusting the operations accordingly.

The division was the source of raw materials for other divisions, notably Plastics and Fibres, so it inevitably became involved in inter-merger pricing problems. There is a significant note in Hillebrandt's paper that the value of products depends on relative bargaining power, but full information must be passed to the other divisions. There were intractable arguments between divisions about transfer prices, and in some sense the divisional structure split into separate pieces what was really one manufacturing operation: after the period this was remedied by the formation of ICI Chemicals and Polymers, which brought it all together again.

Pharmaceuticals

The manufacture of pharmaceuticals originated in the Dyestuffs Division in a small way pre-war and developed during the Second World War, principally with penicillin and mepacrine. A separate company, Imperial Chemicals (Pharmaceuticals) was set up in 1942 but this was merely a selling company and it was still under the control of the division.

It was not until the 1950s that Pharmaceuticals became independent, with full control of its marketing and research but still dependent on Dyestuffs for manufacturing the bulk drugs. The products were transferred from Dyestuffs at their normal cost and the capital employed was transferred with them, variances were transferred quarterly. The division established its headquarters at Alderley Park in Cheshire and later developed its own manufacturing facilities at Macclesfield and at Avlon Works, Severnside.

The two most important activities of the division were research and marketing.

In the UK, the price negotiations with the Ministry of Health were of major importance. The division's achieved profits in selling to the National Health Service had to be presented in accordance with the Government accounting conventions, for example, current tax liabilities were deducted from capital employed even though cash was needed to pay them.

Overseas, negotiations with the authorities were again important. From the beginning, the export trade was needed to provide the basis for large expenditures on research - the UK represents only about 3% of the world pharmaceutical market. Overseas companies were acquired or set up for local packing and distribution activities. They were separated from the main ICI local subsidiaries because their markets were unrelated to the other businesses. A system of reporting the results to the UK led to Pharmaceuticals using international profit data long before the ICI Board delegated full international business responsibility to the divisions.

Because marketing was so important, the division focused more attention on the cost of selling than did other divisions: for instance, advertising was allocated direct to the selling costs of the products and the representatives' salaries were costed on a time basis. After 1970 no attempt was made to calculate product net profits and relate them to capital - the figure used for management control was the gross margin less fixed and variable selling expenses.

It is impossible to control research expenditure by conventional accounting methods. The cost of each project can be ascertained, but it is a matter of management judgment to decide which projects should go ahead and which should be stopped. The division initially had a system of making allocations of costs based on spot checks on projects twice a year, but in time far more sophisticated analyses came to be performed routinely.

Plant protection

Plant Protection Division's early history was bedevilled by 'political' arguments both within and outside ICI and by the war. Pesticides were being developed by Dyestuffs before the war, but ICI had an established competitor in the field in the shape of Cooper McDougall and Robertson (CMR). In typical pre-war fashion, the two got together in 1937 and set up a joint company, Plant Protection Ltd, to sell the products. Dyestuffs took over CMR's factory at Yalding.

ICI developed both 'Gammexane', a pesticide, and 'Methoxone', a weedkiller, during the Second World War, and for the duration production was allocated by the Government and the commercial marketing of both was prevented. In addition, 'Gammexane' was a joint General Chemicals and Jealott's Hill discovery. Jealott's Hill came under Central Agricultural Control, and its possible non-agricultural uses were ignored. Consequently, Geigy stole an unassailable lead with DDT. 'Methoxone' was another General Chemicals/Jealotts Hill development, but by the time it came on the scene a Pest Control Panel had been set up to co-ordinate development. However, the Second World War delayed its marketing in the important US market, which was lost to competitors.

Despite these problems Plant Protection made useful profits during and after the war. ICI, however, was becoming increasingly dissatisfied with the CMR arrangement. An attempt to get rid of it in 1948 was abortive, but in 1953 CMR was unwilling to put in the capital required for expansion and its interest was stabilised by converting its equity into preference shares. Finally in 1958 ICI bought out CMR's interest.

Plant Protection was initially too small to become a Division, and it was put under the wing of Dyestuffs to start with, then General Chemicals in 1958, then Agricultural in 1963 until finally it achieved Division status in 1975. It took over Jealotts Hill in 1961, but it did not take over the manufacturing plants until after the end of the period.

Throughout the years that it was just a selling and research organisation, the cost accounting consisted of departmental budgets and research project costing. The Yalding factory inherited the Dyestuffs normal costing system, which was far too complicated for a small and simple manufacturing activity.

A lot of time was wasted on inter-merger transfer prices. Plant Protection was not given full information on the costs of production, and was too small to be able to demand it. When General Chemicals was in control reasonably full information on paraquat costs was passed on, but it is recalled that as soon as control was passed to Agricultural the portcullis came down.

Until the mid-1950s most sales were in the UK (through their own sales offices until the end of the 1960s), but then overseas sales outgrew the UK. The problem then was that the sales went through ICI overseas subsidiaries and Plant Protection did not know the final selling price. At one time paraquat was being sold more cheaply in Belgium than in the UK.

In France and Italy, joint companies were set up with Solvays (respectively SOPRA and Solplant) and a further joint company was set up in Spain (Zeltia Agraria). For some time these companies ran independently. SOPRA put up a whole factory without an expenditure proposal, and in Portugal it is alleged that there were three sets of books, but the outside interests were bought out in about 1970, and matters were regularised. By the mid 1970s world-wide accounting reports were being developed.

Accounting machines were at first non-existent: the handwritten Yalding wages book for 1932-35 still exists - weekly wages for the office staff ranged from £4.12.8d to 10 shillings. Then there was the usual progression through adding machines, ledger accounting machines and punched cards. Computers came on the scene in 1966, used first for sales statistics and the sales ledger. Salaries and wages were done at Billingham. It is recalled that for a time the computer seemed to be changed every year in November, causing the maximum disturbance to the annual accounts programme. Then in about 1970 a mainframe computer was shared with Pharmaceuticals in Cheshire, linked by a landline which had its problems, and finally with the advent of the IBM 360 series and minicomputers the division went on its own.

Plastics

The Plastics Division originated with the acquisition of Croydon Mouldrite in 1933 (although it was only in 1936 that it became wholly owned). Until then, ICI's interests in plastics had been spread between Dyestuffs, Explosives, Billingham and General Chemicals. These activities were gradually centralised round the Mouldrite core, but such things as the discovery and development of polythene by Alkali Division made this process very slow, and it was not completed until after the Second World War.

During the war the whole effort was concentrated on making plastics for war-time uses - especially 'Perspex' and polythene. New plants were set up at Wilton, Billingham, Hillhouse and Darwen and the headquarters was established at Welwyn Garden City on a site originally bought by Mouldrite.

After the Second World War growth was rapid. The two main problems were how to make enough product to meet the demand, and how to decide which products were going to be the stars of the future.

Don Hindson joined the division in 1955, and he recalls that the accounting systems then were suited to a single site organisation, with the basic cost data, the actual pieces of paper, being sent in to Welwyn from the factories and processed centrally.

As elsewhere in ICI, the accountants had little contact with the business managers. Almost the only contact was in the Technical Costs section which worked with the Technical Department in preparing expenditure proposals, of which there were many.

By 1957 it had been decided to decentralise the costing to works accounting units, who then provided the centre with all the cost information down to the cost of materials sold. The sales information was initially kept at Welwyn, but in due course this too was decentralised, with particular factories being made the lead units for particular products.

In the 1950s the problem for the sales people was how to allocate the limited supplies. In that situation they were not greatly interested in the differential costs of different grades, but as competition mounted these became more important. Alan Gawler, the Chief Accountant, appreciated the need. With costing decentralised, the accountants could get alongside the plant managers and foremen, *ie* the people who really knew what happened. The recipes for different grades used by the production planners were modified to take account of the actual costs, and a system of equalised cost and profit recovery was built up, using variable costs plus an overhead and profit recovery element which was weighted according to the production capacity of the units. The profit element was weighted in proportion to the capital costs.

An example of the use of this system occurred in pvc compounds: with competition growing, it was decided to introduce discounts for long runs and to penalise short runs and different colours. The effect was dramatic - the division took all the big business and the competitors were left with the small stuff. They had no option but to copy ICI's pricing, even though it might not match their own differential costs.

It will be noticed that this system was very similar to that of British Nylon Spinners, but it was developed quite independently.

The division also developed standard costing independently, starting with Hillhouse in 1961. Then in 1964, under the influence of the McKinsey investigation, the product group management structure was introduced and the accountants moved right into the management teams.

The division went early into the use of computers - Hindson's first task was to study their use. With the continual technical progress in computing and communications it eventually became feasible, by about 1969, to bring the accounting back from the works with all the necessary details about grades, *etc*, readily available for the commercial people, right down to profitability by customer.

Although Plastics had their own plants to produce the final product, they were dependent on other divisions for their raw materials. Inevitably, they became involved in arguments about inter-merger prices. Much time and effort were wasted on these, and the accountants had to take part even though they were really about internal politics rather than accounting.

Conclusions

This chapter shows clearly how the different origins of the divisions influenced for many years their philosophies, organisations and accounting. When two activities were merged, as for example Alkali and General Chemicals into Mond or British Nylon Spinners into Fibres, then it became essential to unify their procedures and the better procedures usually prevailed.

As long as divisions had separate managements they could go on acting separately even though they all belonged to ICI. There was a strong corporate loyalty, people were proud of working for 'the ICI', but also a strong localised pride.

Chapter Eleven

Capital Expenditure

In chapter six we discussed the measurement of asset values, including the impact of inflation. We turn now to the systems for budgetting and approving expenditure on new plants and buildings.

Expenditure proposals (Forms A)

The chemical industry has always been capital intensive. In 1976 ICI's assets employed per employee were £18,000, and the cost of a single plant can run into tens of millions of pounds. Careful control of capital expenditure is therefore necessary for three reasons: to try to ensure that the right projects are selected; to keep the total programme within bounds; and to supervise the actual cash spending when a project has been authorised.

Central control of capital expenditure was instituted in the early days – the Treasurer's Department Report for 1927 has this to say:

> *Early in 1927 it became necessary to prepare as rapidly as possible a Budget of the Capital Expenditure of all the Subsidiary Companies together with an estimate of the amount likely to be spent on Special Maintenance for the year 1927. No special forms were in use when this information was required, with the result that although the companies sent in the information requested largely on the lines indicated, there was considerable difference in the forms used. As in other cases it became apparent that in order to satisfy questions both on the financial and technical side, it would be necessary to have some running record in London on standard lines of the progress of the various schemes of Capital Expenditure throughout the country.*
>
> *As soon as the Budget for the year had been considered steps were taken to prepare suitable forms to be used in connection with the 1928*

Budget, and also to be used in recording from period to period the actual expenditure which took place.

With the idea of insuring, as far as possible, that no unauthorised expenditure should be started, the first form to be used, form 'A', took the form of a request for permission to commence the given project. Full details are to be entered on the form, which has to be signed by various responsible officials and finally approved by the Executive Committee. Furthermore, space is provided on the form on which is entered period by period the actual expenditure, which can be compared very readily with the estimated progress of the job, which has to be submitted on the same form. Full instructions were sent out with these forms to all the companies concerned, and although it has been found from time to time that certain information has been omitted, the system on the whole can be regarded as very satisfatory, and the results for the year 1928 should be very well recorded.

The result of the above organisation is that information is available in London at a moment's notice with regard to any extension of works, and from these records it is possible to forecast the cash requirements for the erection of new works and the extension of old works over 18 months. Direct control can be kept on all capital expenditure, and any spending in excess of the original estimate is automatically reported to Head Office within three weeks of the end of each four-weekly period.

In accordance with the policy of centralised control, the Groups were allowed to spend only small amounts of capital (£2,000 in 1937) without authorisation from the centre. As noted earlier, one of the earliest forms to be used was Form A, the request to the centre for authority to spend capital. This form gave particulars of the project, the amount to be spent, existing assets to be utilised and the expected return. Local authorisations by the Delegate Boards were reported to the centre on Form F.

A letter to the Group Chief Accountants in July 1933 clarifies the Finance Committee's requirements in relation to obsolescence and interest on capital. Obsolescence was to be charged at 5% for plant and

2.5% for buildings, but for new products the rate was to be 10% on new capital. These charges were notional, in that the book values of plant and buildings were held at their original cost - only minor services, transport vehicles, furniture *etc* were depreciated. If existing assets were to be scrapped, so that there would be a charge against obsolescence reserve, a statement had to be added showing how long it would take for the earnings from the project to cover this charge - a sort of partial payback test. The gross earnings from the new expenditure were to be charged interest at 3.5% on new cash, but this charge was abolished in 1938.

At first, the need for additional working capital was ignored. This was rectified in 1935, when Groups were instructed that proposals for plant extensions or for new products should include a note of the additional working capital involved. It was expected that the increases would 'be located mainly in stocks of fuel and raw materials, in packages and transport vehicles, in stocks of finished products, and in outstanding debtors'. There is no mention of a deduction for additional creditors.

Authority also had to be sought for expenditure on Special Maintenance defined as expenditure of an exceptional and infrequent nature on renewing, altering, or modernising existing property and plant.

A detailed statement of the estimated costs and the calculation of the expected return had to be sent in with the Form A. In addition, proposed New Major Projects, *ie* products new to the ICI range involving expenditure of more than £10,000, had to be supported by a summary in standard format giving the reasons for embarking upon the venture, possible restrictions from existing obligations or agreements (always an important consideration pre-war), the patent position, the market, effect on existing business and a short description of the process.

If the expenditure on a project was found to exceed the original sanction by more than 5% then supplementary forms had to be submitted.

Progress reports

There were various other forms in addition to Forms A and F. Forms C1 and C2 were used to report the position of unfinished jobs at the year end, showing the forecast time allocation for finishing them. A budget of capital expenditure had to be submitted annually by 15 December, divided between unexpended balances on sanctioned jobs and estimated expenditure on new jobs. The budget had to be approved, but approval did not constitute authority actually to spend the money. Form E1 was a quarterly report on the progress of the expenditure against the budget, and Form G was a quarterly report of completed jobs, showing actual expenditure compared with sanction. Twelve months after completion of jobs for which a return was estimated, a report on the achieved results had to be made.

Government contracts and war-time procedures

The prospect of war was looming in 1937, and an instruction was issued on the costing of Government contracts for the construction of plants. Besides direct costs, there were included ICI services at cost plus 10%, works general charges at 20% on direct wages, local administrative expenses at 44% on direct salaries and central services at 48% on direct salaries. These percentages were fixed by estimating the marginal effect on the overheads of the additional work. ICI also received an agreed fee.

It seems that unauthorised practices began to creep in during the Second World War and in March 1944 a comprehensive memorandum was issued 'in fulfilment of the undertaking given at the Group Chief Accountants' meeting on 24 September 1943'. This superseded for the duration of the Second World War the existing Treasurer's Notes memorandum. In the main, it followed the existing rules but with reduced costing detail (although it did now provide for increases in creditors). However, it contained the comment that 'it is the intention that the treatment to be accorded shall approximate to that which will obtain for taxation purposes, *ie* it is intended that items which may be claimed as allowable deductions will not be capitalised'. Accordingly, a number of items were to be charged to special maintenance or special expenditure rather than capital. These included expenditure giving no readily ascertainable return, such as work to safeguard output or increase safety; small jobs undertaken for the Government; short-term projects.

As before, expenditure on complete replacements was to be charged to capital, the old book values being written off, but expenditure on renewals went to special maintenance. The memorandum now recognised that 'distinction between a complete replacement and a complete renewal will on occasion give rise to difficulty' - in such cases the advice of the Treasurer was to be sought.

The limit of authority of Division Boards was increased to £5,000 and there could be over-expenditure of 15% before a supplementary proposal had to be submitted. The 15% was intended to cover increases in material prices and wage rates. A minimum rate of obsolescence of 10% for new and transferred capital on new projects was to be charged, otherwise rates of 2.5% for buildings and 7% for plant.

The influence of the Second World War is apparent in some of the questions which had to be answered in the Form A:

- Is the proposal a permanent or war-time measure?
- Is it for a Government Department?
- Has the appropriate Ministry been approached for financial assistance?
- Are raw materials available?
- Are the necessary Government priorities assured?

The control exercised from the centre is also evident, the support of the interested advisory department had to be obtained.

The conditions during and immediately after the Second World War created problems for capital budgeting. In 1945 a joint Government/ICI Panel was established to consider ICI's post-war capital programme, because of its magnitude and diversity, no project exceeding £2,000 was to be submitted for approval without the sanction of the ICI Post-war Works Committee.

Post-war capital programme

In December 1946 Sir Ewart Smith wrote to Division Chairmen to introduce a new scheme because 'it has been found in practice that divisions almost always over-estimate the amount of money which is ultimately spent in each year, and the budget has tended to represent little more than a pious hope'. A lot of work had gone into preparing plans for a Post-War Construction Programme for each division. The plan now was for these programmes to be updated annually. Graphs were maintained by the Division Engineering Departments of expenditure against sanctions, and these were to be used for the annual estimates of quarterly expenditure for the Treasurer, together with estimates of working capital requirements.

By 1948 Chambers was taking an interest in ICI's systems of capital budgeting: in a note of a discussion with Robert Sharwood, Vice-President and Treasurer of Canadian Industries Ltd, he records that CIL had a five-year capital expenditure programme which was in the nature of a budget reviewed each six months: 'The system appears to be superior to that of ICI' (note dated 16 July 1948).

He was concerned at the rising level of capital expenditure, with no central plans and no adequate budgetting. In his words:

> *We do not know what the total capital to be raised will be because we do not know … the likely demands from divisions for capital. Divisions do not know whether projects should be put forward because they do not know what the policy of ICI is or whether the capital will be forthcoming. A major question will be whether we ought to let ICI go into so many different fields that the problem of control by a single Board of Directors becomes unpractical and inefficient. Should activities be hived off for this reason and should fresh activities in new fields be refused for this reason?* (Reader, p462)

The outcome of his interest was the setting up in December 1949 of the Capital Programme Committee, with himself as Chairman. (ICI Board Minute 13058, 8 December 1949.) Its remit was 'to investigate and report upon the Company's policy in respect of its future capital programme, having in mind: commitments already undertaken and contemplated expansion; and the availability of financial resources.'

One outcome of its work was reports on outstanding sanctions. The first of these, as at 31 March 1951, was called for in a letter dated 2 March 1951 from J L Armstrong to Division Chairmen. The responses gave the position for projects exceeding fixed assets of £0.1 million:

Sanctioned	£85 million
Expended	£48 million
Commitments	£18 million
Estimated final costs + 11.7%	

The last paragraph of Armstrong's studiously phrased letter read:

The frequency with which the reports are to be presented to the Board has not yet been decided, but it is felt at the moment that they would amply serve the purpose if submitted as at 31 March and 30 September each year and that these dates would probably be most suitable for division staffs.

Capital expenditure policy

An exchange of notes between Chambers and Sir Ewart Smith in April/May 1952 illustrates Chambers' thinking at that time. Sir Ewart was concerned about the design load implied in the Divisions' forecasts of sanctions and expenditure over the next three years (which were higher than the recent actuals), and about the Company's ability to finance them. The Company was currently employing some 1,400 design engineers and draughtsmen, and if the programme was slowed down to any appreciable extent then one-fifth to one-quarter of them might have to be re-deployed. Such a slowing down would not have a big effect on expenditure until towards the end of the three-year period.

Chambers responded: 'As you know I take the view that a fixed general level (of sanctioning) is inappropriate for a company such as ourselves, and that given really sound and profitable projects I believe that they should be undertaken without any fixed limit. I hold the view that if the projects are sound enough and profitable enough the provision of the necessary finance will not be an obstacle. So far as staffing is concerned, again I feel that given the right kind of projects somehow or other the design and construction staff will be found from inside or outside the organisation'. A far cry from the later capital programme procedures.

A note, however, by Chambers to the Capital Programme Committee on 24 November 1952 foreshadows later developments: 'The policy to be recommended to the Board for the capital programme as a whole must take into account the capital requirements of the Company, and the prospects of raising this capital. It will then be possible to give guidance to Divisional Boards to enable them to consider capital expenditure projects and related matters with due regard to the Board's policy' (note that it is still 'the Company', not 'the Group'). The note goes on to discuss likely total cash requirements over the next three years, compared with the past six years, and lists ways of closing the forecast gap, either by reducing expenditure or by raising finance.

When the relevant Treasurer's Note was re-issued in 1954, the requirements for Forms A, Forms F, *etc*, had not changed a great deal. Divisions could now (since 1952) sanction up to £20,000, with amounts up to £50,000 being sanctioned by the Group Director, and anything over this by the ICI Board. The new limits halved the number of proposals going to the Board, but 90% of the total capital expenditure would still go to it.

There had been a suggestion by Bingen, a Director, no doubt at the instigation of a division, that the divisions should have more freedom to buy and sell property without consulting the central Estates Department. The response of the ICI Secretary (R A Lynex) was firm; its tone may be judged from this extract:

> *… estates affairs and negotiations in the divisions still tend to fall largely into the hands of people possessing one or other of almost every known academic or professional qualification except those which would familiarise them with the rudiments of our complicated system of land tenure and its many incidents, on to which have been grafted abstruse burdens of such relatively modern developments*

as town and country planning ... (R A Lynex to E A Bingen, 25 February 1952)

Capital programming

In 1956 the Capital Programme Committee was reconstituted, and it now entered the sanctioning procedure, with authority up to £100,000. Previously, it had merely taken over the Finance Director's responsibility of examining proposals before they went to the Board.

There were still, however, problems. In 1957 the Board noted that there were discrepancies between the forecasts of capital expenditure by the divisions and by the Technical Director. One reason may have been inflation. Hitherto the 15% margin allowed before a supplementary proposal was submitted had included inflation, from 1958 inflation was to be allowed for separately, and the margin was lowered to 10%. In addition, the cost estimates were to be graded for completeness of technical data, state of design, and availability of cost data into three grades, ranging from substantially complete down to inadequate.

Capital budgets reappeared in the Scheme of Organisation dated 1 January 1961. Annual Division Conferences would be held, chaired by the Group Director, and the agenda would include the division's capital budget for the ensuing year. A report on the meeting would be made to the ICI Board, and when that report had been adopted, this adoption would be taken as approval of the budget, subject to the submission in due course of specific proposals. The sanctioning limit of Division Boards was now increased to £100,000, Group Directors could sanction up to £250,000, and the Capital Programme Committee could go up to £1 million, in each case, if the item was in the budget. If not, the next lower limit applied, with Division Boards limited to £50,000. As in other things, Metals became an exception. In 1962 its limit was raised to £1 million.

Capital expenditure overseas

Divisions were now made responsible for supervising and maintaining the interests of ICI in certain subsidiaries which were allied to their activities. This created a problem in relation to overseas subsidiaries, where capital expenditure had hitherto been the responsibility of the Overseas Director, working in collaboration with the Finance Director. It was now decided that the Overseas Director would delegate some spending authority to the divisions for the subsidiaries in their care. 'For taxation reasons it is important that letters to overseas subsidiaries should be carefully worded in order to avoid giving the impression that divisions are exercising control of the business being carried on from day-to-day by the overseas companies as distinct from imposing the type of check upon substantial items of expenditure that is proper to a shareholder protecting his interests.' Divisions were to consult the Treasurer on matters of general financial policy.

Despite these companies now being within divisional control, their affairs and their capital budgets would still be dealt with by the Overseas Conferences rather than the Divisional Conferences.

Cash constraints

During the early 1960s ICI embarked on a policy of rapid growth in spending, particularly in the UK. Capital sanctions rose from £58 million in 1960 to no less than £176 million in 1965. Within these totals, sanctions for over £10 million rose from £11 million to £58 million, the theory being that the benefits of scale more than outweighed the higher risks. In the same period overseas sanctions rose from £13 million to £57 million. Results did not come up to expectations and the Company ran into a cash crisis.

A good example of some of the problems which led up to the crisis was the story of the nylon intermediates plants. Over a period starting in 1962 there were four successive projects to increase capacity to meet the burgeoning demand. At that time Dyestuffs Division was making the nylon polymer which was then sold to British Nylon Spinners for spinning. BNS made the demand forecasts and also selected the size of the extensions. It was clearly in BNS's interests to avoid too much surplus capacity, which would increase its costs. Although Dyestuffs strongly favoured a 45,000 tons *per annum* scheme constructed in two phases, BNS selected a 25,000 tons *per annum* scheme. This was Nylon V and Nylons VI and VII followed at intervals of nine months. Including VIIA, the total sanction was £42 million and the overspending was £12 million - 29%. Of this, cost escalation accounted for 17.5%, changes of intention 5% and under-estimation 6.5%. There was an additional cost of £100,000 because £1 million was postponed into 1968 as a result of the cash crisis.

To add to the complications, there was uncertainty about the future route to be used for the nylon intermediates. A committee was set up in 1966 to study this. There were four possible established routes, starting from different raw materials. By a small margin, a route from acrylonitrile appeared to be the best, but there were again three possible variants, of which one was already in commercial use, one was at the semi-technical stage and one was still only at the laboratory stage. The committee's conclusion was that the cost advantage of the new route would not be enough to justify replacement of the existing plants. It would most probably be introduced by way of a combined extension and partial replacement, for which a case would have to be made by early 1970. The whole case turned on assumptions about the costs of the respective raw materials in 1972/3, which assumptions could of course be upset. This report cannot follow the actual out turn of events, nevertheless, the case illustrates some of the judgments which had to be made in arriving at a decision to spend some £20 million.

One outcome of the cash crisis was the setting up of a Forms A working party under the chairmanship of J H Townsend, whose task was to find out why the promise of Forms A was not emerging in practice, and to establish the best financial yardstick to use when considering Forms A.

ICI's capital expenditure of £180 million in 1965 was well above that of its major competitors, the next highest being du Pont with £117 million. However, ICI's return on funds employed was the lowest when compared with the leading US companies, a mere 11% compared with 34% for Du Pont. Allied was not much higher at 13%, but the next was Dow at 19%. The working party commented: 'It is difficult to derive any satisfaction from this.'

The working party's report was published on 15 December 1966. It found that research into the achievements of a large sample of capital projects showed that profits were 27% below estimate, and probably worse than this in later years of operation. The main reason was over-estimates of realisations, but there were also under-estimates of working capital and of overheads and there were delays in achieving full output. Construction costs and sales volumes were not far off target.

The report concluded that there had been serious faults of commercial, technical, and techno-commercial judgment which had sprung from inherent optimism, inadequate attention to the underlying risks, and insufficient appreciation of the alternative courses of action. There was no panacea for getting things right in future, but more attention should be paid to risks, including more formal risk analysis, and to possible alternatives.

The method of calculating the return on a project had hitherto still been the profit before tax as a percentage of capital employed (with fixed assets stated at cost, or as revalued). The report now recommended that the discounted cash flow (DCF) rate of return should be adopted, although the conventional return should also still be calculated. It turned down a fixed cut-off rate, but did calculate that an overall DCF return of 11% after tax and grants was needed, based on a study of the Company's cost of capital. The estimates in the Forms A should in future include allowances for inflation.

A significant comment in the report was that 'good forecasting is a function of attitudes as well as techniques. The view that industry is a customer-satisfying process rather than a goods-producing process is by no means fully accepted within the Company'. It took many years for this message to percolate through.

The report also noted that the final presentation of an expenditure proposal was designed to get the approval of the Capital Programme Committee, and not necessarily to present the true merits of the case.

The working party once again emphasised the use of regular reviews of the outcome of projects. This had always been a formal requirement, but people were more interested in looking forwards than backwards, and it had traditionally been more honoured in the breach than the observance.

Finally, the working party turned to organisation. Surprisingly, until the previous year there had been no aggregate limits on capital sanctions, either for the divisions or the Capital Programme Committee. The cash crisis and the advent of the Cash Resources Committee had changed this. Some difficult decisions were made for the postponement of various projects. The working party now recommended that the total permitted sanctions and expenditure should be fixed by the Board for three years ahead on a rolling basis. It considered whether some kind of automatic control on divisions should be introduced by accounting for them as separate companies so that they would have to find their capital expenditure out of their own resources. There were, however, objections to this. The separate division policies might not fit in with the overall policy of the Company, and it did not necessarily follow that the most profitable divisions should receive the lion's share of the available money. Furthermore, they would still have no access to outside finance.

The proposed programming system would force divisions to put their projects into an order of priority, and the Capital Programme Committee in turn would have to ration the divisions to the permitted total. There would be continuing feedback and adjustment to ensure that the total programme was manageable within the available resources.

After the programmes were approved, the Treasurer would provide the divisions with statements showing their net cash contributions or calls on finance for each of the three years, the first formal move towards divisional cash plans.

Authority for sanctioning projects would be transferred from the Capital Programme Committee to the Control Groups/Overseas Policy Groups.

The Board accepted the report, and on 2 March 1967 the Treasurer notified Division Chief Accountants. Because inflation was now to be allowed for in the cash flows, it was decided that for consistency all forecasts should in future be expressed in terms of the appropriate money values for each year, despite the obvious difficulties. The forecasts by Economics Department of wages and prices levels would help.

It was only at this time that capital budgets were requested from the overseas units as well as the home divisions, following a note by Menzies.

Rates of return

Despite the decision of the Forms A working party that there should be no formal cut-off rate of return, pressure for one continued. The working party had noted that a conventional rate of return of 15% had been believed to be the minimum rate which would secure approval for a project, and this rate had been carried over into DCF calculations. With higher rates of inflation prevailing, a note was promulgated jointly by the General Manager-Planning (J R Ibbs) and the Treasurer (Hillebrandt) in January 1976. This laid down a rate for the UK (DCF after tax) of 23%, assuming average inflation over the period of the cash flows of 14% pa. For other territories with rates of inflation up to 20% the difference in the rate of inflation was to be added to or subtracted from the UK figure of 23%. Countries with hyper-inflation, mainly in South America, would continue to use the practices which they had developed of presenting proposals in terms of money of a particular year.

The note contained a number of caveats:

(1) The figures were only guidelines. Higher returns would be expected for above average risks.
(2) It was the first five years that really mattered, and the payback period could be crucial.
(3) The discipline of forecasting profits for ten years ahead was valuable because it brought home what must be achieved in sales realisations (an echo of the Forms A report).
4) Projects must genuinely measure up to the required rates, promulgating the rates should not merely increase the gap between claims and achievement.

(5) It was still intended to develop concepts of profitability on a CCA basis, which would replace the new guidelines.
(6) The figures should be treated as confidential to the Division Chairmen and Heads of overseas companies.

Conclusions

When this story closes the system put forward by the Forms A working party was still largely intact. ICI in Western Europe had been brought into line with the UK in 1970 instead of being treated as overseas. Much more effort was now going into the strategic planning of the capital programme - to the extent that it was becoming another specialism (with its own jargon), carrying out business fields studies, studies of the relation of growth to profitability, ranking of 'segments' by businesses and territories, studies of rates of return required under different tax regimes, *etc.*

Conveniently for these purposes, J R Ibbs wrote a paper reviewing the situation as at January 1976. The overall programme for the years 1976-80 totalled no less than £2,980 million (£1,975 million at 1975 prices), but requests for sanction forecast by the units were £1,000 million more. Ibbs commented:

> *Even though some of the projects now envisaged will fail to come forward, it would be wrong to assume that time will necessarily bring an optimum solution to problems of choice that are shunted into the future. This means, among other things, that more business segments and geographic areas have probably got to be positively designated as not expanding, at least for a few years, and in some instances it may be that divestment is the proper course. The Group's profitability is such that it is generating only enough cash to fulfil a part of the aspirations of the various businesses throughout the different territories. To lessen this underlying difficulty, it is important that a major proportion of immediate additional investment should be of a kind that should quickly lead to substantial new cash inflow. The ranking of business segments has provided a useful starting point for the necessary selection, but other considerations still need to be taken*

into account such as the need for sufficient cash generative projects, the overall balance of the programme, and the spread of sanctions across divisions and territories.

The paper went on to review the content of the programme in more detail, and ended with some recommendations for action to 'prioritise' the projects for expansion and identify possible areas for divestment. It ended with a message which was all too familiar:

Because the principal underlying cause of the selection problem is insufficient Group profitability, special consideration should be given to improving this, through better productivity and other means.

Chapter Twelve

Cash

The final chapter concerns cash. It is last not because it is unimportant – it is, after all, the lifeblood of a business – but because in a book about accounting it is a relatively straightforward subject.

Financing operations

However, the process of raising finance was frequently not straightforward. A large part of the ICI Finance Director's life was taken up with financing operations, both for capital expenditure and acquisitions. Before the Second World War the UK operations predominated and finance for them followed traditional paths: either rights issues; or sterling loan stocks. However, as ICI became more international and foreign exchange restrictions multiplied, these exercises became more and more complex. For example, in February 1963 the Finance Director reported to the Board that following the stricter control over investment in the non-sterling area introduced by the Government in July 1961, such investment by ICI had to be financed from non-sterling sources. ICI had consequently raised loans in Swiss francs and Dutch florins, but these sources were currently limited and he was proposing to negotiate facilities in US dollars. The finance was needed to meet planned spending up to the end of 1964 of £15 million in Europe and the Americas, plus possible further spending in North America.

All these operations needed the help and advice of merchant banks in the City and overseas. Originally, the City advisors were Morgan Grenfell, then Schroders, and ultimately Warburgs. Overseas, ICI arranged for three Swiss banks to co-arrange the Swiss loans but Frost had a harder job in persuading the German banks to follow suit for DM loans and a still harder job in New York. ICI's sole advisor there had been Morgan Stanley, but it would not co-operate and Goldman Sachs and Smith Barney were used. To raise money in these overseas centres (and for that matter in the UK as well) ICI had to sell itself to the local financial analysts and institutions. The practice developed of making presentations underpinned by a brochure about the Group and its finances. The Finance Director would be accompanied by at least one senior ICI Director, preferably the Chairman.

Each new borrowing in the form of loan stock entailed a deed which limited future borrowings by some relationship to the Company's or Group's equity. It was one of the Merger Accountancy Section's annual (later, quarterly) tasks to draw up a statement showing the margin available for future borrowings. This task, and indeed the task of arranging new finance, became more and more difficult as the number of deeds, each with its own subtle variations, proliferated. Eventually a special exercise had to be carried out to remove the differences, at some slight cost in higher rates of interest.

Need for profits

A continuing message during the 1960s was over-optimism by the divisions combined with high capital spending. The October 1965 forecast, for instance, records reductions of £50 million in divisions' forecasts of profits over the four years covered, together with increased capital requirements of £50 million. Even with these changes the forecasts were still considered to be optimistic. In spite of having raised a £50 million loan, a cash outflow of £180 million was forecast.

This gloomy picture led Frost to present a note to the Executive Directors in December 1965 in which he demonstrated the impossibility of raising the necessary finance without significant increases in profitability and reductions in capital expenditure. He wrote:

> *The Group profit for 1965 will be the second highest ever earned by the Group. This may induce a mistaken feeling of complacency, it would, therefore, be as well to examine it a little more closely. The highest profit prior to 1964 was £88 million in 1960. At the end of 1960 the net assets were about £700 million and by*

the end of 1965 will exceed £1,000 million. The increased profit, therefore, for 1965 compared with 1960, which might be £12 million to £15 million, seems a poor return from about £350 million of additional investment.

Chambers drafted a note to Division Chairmen calling for a 10% reduction in maintenance expenditure, renewed pressure on numbers of employees and stringent cuts in capital spending. This note was replaced by a meeting with the Chairmen at the end of 1965, followed by a special Board meeting. The outcome of this activity was the Cash Resources Committee which, following the lines proposed in Chambers' draft note, was in the end successful in overcoming the crisis.

Financial policies

When Frost became Finance Director, he developed the practice of writing notes to the Board on financial policy. These notes were, in effect, dissertations on the advantages and disadvantages of various forms of finance, and the limitations faced by ICI. His note of 5 December 1968 extended to sixteen pages plus two appendices.

He started with a section devoted to the theoretical comparison of the merits of equity and loan capital, emphasising the need for a balance between them so as not to increase the equity risk to a point where equity capital became too expensive. He then turned to the practical aspects: the incidence of tax; and market expectations of a Group such as ICI.

His first recommendation was that the remaining £35 million of preference stock should be converted to loan stock, giving a saving of some £600,000 a year. He then reviewed the case for a scrip issue, the last of these having been made in 1958 and 1963, but he concluded that the time was not yet right, added to which, there was currently a Government embargo on them.

Finally, he turned to the possibilities for funding operations and the need for them in the light of the cash forecasts. He made the important points that good timing was vital to minimise the cost, and that ICI's substantial short-term borrowing facilities should be regarded as a buffer to meet unforeseen calls for cash, and should therefore be disregarded. In the light of the expected demands he foreshadowed a capital operation between 1970 and 1974, and hinted that it might take the form of an equity issue. Throughout his note the recurring theme is the continuing need for higher profitability and the containment of the capital programme.

At the Board's request, he prepared a further paper in November 1969. The forecast cash flows had deteriorated because of lower profits and higher working capital, the capital programme was still large, and the capital markets both in the UK and overseas were tight – he could not foresee a large capital issue before late 1970. The need for profits was again emphasised, and he pointed to the current low profitability of the operations in Continental Europe and the United States, both of which were in the development phase.

In the light of current discussions about the accounting treatment of goodwill, it is interesting that Frost referred to the £39 million goodwill which arose on the acquisition of British Nylon Spinners and recommended that it be kept on the balance sheet because the existing reserves would in due course be needed to support a scrip issue, and more goodwill might arise from other acquisitions. The Board agreed, an additional reason being that if goodwill is written off the return on the investment is overstated. Frost noted that the operating unit should treat goodwill like any other depreciating asset (but in practice this suggestion was ignored).

His paper in November 1970 was even more gloomy:

> *… the deterioration in our financial position … is the most pressing problem on the financial side now confronting us.*

A cash deficit was forecast of £100 million by April 1972, against £25 million forecast a year before, largely because of the low profits.

Also in 1970, Hillebrandt prepared a paper showing ICI's sources of finance over the ten years 1960-69:

	£ million	%
Equity issues	94	6
Borrowings	376	26
Retained profits, including Investment Grants	253	17
Depreciation	683	46
Minorities	81	5
TOTAL	1,487	100

The heavy depreciation charges and the relatively small part played by retained profits will be noted.

There were more papers in a similar vein for the Board to digest in succeeding years. The immediate near crisis in 1970-71 faded away as profits improved, but demands for cash from overseas and from non-100% companies continued to pose problems, and the higher profits encouraged thoughts of quicker growth, meaning inevitably more capital expenditure.

In the October 1975 report there was forecast a cash deficit of £778 million for the period 1975-77, the operating units were forecasting an even higher deficit of £990 million. As the note remarked, ICI had entered a new phase in terms of sheer spending, with an average of £600 million *per annum* against 'only' £230 million *per annum* in 1969-73. Moreover, it was being maintained through the worst recession since the war, but it was a plan which the Finance Director could still support.

Cash management

On a different tack, Frost put a discussion paper, inspired by Clements, to the Chairman's Conference in May 1970. This paper took as its theme international cash management. Its tone is reflected in this extract:

> *As the Group becomes more international, and as centres of profitability emerge in more and more territories, the financial problems that confront*

us are quite different from those of even large groups operating in one territory. It is not only that we have to face different fiscal and taxation systems but also that we must pay constant attention to currency problems, transfer prices, the geographical distribution of profits, and the mobility of funds within the Group from company to company, on both revenue and capital account. More and more, our major concern will be the mobility and transferability of Group funds and the flexibility of the financial structures of our subsidiaries. Considerable sums of money will be saved if we can reduce our demands on the external markets by optimising existing Group resources but this will entail taking a Group view, and not just a UK view, or a European view, or a North American view, etc.

These thoughts worked away from joint ventures and non-100% subsidiaries, and pointed to using Group financial vehicles.

In his original note putting forward his thoughts in some detail, Clements comments: '... with the narrowing definition of the role of the Treasurer in recent times, surely this is one of the vital functions which remains to be fully developed. It seems to me to be of the essence of the role of a Group Treasurer'. It has been seen elsewhere how the management accounting function moved away from Treasurer's Department with the advent of Control Groups - later Policy Groups, and the growth of the Planning Department, and then ultimately moved back again.

These ideas were gradually developed into action, one aspect being the management of cash flows across Europe. Most of the development came after the period under review, but an example of the early stages comes in a 1975 note about Scandinavia, discussing the need for monthly cash forecasts, information about the timing of remittances and appropriate payment instructions on invoices.

Foreign exchange management

Associated with management of the cash flows was the management of foreign exchange exposures. For most of the period the policy was to take out forward cover automatically on foreign currency receipts and payments. In the late 1960s Frost began to suggest that receipts and payments in the same currency should be matched rather than covered, so avoiding the costs of covering. This idea was developed by Clements and Donaldson (who became the cash management expert) so that by the late 1970s a sophisticated foreign currency recording and dealing operation was in full swing.

North Sea oil finance

A major pre-occupation during 1974 and 1975 was devising and putting into practice ways of financing ICI's 18% share of the cost of developing the Ninian North Sea oilfield, a matter of £200 million. The objectives were: off-balance sheet accounting treatment, normal cost of finance and full taxation relief.

The 'off-balance sheet' objective was not an attempt to hide the borrowing, but merely to avoid having it shown as a loan: even though it did count as a borrowing for the purpose of the various loan stock trust deeds, ICI was advised that the US rating agencies would ignore it if it was not shown as a loan!

After very prolonged negotiations, including clearance not only from some ten international banks but also from lawyers, auditors, the Inland Revenue, the Bank of England, the Department of Energy and the Offshore Supplies Office, the objectives were met. The basic pattern was a system of advance payments for oil, whereby the banks made forward purchases of the oil and then later resold it to ICI. The Board formally minuted its congratulations to the financial staff for their ingenuity in handling the financing – a very satisfying achievement for Frost on the eve of his retirement.

Senior pensions funding

Another of Frost's achievements at this time was in the realm of pensions. The Directors' and senior employees' pensions had always been paid directly by the Company, not through a properly funded pension scheme. He told the Board that he had every confidence in the security of his pension while he was there, but he did not want to be in that position when he was gone. The pensions should be funded, and he proposed himself as the first chairman of the trustees, to ensure that no time was lost. Conveniently, profits were good, and courageously some £50 million was put in (£20 million in 1973 and £30 million in 1974 when Stock Exchange prices were at rock bottom and there was gloomy talk about whether the economy would survive). His fellow Directors were delighted.

ICI Finance Ltd

For most of the period these financing operations impinged only marginally on the accounting. Apart from the need to record 'swap' deals, it was only towards the end, with the advent of a separate financial vehicle, ICI Finance Ltd (ICI Board Minute 23226, 28 September 1972), and cash management operations, that new accounting procedures had to be devised. For instance, the factoring discount when trade debts were 'sold' by the divisions to ICI Finance was taken into Head Office books so as not to upset the management accounting of the divisions, and divisions still bore for management purposes the cost of bad debts and cash discounts.

As well as borrowing money, ICI from time to time put money into trade investments. During the period the outstanding example was the textile investments in the 1960s, which took up a lot of time of the Finance Director and his assistants, all ultimately wasted effort.

Dividend policy

A major concern for the Finance Director was the rate of dividend which he should recommend. In 1939 Coates was writing to the Finance Committee about the desirable size of the amount carried forward on profit and loss account (at that time, this was still kept separate from the revenue reserves). He considered that it should be related to possible variations in the dividend – the aim was 'a steady dividend policy lying within narrow limits through good and bad years alike.'

He pointed out, however, that the free part of the General Reserve was also available, there was no essential difference.

In 1949, from 1966-68, and again from 1972-78, the problem was solved for the Finance Director, because some form of dividend restraint operated in the UK. Finally, in July 1979, dividend limitation ended. Clements then submitted a note to the Advisory Panel on Finance which reviewed the history of ICI's Ordinary dividends over this period. The rate of dividend had increased from 12.5 pence per share to 27.6 pence (the latter grossed up for the imputed tax credit and rounded off, because of the controls the exact rate ran to five places of decimals). Clements showed in an appendix that in real terms, allowing for 200% inflation over the period, the dividend had actually fallen by a third whilst ICI's UK wages and salaries had risen by a third. He recommended a 25% increase.

Cash procedures

As was to be expected, control of cash resources was one of the Treasurer's chief concerns when ICI was formed. The number of banks in use was reduced to six, but it was found that the subsidiary companies were still holding credit balances in their country bank accounts, despite instructions to remit them to London. Arrangements were made that the subsidiaries could on occasion run into overdraft if they remitted their balances to London weekly (in later years, no division was allowed to go into overdraft without special permission).

A Chemical Group Purchasing Section was formed on 1 October 1927, and from that date payments to suppliers of the Chemical Group companies were made by the Central Purchases Accounts Section of Treasurer's Department. Later, all purchases were centralised other than services, purchases for resale (other than those ordered by the Purchases Controller) and canteen accounts. Suppliers' invoices were obtained in duplicate and one copy was certified for payment in the local Supply Departments and sent to London for payment under a covering list. In the late 1960s the work was transferred to the Central Sales Ledger Section (which then became the Sales and Purchases Accounts Section) and computerised.

With buying centralised in London, the great majority of payments against invoices were made there. This arrangement soon led to practical difficulties. All cheques had to be signed by senior officials, and they might find as many as 1,000 landing on their desks, all to be signed without delay. A solution was found in 1929 when it was discovered that in the United States and Canada lithographed signatures were being used. The banks were persuaded reluctantly to accept this method, which continued undisturbed until 1948. One feature of it was that the banks marked off all the paid cheques for over £20 against an authorised covering list which was sent to them.

Then in 1948 the banks announced that they would no longer operate the scheme unless they were given suitable indemnities and freed from the job of marking off against the lists. They proposed instead that ICI should adopt the Traders Credit system whereby direct credits were made to suppliers *via* lists sent to the banks (this was the system used for paying monthly salaries).

A J Steward prepared a long note to the Treasurer dated 14 December 1948 discussing the pros and cons. There would be severe timing problems with Traders Credits in getting the lists to the banks in time for them to be distributed by the due date, and there would still be a need for numerous cheques for prompt payments and for those suppliers who did not want to use the system. Surprisingly, the disadvantage of being debited by the banks several days earlier, although mentioned, was not given as a reason for rejection. He concluded that ICI should adopt the method used for paying dividends, whereby the signatures were imprinted separately, under supervision, instead of being printed at the time of printing the cheque forms.

In the event, it was decided to continue with the existing system and accept the banks' conditions, but cheques over £2,500 would be signed manually. With continuing inflation this limit had to be raised from time to time. It was always a nuisance, particularly after the Central Purchases Accounts Section had moved up to Northwich, because these cheques had to be extracted at Northwich and sent down to London for signature. Successive Chief Accountants worried about the possibilities of fraud whenever the limit went up, but ultimately it was decided that security at Northwich was good enough for the limit to be dispensed with.

From the start, all monthly salaries were paid from London, inwards cheques were banked for the credit of ICI, loan accounts were centralised, *etc*, so that by the end of 1927 there was firm central control of the major cash flows.

Cash reports

A weekly statement of the total merger cash balance was prepared, plus a monthly statement of receipts and payments with a forecast for the ensuing three months. These statements were compiled from returns from the UK subsidiaries, the monthly return being made on Form T1. In the 1930s there were also reports on the cash position in the US, Australia and New Zealand. In 1932 the cash forecast was extended to the ensuing twelve months, but with the advent of the Second World War this was shortened to the remainder of the current calendar year, and from 1943 the forecast for the remainder of the year no longer had to be broken down into months and quarters.

Not all the UK subsidiaries were within the UK 'cash group'. For management reasons, usually so that they had the discipline of managing their own cash, a number of the smaller companies were left out, and IMI followed their independent line after they had become a partly-owned subsidiary.

The cash forecasts presented to the Board showed the opening and closing amounts of 'Cash and other liquid resources'. They did not go into the definition of this phrase, and probably the members of the Board thought that there could be no doubt about it, but this was not always the case.

By the 1960s 'liquid resources' included merchant bank borrowings, commercial paper, term deposits with merchant banks, local authorities *etc*, and dated government securities. In 1969 we find H D L Moore asking the Chief Accountant whether the definition of short-term deposits could be extended to encompass also deposits with industrial or commercial concerns. The suggestion was duly agreed.

It was not until 1976 that quarterly reports of the total Group (as opposed to UK) net liquid resources were prepared, on a comparable basis to the published accounts but earlier than the quarterly balance sheet, and analysed into the UK cash group, other UK, overseas pool (*ie* borrowings available for financing overseas companies) and other major territories.

So far as the published accounts were concerned, a cash flow statement was included in the Annual Report in the 1960s, but this related to the Company only and was prepared on the basis of a strict interpretation of cash - any transaction which did not involve a cash flow was eliminated. It began to seem increasingly meaningless to restrict the statement to the Company only, but there were practical difficulties in producing a similar statement on a Group basis. The solution adopted in 1968 was to publish a statement of 'Sources and Use of Group Funds'.

From time to time, especially when working capital was running away with the cash, there were calls for the divisions to be made responsible for running their own bank accounts so as to make them more aware of their own cash flows, however, this ran counter to the philosophy of Group cash control. As a second best, it was suggested that divisions should be charged interest on their working capital, or on the excess over plan. These schemes always foundered because if they were to be realistic, they were too complicated, and if they were simple they were too artificial.

Cash forecasts

After the Second World War the practice developed of basing cash forecasts on the profit forecasts. It was found that these tended to be less inaccurate than the Form T1 forecasts and the latter were eventually discontinued, therefore saving much unproductive effort in trying to reconcile the two sets of forecasts. Four cash forecasts were prepared for each calendar year in conjunction with the profit forecasts. There were still problems, however, and in March 1966 divisions were asked to provide more detailed breakdowns of the phasing of their forecasts over the year and of the comparisons of achievement with forecast.

In addition to the short term forecasts, two long term cash forecasts were prepared. These were instituted by Chambers in 1946. They were based on incomplete estimates from the divisions, covering only capital expenditure and the profit, depreciation and working capital related to new major plants coming into production.

In 1956 it was decided that this was not good enough. The number of forecasts was increased to three (in 1965, to four, after pressure from Lord Chandos), and divisions were asked to forecast their sales, profits, depreciation, capital expenditure and receipts and working capital movements. In contrast to later views in the 1970s, divisions were told to assume that there would be reasonable stability in the general level of prices and of costs.

A Treasurer's Circular in 1967 summarised the requirements for cash forecasts. The first long-term forecast, prepared in December, was forwarded with the divisions' reports to control groups. It was considered successively by the Capital Programme Committee, the Chairman's Conference and the Board. In January 1970, for example, the Board considered the cash forecast for 1970-72 together with the proposed capital programme. At each stage, decisions might be made which caused amendments to the forecast which had to be agreed with the divisions.

The later forecasts in each year were presented directly to the Board by Treasurer's Department. In April 1970 the Board were worried about a shortfall from the cash plan, and in the following January it was decided that capital expenditure sanctions should be held down to the depreciation charge for 1971-73.

A body called the Advisory Panel on Finance was set up about 1970 to give support to the Finance Director. It was a committee of the Board chaired by the Chairman, and included a non-executive Director. On 23 October 1974 it considered the cash forecast for 1974-76 and agreed that the Divisions were again being over-optimistic, to the tune of £300 million in 1975-76: 'there was a need to exercise considerable prudence in permitted capital expenditures'.

Working capital - UK

As an insurance, the Finance Director and Treasurer visited the clearing banks annually to arrange overdraft facilities of some tens of millions of pounds but these were reserved for use in emergency, and normally reliance was placed on controlling the cash flows. An important part of the system for controlling cash was the control of working capital, *ie* stocks plus debtors less creditors.

Throughout the period ICI's policy, at least in the UK, was that suppliers' bills should be paid on time, *viz*, at the end of the month following month of delivery, and this policy was adhered to even in times of financial stringency. Given this policy, working capital control was centred on stocks and debtors.

The control of stocks from day-to-day rested with the operating units. In the Chemical Group, minimal stocks of finished products were held because production was continuous, it was expensive to provide stocking capacity and in the main their customers wanted even flows of product. It was different in areas such as dyestuffs or paints where production was in batches, stocks of many different products had to be held, and orders tended to come irregularly. The economics of batch sizes had to be studied carefully. Raw material stocks would also be minimised, but some would be delivered in shipment loads and sometimes 'policy stocks' would be built up if, for example, there were threats of coal strikes.

From time to time, and more especially towards the end of the period, the centre did call for economies. These calls usually came when there had been a downturn in sales and production had outrun deliveries. Figures of stocks were reported to the regular Commercial Director's Conferences and Divisions were exhorted to make savings, but in truth they were aware of the need to establish and adhere to targets for stockholdings. Indeed, the Board minuted in 1968 that 'F C Bagnall was satisfied that a proper degree of control was being exercised over the Company's stocks'. An earlier study by R C Todhunter supported this: apart from an aberration in 1950-51, stocks over the whole period from 1938-52 had shown a remarkably constant proportion to sales.

Credit control was mainly a commercial responsibility with Treasurer's Department holding a watching brief. The collection of debts was done by the sales representatives, working from information supplied by the Sales Regional offices who in turn were fed with information from the Central Sales Ledger Section of Treasurer's Department (CSL), located originally at Winnington and later in Northwich, Cheshire (over a disused brine shaft). Some companies held their own sales ledgers (although eventually, except for Metals, they all used the CSL), and these also fed the Sales Regions. Until 1977 the ICI standard terms of payment were end of month following month of invoice, so that on average six weeks credit was allowed. In the main, divisions adhered to these terms, although Agricultural Division operated a special seasonal scheme for fertilisers.

The 1952 study by Todhunter mentioned earlier indicated some wide fluctuations in debtors and creditors; even so, debt collection appears not to have attracted any special concern until the early 1960s, and indeed the number and value of debts which had to be referred to Legal Department for collection remained remarkably small. Most of ICI's customers were, of course, well established concerns, and in the immediate post-war period there was always the threat of cutting off supplies.

The cash crisis of 1966 focused attention on credit. Until the early 1960s, divisions had not had any responsibility for credit, but as part of the transfer of more commercial responsibility to them they took over the credit control function. Although the actual collection of debts was still mostly done by the sales representatives, the divisions appointed people to be responsible for credit, and these mainly came from the Accounts Departments. The computer system at CSL enabled a procedure to be developed for the allocation of each account to the division with the major responsibility for credit, usually the one with the most sales. Lists and summaries of overdue debts were sent to the divisions as well as to the Sales Regions.

On 26 July 1968, for example, J L Tedbury, the General Manager - Commercial, wrote to division representatives about the very high outstandings of £9.5 million in respect of May invoices normally due for payment by the end of June (they were called 'outstandings', not 'overdues', because some of them would have been subject to extended credit arrangements). With overdues in respect of prior months of £2.5 million the total amount involved was £12 million. At that time the banks were operating a Government-inspired credit squeeze and it was known that some customers were using ICI as their unwitting bankers. 'Nevertheless', wrote Tedbury, 'this is clearly a situation which cannot be allowed to persist'.

A year later the figure was £15 million, including £4.7 million authorised extended credit, nearly all relating to Fibres. The Commercial and Finance Directors found it necessary to write to Division Chairmen about the need for strict control of working capital, which had increased by £34 million in the first half of the year, of which £10 million was UK debtors.

Despite demands from divisions to have their own sales offices and despite the occasional suggestions that divisions should have their own cash, the CSL system was always supported by them, not without grumbles from time to time. The attempts, however, to control UK credit from the centre now began to merge into a scheme for the overall control of working capital.

Working capital - overseas

Early on foreign currency payments were centralised in London, but it appears that foreign currency receipts in respect of foreign sales (other than through ICI selling companies) were not. In 1932 an instruction was issued that such foreign currency sales should be reported to London, with the expected date of receipt, so that forward cover could be obtained. This was reinforced in 1933, when weekly returns were instituted. The exchange rates at which the forward cover was taken out were notified to the Group concerned by Cashier's Section and the sales were booked at those rates.

Then in 1936 the Foreign Accounts Section of Treasurer's Department was set up to deal with accounts which in the past had been handled by the Foreign Department and the Foreign Merchant Companies Group. These were in the main the current accounts with ICI's overseas subsidiaries and agents.

After the Second World War the Foreign Accounts Section, now renamed the Overseas Sales Accounts Section (and later, Group Overseas Accounts), took over the accounts with direct overseas customers. There was no standard payment term, and debts were chased, item by item. The usual length of credit was longer than in the UK, some 3-4 months being normal. Added to this, the subsidiaries' current accounts were frequently allowed to rise as a means of finance.

Before the Second World War the main accounts were in the Empire and were held in sterling. After the war they spread world-wide and were held in various currencies. Some currencies were more vulnerable than others and doubtful debt provisions had to be considered carefully, both in relation to the credit worthiness of external accounts and the sovereign debt risks. Brazil was constantly in trouble and in 1964, for example, £600,000 of overdue indebtedness was remitted through an intermediary at a discount of 12%.

One reason for the lengthy credit period was the slowness of the banking system. It could take weeks for a payment by an overseas customer to reach ICI's UK bank accounts. ICI accordingly developed a system by which the local customers paid into a designated local bank, which then either telexed the money through to the UK or, if so instructed, held it for use for local payments as part of the cash management system.

In 1967 the auditors asked where the responsibility lay for the control of overseas debtors and on what principles cases were selected for special provision. It was explained that Overseas Sales Accounts Section were primarily responsible, but divisions received copies of their letters and frequently intervened in the light of their knowledge of a debtor's situation.

Until the advent of a computer system in the 1970s, the overdue position was only summarised half-yearly when the bad and doubtful debt provision was reviewed. The computer system allowed for the segregation of the financing element in subsidiaries' accounts and the analysis of the remaining balances by divisions, so that divisions could henceforward be held responsible for their overseas debts. However, the Overseas Sales Accounts Section still did the actual chasing.

The financing elements in the Subsidiaries' accounts were made the responsibility of the Treasurer's Department Financial Group, who were generally responsible for the financial oversight of the subsidiaries.

At least so far as the overseas selling companies were concerned, their balances with ICI in London were only part of the picture. The real Group debts were the debts due to these companies from external customers. An indirect control was instituted by establishing targets for the commercial part of the current account balances, related to the credit periods which the local companies had to allow their customers and their stockholding requirements. This system was acceptable for the 'deep sea' business, but less so for Continental Europe. There, the links with divisions were much closer and there was a sizeable and growing cross-border trade. The problems were ultimately dealt with when divisions were given responsibility for their pan-European operations. An integrated computer system was installed so that comprehensive reports of the external customer debts could be prepared.

Designing each of the three computer systems - the Central Sales Ledger, Overseas Sales Accounts and the pan-European system - were major tasks. The basic ledger systems were not unusual, but to graft on to them the analyses required to enable divisions to take management responsibility made them very complex. Without computers it is probable that the aim could not have been achieved.

Cash flow control

In 1969 it has been seen that concern was growing about the increasing amount of cash locked up in the UK in working capital. At a meeting between Hillebrandt and Tedbury it was agreed that one of the problems was the influence of commercial considerations on stocks and debtors, for example, it might well be the right course to increase them if profits were thereby increased sufficiently. It therefore seemed that an overall cash flow control system might be the best answer, particularly since divisions were now being informed of their shares of the overall cash movements on a quarterly basis.

This idea was followed up in a note to the Board from Bagnall and Frost. In effect, the proposal was to upgrade the divisions' cash forecasts into cash plans and to monitor their achievements quarterly against these plans, both in total and item by item. The proposal was agreed by the Board, and in accordance with it Hillebrandt and Tedbury wrote to Division Chairmen giving their comments on the latest forecasts of working capital requirements in the light of the Company's overall financial and commercial position. In general, they concluded that the forecasts were acceptable, but they emphasised the need actually to achieve them.

This system continued. In mid-1973, it was reported that debtors had increased by £45 million. This was more than twice what was planned, but was in line with increased sales, the average periods of credit had not risen. However, stocks were £8 million lower than planned. Creditors and provisions had risen by £11 million, but Hillebrandt was unable to explain this, and had to write rather plaintively to Division Chief Accountants:

> *I fight hard in your interests to prevent the imposition of more controls and stupidly detailed reports, but I have the feeling that we could all probably usefully have another look at the working capital figures before they get submitted to the next higher authorities.* (F J K Hillebrandt to Division Chief Accountants, 23 August 1973)

The continuing problem with this system was that it did not have teeth. Working capital was looked at separately from fixed capital expenditure, and there was a reluctance to cut the latter if the former was overspent by a division, the two elements were eventually brought together, and by 1976 the form of the cash forecasts and the quarterly reports of achieved cash flows for the UK cash group had settled down.

The divisional internal cash generation (trading profits plus depreciation) was set against their cash requirements for capital expenditure, working capital and investments (for reports to the Policy Groups, divisions were asked to report two figures: 'probable' and the division's view of 'desirable'). To the resulting 'contribution to corporate outgoings' there were added or subtracted at Head Office the corporate items such as investment income, interest, tax and dividends. The remaining 'internal' surplus or deficiency was set against loans, *etc* to give the final movement in liquid resources. In effect, two forecasts were prepared: the total of the divisional views; and the Head Office view. The latter reflecting the Finance Director's reaction to the summation of the divisional figures plus his recommendations to the Capital Programme Committee as to the total capital programme which could be sustained.

At that time, with exchange controls still in force, the overseas cash requirements were dealt with separately on similar lines to the UK, although the two totals of cash flows were brought together to assess the balance of the Group's finances as a whole. The report constituted a formidable document - eleven pages and nine appendices for the Board, plus a supplementary seven pages and seventeen appendices for the Finance Director and Treasurer. The exchange controls were frustrating for the Finance Director, because liquid resources were building up in the UK but they could not be used for the overseas requirements.

In 1976 the £130 million financing of the Ninian North Sea oil field was beginning to loom large, and it was dealt with separately in the forecasts. As explained above, it was also financed separately by means of 'Forward Oil Purchase' agreements.

It might be thought that a satisfactory system for control of cash was now in being, but in September 1976 Hillebrandt wrote (in relation to the cash forecasts): 'We need substantially to simplify the information going to the Board'. Furthermore, on 11 January 1977 Clements asked B F Crook to 'look again at the previous work done in Treasurer's Department on the possibility of instituting a cash budgeting system which would help to achieve a better control of working capital.'

Conclusions

Although the subject of cash has been left till last because it did not in general pose complicated accounting problems, it will have been seen that it did pose its own problems. Very largely, these arose from the UK Government's cash flow problems and from ICI's low profitability and high capital expenditure. In matters like the international control of Group cash flows ICI was well to the fore, matching the post-war world-wide expansion of the Group.

Chapter Thirteen

Conclusions

The over riding impression from this study of the workings of accounting in a large industrial organisation has to be continuity in the face of change. In the course of this 50 year period the world moved from the shattered European and Imperial aftermath of the First World War through Depression; Communism, Nazism, Fascism and Japanese Co-Prosperity; the Second World War; post-war world-wide reconstruction; the Cold War; the rise of the US hegemony and the fading away of the British Empire. Yet despite all these upheavals the work of ICI's accountants in 1976 would not have seemed alien to those of 1926. The chimera of inflation accounting had come and gone. True, the accountants of 1926 would no doubt have felt very frustrated by lost freedoms to put inconvenient items to reserve, and by other constraints arising from Companies Acts and accounting standards, not to mention the Securities Exchange Commission in the US.

Internally, they would have had to learn about fixed and variable costs and standard costing. They would undoubtedly have been delighted to be able to play with computers, although by 1976 these were still just about becoming 'user-friendly'.

Another conclusion would be how small the world has become. At the start of the period there were admittedly telegraphs but overseas letters were sent in duplicate in case one copy got lost (this still happened in the 1950's, but was very much a leftover). In 1976, there were instant world-wide telephone links and data was beginning to be sent from computer to computer. People used to travel by train or ship but now flew as a matter of course, so that distances to the other side of the world which were measured in days and weeks were now measured in hours.

Despite these improvements in communications, ICI's profit centres (divisions and overseas manufacturing subsidiaries) were probably run on a looser rein than they were in the days of McGowan, but the computerised accounting was tending to become more regimented. Massive accounting manuals were looming up in place of the unlamented Treasurers Notes.

A question which follows naturally is whether there should have been more change. It has been noted that until 1939 the manufacturing units were treated as cost centres, not profit centres, the Sales Control Department did just that. There was consequently a lack of profit consciousness in the divisions, and they were even on occasion criticised for looking to their own local profits rather than the greater good of ICI.

Things did start to change in the 1960's, with greater profit responsibilities put on Division Chairmen and the advent of the Control Groups Department. In this climate the Treasurer's Department was liable to be criticised if it took too much interest in the affairs of the divisions. It was expected to limit itself to the minimum necessary to meet Group financial requirements. Chapter nine indicated that to an extent the Department brought this on itself by not taking the lead in management accounting, and indeed there came a time when the Department almost abdicated any interest in the subject. The error of splitting the responsibility for profit reporting between two departments soon became manifest but it was only towards the end of the period that corrective action was being taken.

When it came to matters of finance, taxation and cash management, ICI could be proud of its skills in minimising its costs of finance and tax whilst providing the cash when and where it was needed. This was particularly true in the war-time and immediate post-war periods of high tax rates and innumerable Government controls.

Another observation would be the extent to which accounting procedures were developed inhouse. The external auditors would have views about the treatment of items affecting the published accounts. On the whole they tended to follow accepted practices and viewed innovations with suspicion, but there were occasions when ICI might claim credit for influencing the auditors' views, as for instance in the translation of overseas subsidiaries' accounts (although they would be loath to admit it). The requirements of Companies Acts and accounting standards tended to come along after it had already been necessary to find solutions to the particular problems they addressed.

Finally, the seeds of the eventual reshaping of ICI are, with hindsight, clear to see. Metals had never fitted in easily and had already left. Pharmaceuticals, with agrochemicals, was more and more clearly becoming the natural successor of Dyestuffs, which like Metals had never fitted comfortably in ICI. The heavy chemicals businesses had originally grown on exports to the Empire and now withered with it. They were always cyclical and whilst they survived pre-war in the world of cartels, they subsequently suffered chronically the over-production and low profitability of unregulated competition. ICI's future prosperity depended on paints and other products nearer the consumer.

ICI had, and still has, a proud tradition of an enlightened employer which attracted good people to work for it. This tradition will continue to serve it well in the future.

APPENDIX 1

PEOPLE 1926-1976

HEAD OFFICE

	From	To
Finance Directors		
William H Coates (knighted 1947)	1929	1948
S Paul Chambers (knighted 1965)	1948	1952
J Leonard Armstrong	1952	1956
Peter T Menzies (knighted 1972)	1956	1967
F Colin Bagnall	1967	1968
Albert E Frost	1968	1976
Frederick J K Hillebrandt	1976	
Treasurers		
William H Coates	1926	1929
Philip C Dickens	1929	1939
J Leonard Armstrong (acting)	1939	1945
Philip C Dickens	1945	1945
J Leonard Armstrong	1945	1952
John H Cotton	1952	1960
Albert E Frost	1960	1968
Frederick J K Hillebrandt	1968	1976
Alan W Clements	1976	

	From	To
Deputy Treasurers		
H D Butchart	1927	1929
E J Barnsley	1929	1942
William Royle)		
Alan J Steward) acting	1943	1945
J Leonard Armstron	1945	1945
John H Cotton	1947	1952
Alan J Steward	1952	1957
Peter T Menzies	1952	1956
Sidney W Weysom	1957	1966
Albert E Frost	1957	1960
Alan B Patrick	1966	1971
Frederick J K Hillebrandt	1966	1968
Alan W Clements	1971	1976
Bertram D G (Bertie) Ogle	1976	
Chief Accountants		
A K McCallum	1927	1938
Alan J Steward	1938	1939
William Royle (acting)	1939	1943
Harold L H Smart (acting)	1943	1945
Alan J Steward	1945	1952
Harold L H Smart	1952	1964
Douglas J Cumming	1964	1967
Bertram D G (Bertie) Ogle	1967	1976
David E Watts	1976	

DIVISION CHIEF ACCOUNTANTS

	From	To
Agricultural (Billingham)		
John Dixon Smith	1929	1953
Benjamin (Ben) Neasham	1953	1955
Charles M Jennings	1955	1956
Dennis S Smith	1956	1968
Frederick (Fred) Turnbull	1968	
Alkali		
David Drummond	1929	1960
John K Steward	1960	1964
(post 1964 see Mond)		
Dyestuffs		
J F Lambert	1929	1938
Harold Harrison	1938	1959
John Pearse	1959	1976
Thomas R (Tom) MacMaster	1976	
Europa		
Michael G Davis	1960	
Fibres		
Albert A (Bert) Swinbank	1952	1964
J Kenneth (Ken) Gardener	1964	1968
Thomas R (Tom) MacMaster	1968	1972
Robin Biggam	1972	1976
Dennis W Holman	1976	

	From	To
General Chemicals		
A S Chamberlain	1929	1945
William John Maltman	1945	1951
George E Sutton	1951	1963
Nial Charlton	1963	1964
(post 1964 see Mond)		
Heavy Organic Chemicals (Petrochemicals)		
Felix Tiplady (Bill) Gow	1957	1961
R Peter Robinson	1961	
Leathercloth		
George Haddock	1929	1944
Eric Taylor	1944	1946
Colin F Kerr	1946	1965
(post 1964 see Paints)		
Lime		
Arthur Edwin Earnshaw	1929	1948
Albert E (Bert) Gale	1948	1960
(post 1964 see Alkali)		
Metals		
George Norton	1929	1948
Harold C (Harry) Heywood	1948	1959
Samuel P (Sam) Davies	1959	1961
William (Bill) Brittain – thereafter Finance Director	1961	1972
Gordon Taylor	1972	

	From	To
Mond		
Nial Charlton	1964	1972
Barry F Crook	1972	1974
Donald B Mackay	1974	
Nobel		
Alexander White Louttit	1929	1943
Leslie Hall	1943	1955
John Milne Aiken	1955	1962
Francis G (Frank) O'Hanlon	1962	1964
Henry (Harry) Fitzpatrick	1964	1974
Edward (Eddy) Innes	1974	
Paints		
Harold William Philips	1938	1949
R Dudley S Shrimpton	1949	1964
Frederick J K (Fred) Hillebrandt	1964	1966
John M Hollingsworth	1966	1973
Hugh R Roe	1973	1976
John M Hollingsworth	1976	
Pharmaceuticals		
Harold Harrison	1942	1957
T Bernard Worrall	1957	1970
Wilfred (Wilf) Grayson	1970	1976
Norman F Wood	1976	
Plant Protection		
F Taylor	1953	1960
George W Payne	1960	1974
Fred H Waterhouse	1974	

	From	To
Plastics		
John Barkley Schuster	1937	1939
W A H Blinkhorn (acting)	1939	1942
Charles Stuart Guthrie	1942	1952
Alan F Gawler	1952	1967
Duncan J T Thompson	1967	1969
Alan J Barrett	1969	1970
Donald B (Don) Hindson	1970	1975
J Trevor Harrison	1975	
Salt		
James Wallace Petrie	1938	1946
Thomas Crompton	1946	1959
Arthur Fryer	1959	1961
(then see Alkali)		
Wilton Works		
Albert A (Bert) Swinbank	1946	1948
Nial Charlton	1948	1962
(post 1964 see Heavy Organic Chemicals)		

Appendix 2

Division Chief Accountants' Conferences

It has been seen that in 1929 the subsidiaries were formed into Groups. A Chief Accountant was appointed for each Group, and on 11 October 1929 Coates chaired a meeting of all the Chief Accountants. The meeting was also attended by A B Routly, Coates' personal assistant, and by A K McCallum, Chief Accountant, and Sidney Weysom (later Deputy Treasurer). This meeting was the forerunner of a series which extended through the period and beyond. In later years they were renamed Treasurer's Conferences.

The agenda for this first meeting gives a flavour of the kind of subjects discussed at all of them. Hardy annuals were to be tax and the timetable for the annual accounts. There were exhortations about the importance of the 'floating assets and liabilities statements' produced every four weeks, and about the proper completion of Forms A (capital expenditure proposals). There were more technical subjects such as the standardisation of caustic costs, on which 'the Treasury' was working, and the treatment of Special Expenditure, overheads and research expenditure, *etc.* There was a proposal from Drummond of Alkali that the form of the Standard Trading and Profit and Loss Account needed amendment, but in the main the input was from Head Office.

Coates proposed that there should be three-monthly meetings, but this soon became half-yearly and during and after the Second World War they became annual. The only years missed were 1941, 1944 and 1967 (in the last year cash for such luxuries was in short supply).

To list all matters discussed at every meeting would be repetitious and boring, but some items should be noticed. A frequent use of the meetings was to discuss forthcoming changes. In September 1930 the change to quarterly costing with effect from 1 January 1931 was on the agenda, together with the change from four-weekly to monthly in the payment of salaries and suppliers' accounts.

In April 1939 the prospect of war cast a shadow in a discussion of the accounting records for Air Raid Precautions. Two other items were to become regular features: the training and promotion of accountants, and inaccuracies in profit forecasts. The use of the Groups' annual reports on their accounts was questioned, but most Group Chief Accountants were strongly in favour of continuing to prepare them.

By October the Second World War had come, and with it war-time legislation: the Defence (Finance) Regulations; Trading with the Enemy; War Risks Insurance; and Excess Profits Tax (replacing the Armaments Profits Duty). Government contracts also featured, costs were to include Central Services and Selling Expenses. The priorities of the accounting work were discussed, and the programme of dates for the year end was put back by a fortnight.

In 1940 there is a first mention of inflation. The Federation of British Industry were pressing for LIFO stock valuations in Government contracts, and there was a suggestion that reserves should be set up for inflation in stock values. Other war-time subjects were deferred repairs, the storage of documents, emergency banking procedures, and assets in enemy territory. To save paper, suppliers' invoices would not be in duplicate.

By September 1943 people were starting to look forward to the end of the war. There was talk about post-war training of accountants, reform of the costing system and post-war export profitability, but work on Treasurer's Notes had been suspended.

The formation of the Treasurer's Notes Committee and a costing committee took place in 1945. The calculation of capital employed was discussed, with the suggestion that for Government contracts replacement costs should be used (unlikely to find favour with the Government, one would think). Some pre-war procedures were returning, such as annual budgets for capital, research and welfare expenditure. The Statistics of Main Products were in future to be prepared by divisions, not by Head Office - it may seem surprising that they were ever done in Head Office.

The Cohen Committee had reported by the time of the 1946 meeting, there was, therefore, some discussion about its proposals, many of which were to find their way into the Companies Act 1947. The annual accounts programme was now one month later than pre-war and would be accelerated. The costing committee made an interim report rejecting most of the proposals by the Cost Controller. The continuing paper shortage prevented a return to the pre-war system for dealing with suppliers' invoices (still the case in 1947). The possibility of a revaluation of assets was mooted.

In 1948 the costing committee reported that Leathercloth Division was to experiment with standard costs, but there were difficulties. There was still some catching up to be done with the divisions' annual reports.

Following interest shown by Chambers, it was reported in 1949 that only five divisions had a system of departmental budgets, but Chambers was satisfied that control was effective. Reports on the progress of the Treasurer's Notes Committee had become an annual feature: this year, shillings and pence had been eliminated from the certified accounts and Forms T2 and T3. The revaluation of assets had been completed.

A return to the pre-war practice of suppliers' invoices in duplicate was finally abandoned in 1950, but in 1951 and 1952 there were worries about duplicate payments. The latter year saw reports that the Treasurer's Notes Committee was within sight of completing its remit, and that the war-time Excess Profits Tax liabilities had been settled.

By the 1950s the representation from Head Office had greatly expanded. In 1957, for example, there were 13 as against 18 from divisions, and it had become customary for the Finance Director to attend. The conferences lasted a whole day and were followed by a formal dinner. With the weight of top brass around, they were testing experiences for a newly promoted Assistant Chief Accountant. It could also be expensive if one joined the wrong poker school after dinner.

In that year there were the usual detailed technical subjects, in particular discussions on the timing of profit forecasts to link with further acceleration in the annual accounts. The payment of wages through bank accounts was being investigated, with the likelihood of a pilot study at Wilton. The proposal was part of the trend towards bringing conditions of service for workers more into line with those for staff. The latest revaluation of assets would become effective on 1 January 1958. Stern warnings to Division Chief Accountants about the importance of good internal check and internal audit had now become habitual.

A F Gawler suggested in 1958 that excessive provisions were being made against overseas debts. Edgar Davies, the Taxation Controller, pointed out that they were allowed for tax and if they were stopped ICI would be virtually offering to pay tax on £250,000. Gawler nevertheless had some support, but the provisions continued at about the same levels.

Some thorny problems were discussed at the 1959 Conference: the exclusion of overheads from stocks; the use of discounted cash flows in capital expenditure proposals; the basis of allocation of services capital to products; profits in inter-merger stocks; inter-merger prices; and the form of main product and other statistics. All were remitted for further thought. The use of credit cards for expenses was rejected.

In these years there was continuing pressure from divisions for more freedom to prepare information for the Board themselves, without the intervention of Head Office. Working capital included in capital employed was one example, and the basis of allocating overheads was another. In 1961 the Board set up its high powered Cost Systems Committee. A historic decision was taken in 1960, to abandon the divisions' annual reports.

Somewhat surprisingly, it was not until 1962 that computers figured on the agenda. This was triggered by projects at Central Sales Ledger and Central Purchases Accounts which were facing difficulties because of incompatibilities. In this year it was agreed that Treasurer's Notes should be discontinued - Dudley Shrimpton said they would be 'unwept, unhonoured and unsung'. The first impact of the Haslam job assessment system was generating heat. It was felt that the system was biassed against financial personnel.

In 1964 saw the change of title to 'Treasurer's Conference', but little change in the sort of topics. Support was given to Hillebrandt's suggestion of conferences at Assistant Chief Accountant level to promote exchanges of ideas and to give guidance.

The new Company system of giving people personal responsibility, from Division Chairmen downwards, began to intrude on the discussions in 1965. There were suggestions that the need to reach agreement, for example on forecast sales, slowed down procedures, and there were questions about the charges for central services.

Control of cash flows came on the scene for the first time in 1966, although there had earlier been references to charging divisions with interest on capital. It was noted that several divisions prepared cash flow statements, but Control Groups had never shown any interest in them. It was agreed that divisions should have cash plans and should be expected to adhere to them.

In 1968 there was some discussion of a clearer split between fixed and variable costs within operating costs, with budgetary control of the fixed costs – this was evidently not then the general practice. On a wider front, there was regret that the proposals to integrate the various professional institutes of accountants in the UK had not succeeded. Recruitment of good accountants was still a perennial problem. Much effort was going in to claiming Investment Grants, and in 1969 it was reported that ICI had received 9% of the total paid out to industry.

The tone of the agenda started to change in 1970 and 1971. The topics becoming more general and, in the latter year, with more input from the Centre, especially on the general financial position, but accounting for inflation was on the agenda, as was the general subject of management accounting. As well as the Treasurer's Conference, there were now Accountants' Conferences for people at Assistant Chief Accountant level and Accountants' Development Conferences for more junior staff.

The Treasurer's Conferences, therefore, were still in full vigour at the end of the period. If the agenda for the first meeting is compared with that for 1976, only two subjects are the same: taxation, and the annual accounts programme. The open discussion of the Group's financial position might well have raised blood pressures in 1929. The subject of accounting information requirements at Millbank would have seemed very familiar, but the complete absence of detailed matters such as the costing of laboratories would have been noted. Similarly, the 1929 pronouncement on the importance of the four-weekly working capital report can be contrasted with a wide-ranging discussion in 1976 on the best way to control ICI's working capital.

Reflecting the new attitudes, most of the Division Chief Accountants were now also Division Finance Directors, and they were mostly accompanied by one of their Assistant Chief Accountants. What form the after-dinner proceedings took in 1929 is not known.

Appendix 3

Treasurer's Notes, 1934

TABLE OF CONTENTS

MEMORANDUM	SUBJECT
XXVI.	Savings Bank.
XXVII.	Suretyship and Guarantees.
XXVIII.	Purchases by Employees.
XXIX.	Liquidations of Subsidiary Companies.
XXX.	Works Councils.
XXXI.	Other Bonus.

Issued by the Treasurer, ICI. 11th January, 1934

Appendix 4

ICI Group Statistics 1927 - 1976

The following table is extracted from Table 1 of Appendix II of Reader's History (Volume 2).

Year	Capital Employed £m	Sales £m	Profit £m	Return on Capital %
1927	72.8	26.9	4.9	7
1928	85.4	31.7	6.1	7
1929	98.9	35.0	5.9	6
1930	102.5	31.4	5.0	5
1931	99.1	32.1	3.9	4
1932	97.6	33.5	5.9	6
1933	97.9	37.3	6.6	7
1934	96.6	39.4	6.8	7
1935	96.1	42.7	7.0	7
1936	91.6	43.6	7.5	8
1937	94.8	54.1	8.4	9
1938	96.6	52.8	7.9	8
1939	97.1	62.1	11.4	12
1940	98.7	78.5	14.2	14
1941	98.5	94.4	15.2	15
1942	99.2	103.0	16.8	17
1943	100.1	111.4	13.3	13
1944	100.1	113.1	11.6	12
1945	104.7	103.5	8.3	8
1946	111.3	116.5	14.6	13
1947	115.2	136.7	14.4	13
1948	143.1	163.9	20.1	14
1949	147.6	174.6	16.0	11

Year	Capital Employed £m	Sales £m	Profit £m	Return on Capital %
1950	285.6	220.8	31.4	11
1951	307.4	262.7	41.0	13
1952	342.3	276.3	30.7	9

Notes:

1. Capital employed is net of depreciation and obsolescence. The increase between 1949 and 1950 was mainly the effect of the revaluation.

2. Profit is before charging fixed loan interest and tax.

The following table is extracted from the ICI Annual Reports.

Year	Assets Employed £m	ICI Equity £m	Sales £m	Profit before Tax £m	Profit after Tax £m	Net Ord. Dividends £m
1952	342	256	276	30	16	5
1953	360	270	282	37	20	6
1954	438	289	352	48	26	8
1955	460	309	411	54	30	8
1956	479	330	435	50	26	8
1957	545	344	463	55	29	10
1958	618	439	463	45	24	11
1959	660	476	509	73	42	17
1960	695	522	558	88	48	21
1961	738	574	550	62	34	22
1962	843	594	579	70	38	23
1963	893	643	624	85	43	25
1964	966	681	720	108	61	32
1965	1067	764	816	101	79	32
1966	1208	774	885	86	57	32
1967	1374	786	979	101	63	32
1968	1487	818	1237	153	94	34
1969	1557	861	1355	167	107	37
1970	1675	951	1462	144	102	38
1971	1774	923	1524	130	98	40
1972	1869	941	1694	141	102	41
1973	2143	1110	2166	311	200	50
1974	2412	1307	2955	455	252	54
1975	2748	1443	3129	321	195	59
1976	3519	1823	4135	540	279	83

Notes:

1. Assets Employed are net of depreciation and include a revaluation increment of £68 million in 1958.

2. The amounts of loan interest charged in arriving at Profit before Tax, and the Profit before tax and loan interest as a percentage of Assets Employed (average, after 1963) are shown below.

Year	Interest £m	Return %	Year	Interest £m	Return %
1952	1.1	9.0	1964	7.4	12.5
1953	1.2	10.6	1965	8.9	10.8
1954	2.1	11.4	1966	12.0	8.6
1955	2.9	12.3	1967	20.4	9.4
1956	3.0	11.1	1968	24.7	12.4
1957	4.8	11.0	1969	25.9	12.7
1958	4.9	8.0	1970	27.7	10.6
1959	4.1	11.7	1971	35.5	9.8
1960	3.7	13.2	1972	44.0	10.2
1961	2.7	8.7	1973	49.3	18.0
1962	6.5	9.1	1974	49.9	22.2
1963	8.0	10.4	1975	56.0	14.7
			1976	75.0	19.6

APPENDIX 5

INDEX OF RETAIL PRICES, 1926-1990

Year	Index	% incr./(decr.)over previous year		Factor*
1926	12.2	-		8.2
1927	11.9	(2)		8.4
1928	11.8	(1)		8.5
1929	11.6	(1)		8.6
1930	11.2	(4)		8.9
1931	10.5	(7)		9.6
1932	10.2	(3)		9.8
1933	9.9	(3)		10.1
1934	10.0	1		10.0
1935	10.1	1		9.9
1936	10.5	3		9.6
1937	11.0	5		9.1
1938	11.1	1		9.0
1946	18.7	69	(over 1938)	5.3
1947	20.0	7		5.0
1948	21.5	8		4.6
1949	22.1	2		4.5
1950	22.7	3		4.4
1951	24.7	9		4.0
1952	26.3	6		3.8
1953	26.7	2		3.7
1954	27.2	2		3.7
1955	28.1	4		3.6
1956	29.3	4		3.4
1957	30.3	3		3.3
1958	31.1	3		3.2

Year	Index	% incr./(decr.)over previous year	Factor*
1959	31.3	1	3.2
1960	31.6	1	3.2
1961	32.5	3	3.1
1962	33.8	4	3.0
1963	34.4	2	2.9
1964	35.6	3	2.8
1965	37.2	5	2.7
1966	38.7	4	2.6
1967	39.7	3	2.5
1968	41.6	5	2.4
1969	43.8	5	2.3
1970	46.6	6	2.1
1971	51.0	9	2.0
1972	54.6	7	1.8
1973	59.6	9	1.7
1974	69.1	16	1.4
1975	85.8	24	1.2
1976	100.0	17	1.0
1990	325.8	226 (over 1976)	0.3

* Factor to convert to £s of 1976.

Appendix 6

Plates

Plate 1: Constituent companies' trademarks

Plate 2: Lord McGowan

Plate 3: Sir William Coates

Plate 4: Sir Paul Chambers

Plate 5: J L Armstrong

Plate 6: Sir Peter Menzies

Plate 7: F C Bagnall

Plate 8: A E Frost

Plate 9: F J K Hillebrandt

Plate 10: Imperial Chemical House

Plate 11: Winnington Works

Plate 12: Wilton Works

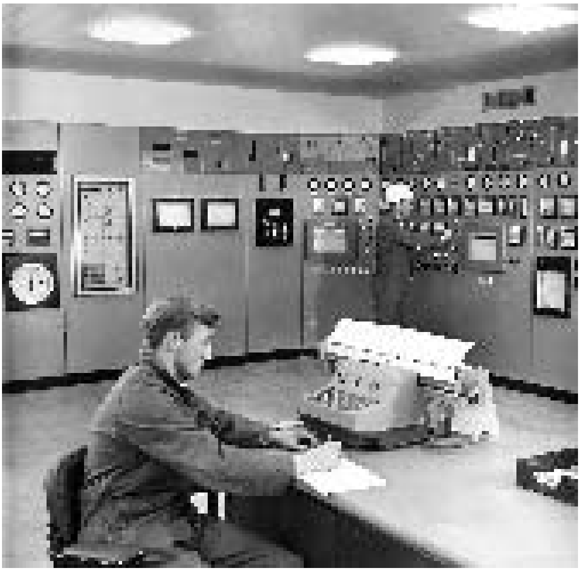

Plate 13: Control room, Silicones Plant, Ardeer

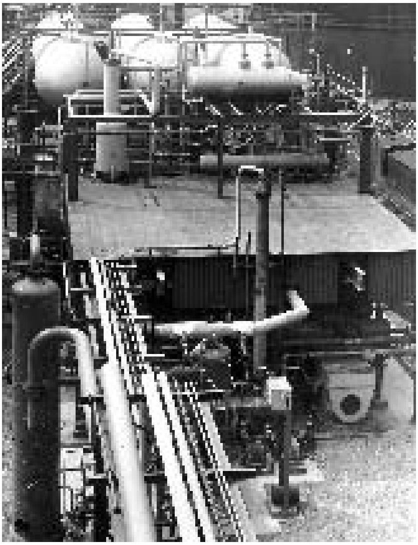

Plate 14: Liquid CO^2 Plant, Billingham

Plate 15: Olefine Plant, Wilton

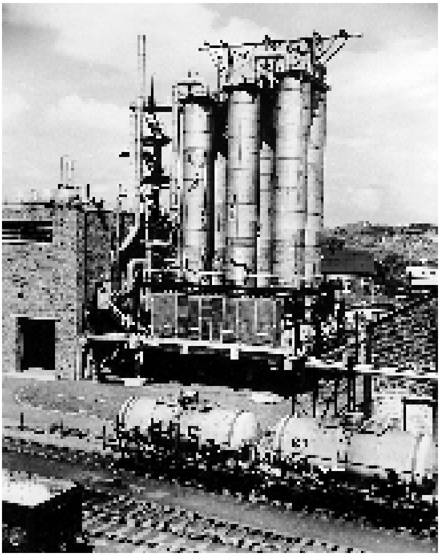

Plate 16: Nitric Acid Plant, Ardeer

Bibliography

Accounting Standards Committee (formerly Accounting Standards Steering Committee):

Accounting Standards 1–15.
Discussion Paper, *Effect of Inflation on Reported Profitability*, 16 December 1971.
Exposure Draft ED8: *Accounting for Changes in the Purchasing Power of Money*, January 1973.
Provisional Standards PSSAP 7, *Current Purchasing Power*, 1974.

Brief, R P (1984), *Depreciation and Capital Maintenance*, Garland, New York.

Burrowes, A W (1977), *A Chronology of the Development of Depreciation up to 1930*, Faculty of Business, Massey University.

Companies Acts 1908, 1929, 1947, 1967.

Edwards J R (1981), *Company Legislation and Changing Patterns of Disclosure in British Company Accounts 1900-1940*, ICAEW, London.

Garnsey, Sir G (1931), *Holding Companies and their Published Accounts*, Gee & Co, London.

Inflation Accounting Committee (1975), 'Sandilands Report', MND 6225, HMSO, London.

Inflation Accounting Steering Group (1976), (Morpeth) Exposure Draft ED18, 30 November.

Institute of Chartered Accountants in England and Wales (1949), *Rising Price Levels in Relation to Accounts*, 14 January, London.

Institute of Chartered Accountants in England and Wales (1968), *Accounting for Stewardship in a Period of Inflation*, London.

Leake, P D (1923), *Depreciation and Wasting Assets*, 4th Edition, Pitman, London.

Parker, R H and G C Harcourt (1969), *Readings in the Concept and Measurement of Income*, Cambridge, University Press.

Reader, W J (1975), *Imperial Chemical Industries - A History*, Vol.II, Oxford, University Press.

Stock Exchange Listing Requirements (various dates), Stock Exchange, London.