CONFIDENTIAL

PRIME MINISTER

NEDC Dinner

Following your meeting with Sir Terence Beckett in November, it was suggested that you might host a dinner at No. 10 for the members of NEDDY Council. The purpose would be to acknowledge the return of the TUC. The evening of 8 January, immediately before the 9 January meeting of NEDC, was considered.

This was put to Norman Willis by Sir Peter Middleton who, together with Mr. Cassels and Sir Terence Beckett, form the Group of Four who meet to arrange NECD business. After some delay, Norman Willis has returned to say that he favours the idea in principle but feels that he cannot get his team together for January. In any case, he feels uneasy about such an occasion while the mining strike is on. He is anxious not to be seen to be spuring your offer and has suggested that the idea might be reconsidered in, say, March or April.

Content?

Yes

ANDREW TURNBULL

4 January, 1985

CONFIDENTIAL

FILE

RD7

c.c. Sue Goldfield

10 DOWNING STREET

From the Private Secretary

7 January, 1985

NEDC DINNER

The Prime Minister understands that the idea of a dinner in No.10 for NEDC members was put to Norman Willis and, though he did not wish to turn down the idea, he felt that he could not get his team together in time for January. The Prime Minister has agreed to keep the idea in play. Could we, therefore, have a further word in early March to see whether the climate is right for resurrecting the idea.

BK

I am sending a copy of this letter to David Normington (Department of Employment).

(A. Turnbull)

Miss M. O'Mara
HM Treasury

E.R.

File

MR TURNBULL (o.r.)

cc Mrs Ryder

NEDC Dinner

Margaret O'Mara 'phoned to tell me that the TUC, who have now been sounded out about the possibility of a dinner for the NEDC, say they are happy in principle but January is too soon to get all their chaps together. March would be better.

27 December 1984

Restricted

National Economic Development Council

NEDC(85)9
24 January 1985

SECURITY OF NEDC PAPERS

Note by the Secretary to the Council

At the meeting of the Council held on 9 January, members expressed concern at the prior leaking to the press of papers about to be discussed. The Chairman emphasised - and the Council accepted - that it was for the Council to decide what should be published.

Recipients of copies of Council papers are therefore reminded that they should take all reasonable steps to prevent unauthorised disclosure.

P V Dixon

National Economic Development Office
Millbank Tower
Millbank
London SW1P 4QX

Restricted

National Economic Development Council

NEDC(85)7
23 January 1985

SMALL FIRMS AND ENTERPRISE

A Memorandum by the CBI

INTRODUCTION

1. The CBI is convinced that smaller and new firms are essential to the health of the economy, and that they provide a significant source of new jobs. It believes there is a need for a constant supply of new, which in general means small, firms to maintain the "water table" within the economy, and that it is no coincidence that the traditionally successful economies of the USA, Japan, and Germany have maintained a higher population of such firms than the UK.

2. In February 1982 the Council discussed the CBI's paper "Smaller Firms in the Economy" NEDC (82)8. That stressed the interdependence of small firms with the rest of the economy and the fact that they should not be regarded as providing an instant solution to unemployment. Since then further work has been done on the role of small firms. This paper reviews the available evidence on the impact which they have had upon job creation and considers measures designed to promote these enterprises.

3. The action programme at the end is divided between specific measures which can be followed through either by the Council or individual parties, and further research which will improve the understanding of the sector and help further towards the creation of jobs.

4. As stressed in the 1982 paper, the CBI does not seek privileged status for small firms. But they can on occasions be faced with special problems. It is therefore important to remove discrimination against them.

THE ROLE OF THE SMALL FIRM

5. Statistical evidence suggests that the number of small firms has been increasing in recent years and that these firms in themselves have been providing new jobs at a faster rate than larger firms. The annex gives greater detail.

6. Small, localised firms are important to regional employment regeneration. They tend to develop local linkages and base their often employment-intensive management functions within the region more often than do branch plants of larger firms. Small firms are necessary and important sub-contractors to larger firms and therefore play an essential role in the improvement of the large firms' competitiveness.

7. New firms play a vital role in the acceleration of much needed structural change within the economy, and are important sources of innovation and invention. A high proportion of new and small firms thus helps an economy to respond rapidly to technological change and promotes competition.

STATISTICS

8. Sufficient research evidence is now building up to confirm the view that the contribution made by small firms to the competitive process is fundamental; but there is still room for improvement in the statistics. The CBI monitors through its monthly Trends and Distributive Trades Surveys the state of optimism, output and employment prospects for small firms. But Government statistics on small firms are weak; some of the revision to official output and employment statistics has been due to lack of information about small firms when early estimates are made. The CBI is discussing this problem with the Business Statistics Office.

POLICY FORMULATION AND EVALUATION

9. The identification of appropriate policies to encourage new enterprises requires knowledge of what makes successful firms. In this context it is useful to think in terms of five building blocks:

i) Product or Service - The entrepreneur will have his ideas. He would not be in business if he did not think "he could do it better". But in order to stay in business he needs not only a continuous stream of ideas but also to ensure that his products can move quickly from the research through the development stage to the market.

ii) The Market - Small firms often lack market information and knowledge of marketing techniques, particularly in the export markets, which can affect their growth and therefore job creation prospects. The Economic Development Committees and the BOTB have a specially valuable part to play in assisting small firms to identify and exploit new markets, and in promoting co-operative export marketing and closer maker/user relationships which have been the centre of much work within the EDCs. The Government can also ensure that small firms are given a chance to compete for public contracts.

iii) Premises - Most firms when starting up are content with very basic premises, possibly even a garage. Inflexible application of planning law can stifle new ventures, and hence the creation of jobs, at source. Efforts are required to broaden horizons and perceptions among certain town planners, developers and architects of the actual needs of small firms. Here again the EDCs and the various business organisations have a role.

Co-operative ventures through such bodies as CoSIRA, and the stimulus of the Government's small workshops scheme have been helpful.

Rent subsidy is not a solution. This can be an open-ended commitment: it distorts competition, and can prevent firms from recognising their true financial circumstances.

iv) Funding and Finance - The major banks have taken an increasingly positive and understanding attitude towards small firms in recent years and this must continue. Over-reliance on loan finance remains a cause of unnecessary small business failure. This can be tackled:

a) Partly through making equity finance more available. The Business Expansion Scheme (BES) has had a positive impact here and been immensely popular, although rather costly to administer and relatively inflexible. A simpler, more flexible version could be developed.

b) The recent Small Engineering Firms' Investment Scheme (SEFIS) provides an acceptable model for the specific purpose of helping small firms . Here the proposals were administratively straightforward and assisted firms in gearing themselves up for growth and employment expansion.

c) The tax structure needs to take account of the pressures on small firms. This is covered separately in the CBI Budget proposals.

v) Organisation and Management - Many small firms do not have the resources or perceive the need for technical business skills in areas such as:
- financial management and controls
- compliance with legislation
- marketing.

One approach is through management training. Many initiatives in this field have been funded by both public and private sectors and in some cases jointly. It will be helpful to collate the experiences of many organisations in this field such as enterprise trusts and agencies in order to examine the relative success and failure rate, together with any geographical or sectoral differences.

Further it is essential to free management resources by reducing the burdens of legislation. The Government's own scrutiny aimed at identifying unnecessary administrative and legislative burdens should be vigorously followed through. The CBI has made specific proposals to Government. Legislation needs to take account of small firms in terms of the threshold levels for taxation, VAT, and legislative requirements. Since small firms are so vital to job creation, it is important to be particularly sensitive to the impact which employment protection legislation can have on small firms' recruitment decisions. The CBI's Gallup survey on attitudes to employment (October 1984) found that although most firms were uncertain about the impact of this legislation, a significant minority of small firms thought that unfair dismissal arrangements might be an impediment to higher employment.

MANAGEMENT BUY-OUT

10. Flexibility and responsiveness to change has to be the key. Management buy-out has a useful and positive role which has been increasing in the last few years.

11. Ownership and control of a firm's resources and rewards can become unambiguously placed in the hands of a group of individuals, thereby stimulating greater managerial motivation in "their" firm, and, provided the environment is right, a spur to enterprise. Buy-outs can also be a useful means for floating off under-utilised or under-managed parts of a larger firm.

ACTION POINTS

(i) The Government must follow through its scrutiny of administrative and legislative burdens and ease those which inhibit enterprise. The CBI looks for an early Government response to its proposals.

(ii) There are still questions about finance and funding for small and new firms. The Committee on Finance for Industry and in particular its Working Party on Small Firms might look at the issue and specifically at the possibilities of a development of the BES, perhaps along the lines of a Small Firms Investment Company, and further grants based on the SEFIS model.

(iii) The Government together with the CBI should look at ways in which the agencies operating in the small and new firms area might better co-ordinate their activities. Here we would look to the output of EDCs, the MSC, DTI and BOTB in particular to help to improve the overall performance of small firms and enhance job creation in that area.

(iv) In the longer term we need to consider ways in which the flow of information to firms can be improved and published statistics on smaller firms can be geared more closely to the necessary policy decisions. This is an issue which the CBI will be pursuing separately with Government but would be grateful for views.

Confederation of British Industry
Centre Point
103 New Oxford Street
London WC1A 1DU

ANNEX

INFORMATION ON SMALL FIRMS

The basic background book on small firms is the "Bolton Report" (1971).

Gallagher and Stewart [1] show that in the period 1971-81, 31% of all new jobs created by "births" and "expansions" were in firms of less than 20 employees (although these firms consisted of only 13% of all employment in the sample in 1971[2]).

Over half (52%) of the new jobs came from firms with less than 100 employees (29% of employment sample). Thus these firms created a significantly higher proportion of new jobs than their contribution to total employment would have suggested.

The contribution which small firms have made to employment in the economy is made clearer when net figures in the same period are considered (that is, after subtracting employment losses resulting from "deaths" and"contractions"). Firms employing less than 100 employees provided 1.82 million net new jobs compared to a net loss of 1.17 million jobs in firms employing more than 100 employees.

American experience[3] is similar to this.

There is no comprehensive data on "births" and "deaths" of firms in the UK. Pom Ganguly[4], drawing upon VAT data, has calculated that in the period 1980-83 there were 111,924 more new businesses started up than closed down and these were predominantly firms with a turnover of less than £500,000. Moreover, an excess occurred in each of the UK regions which he studied.

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1. "The Jobs and the Business Life Cycle in the UK" by CC Gallagher and H Stewart (Research Report 2, University of Newcastle-upon-Tyne, 1984)

2. Their sample covered 50% of all manufacturing firms.

3. "The Jobs Generation Process" by D Birch, MIT Programme on Neighbourhood and Regional Change (1979).

4. "Business starts and stops: regional analyses by turnover, size and sector 1980-83" in British Business 2/11/84

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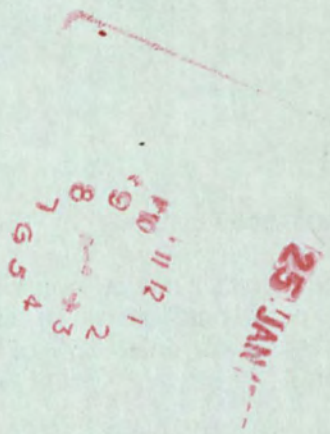


National Economic Development Council

NEDC(85)6
23 January 1985

CLOTHING

Memorandum by Sir Basil Feldman
Chairman of the Clothing Economic Development Committee (1978-1985)
Chairman of the Better Made in Britain Exhibition Committee 1983 and 1984

INTRODUCTION

1. The importance of the clothing industry as a chief customer of the textile industry, main supplier of the retailing industry, major employer and exporter is well known and the current position and recent trends on the industry are described in Annex 1. The industry faces a difficult challenge from the unique combination in this country of dominant retailers and the threat of continually increasing imports from low cost countries. These factors have depressed clothing retail prices and been mainly responsible for low levels of profitability and investment. Between 1978 and 1983 clothing imports rose by 70% and 100,000 jobs were lost. Yet the industry, encouraged by low inflation, the level of the exchange rate and a favourable productivity record, now finds itself in an environment where individual firms can take advantage of more promising market conditions.

THE OBJECTIVES AND WORK OF THE EDC

2. The EDC has seen as its role to act as a catalyst in encouraging change and its work has been increasingly directed at the following areas:-

a) Design, marketing and branding
b) Import substitution
c) Promotional Activities - Development of a Trade Centre
d) Initiation of the Clothing, Footwear and Textiles Scheme
e) Encouraging Export Performance
f) Communications

a) Design, marketing and branding

3. Since the late 1970's and particularly through the recession the EDC has brought to the attention of firms the need to focus on design, marketing and branding in place of a former production based outlook. The "St. Neddy" project launched by the EDC in 1979 was a campaign directed at boosting the sales of quality British Clothing in the UK and export markets which aimed to increase their attractiveness and suitability by promoting a collective trade name - "HERITAGE". An industry wide marketing campaign was developed to increase consumer awareness of British Clothing. The EDC has also devoted some time in 1984 to promoting the Design Advisory Service Funded Consultancy Scheme.

4. The change taking place in the High Street in display of merchandise led by the success of "Next Ltd", the womenswear retail chain, and now followed by many other retailers has helped create a demand for co-ordinated ranges of stylish and fashionable garments. This has led to a requirement for shorter production runs and greater flexibility where the UK manufacturers now have a potential advantage over Far Eastern producers who have longer supply lines.

5. During 1984 a meeting was held at NEDO between designers and retailers in order to bring the brand name of British designers into medium price clothes and win back orders to the UK, thus creating British jobs.

b) Import Substitution

6. The EDC has tackled import substitution in several different ways. In 1978 the publication 'Increasing your Sales in the UK market' concluded that a professional approach to marketing was an essential pre-requisite. In December 1979 a set of proposals were sent to the Secretary of State for Trade on Import Substitution. The Clothing EDC discussed in 1981 a co-ordinated design, marketing and brand image campaign "Have More Fun With Your Clothes On - Wear Something New" to make consumers more interested in buying British and to give retailers sound commercial reasons for stocking British made clothing.

7. The Manufacturer/Retailer Panels first set up in 1979, aim to identify future retail requirements and areas of opportunity for UK manufacturers. In 1980 a "Pilot Study of Garment Buying and Sourcing" was initiated which provided an insight into how retailers formulated their purchasing policies. Such efforts in building up closer links between manufacturers and retailers provided a foundation for launching the highly successful and innovative 'Better Made in Britain' Exhibitions which have formed the cornerstone of the EDC's import substitution drive for the last two years. Better Made in Britain I with its recapture of £20m of new business for UK manufacturers and II are described more fully in Annex 2.

c) Promotional Activities - Development of a Trade Centre

8. The EDC brought proposals to the industry on the establishment of a British Fashion Centre in Central London to act as a focal point for both home and overseas buyers. Such a centre would be of particular benefit to the medium to smaller companies who would be able to lease offices/showrooms in Central London and make it easier to buy British merchandise.

9. Fashion marketing centres are established in many cities in Europe and the Chairman of the EDC invited Mr Norman Lamont, Minister of State for Industry, to accompany him to the Confectiecentrum in Amsterdam, a Clothing Centre, which opened in 1968 spurred on by the initiative of a few manufacturers with support from the Amsterdam City Council, and which now extends to a complex of 72,500 square metres housing 350 manufacturers. A further complex of 75,000 square metres is planned.

10. A research study among 400 leading clothing and knitwear manufacturers, undertaken by Kurt Salmon Associates in 1983 for the EDC indicated that there was strong potential support from the industry for a British Fashion Centre, but in the event it has not yet attracted sufficient financial backing.

d) Initiation of the CLOFT Scheme

11. In 1983, following the successful launch of the DTI's Small Engineering Firms Investment scheme (SEFIS), the Clothing EDC initiated a series of proposals for a similar scheme. The government responded in March 1984 by announcing the provision of £20 million for a scheme to assist the textiles, knitted goods, footwear and clothing sectors and also to provide additional government funds to encourage the more effective use of designers. The scheme is still under review in Brussels.

e) Encouraging Export Performance

12. The Export Market Research Group set up in October 1982 decided to concentrate on more difficult but potentially high growth markets. In September 1983 a seminar and exhibition of military clothing was arranged for a top level delegation from the Federal Procurement Office of the West German Ministry of Defence (BWB). At the invitation of the BWB the British Knitting and Clothing Export Council is organising a two day exhibition of apparel items in Koblenz in March 1985.

13. The main thrust of the EDC's export effort has however been directed to Saudi Arabia. "Export Spotlight - Saudi Arabia" reporting on opportunities for specialised clothing, workwear and uniforms was prepared following a visit by export group members in April 1984. Further investigation is currently being undertaken on the retail sector in the Kingdom in order to identify the key buyers and best marketing channels for UK manufacturers.

f) Communications

14. Industry leaders have been involved with a number of informal dinners hosted by the Chairman of the Clothing EDC. Topics discussed have included banking services, design, the unions' view of the industry, import substitution, the MFA III negotiations and support for smaller firms. Guests of honour have included leaders of financial institutions, Sir John Nott, then Secretary of State for Trade, Mr Cecil Parkinson, then Minister for Trade, Viscount Davignon, Commissioner for Industry and Vice President of the EEC, and Mr John McGregor who was responsible for small firms at the Department of Industry. These dinners have provided a useful means to discuss strengthening the industry in difficult times and included members of the industry not on the EDC.

15. The work programme and recommendations of the EDC have through mailings, conferences and in-company visits been communicated to those who work in the industry. Since 1978 the EDC Ambassadors have held 80 meetings in companies involving management and workforce. Such meetings are partly aimed at improving communications within companies and the EDC is about to launch "Effective Communication in Companies" which is based upon the experience of firms in the industry and provides a simple yet practical step by step illustration of how companies can introduce or strengthen communication arrangements.

EXPLOITING THE CHALLENGES OF THE 1980's

16. The industry is fortunate in having three organisations which provide a wide range of services to help firms improve their competitive position in The British Clothing Industry Association, the British Knitting and Clothing Export Council and the British Clothing Industry Productivity and Technology Centre. Taking account of the activities of the organisations the EDC, which is currently being reconstituted, is likely to focus on the following areas:

- maximising the industry's performance in marketing and promoting a "quality" image in both home and overseas markets. The government may wish to consider some form of promotional campaign along the lines of 'Food from Britain', which seeks to maximise opportunities in existing and potential markets. With the rapid changes which are occurring in High Street store layout particular emphasis will need to be given to packaging and presentation in addition to design, marketing and branding.

- the Export Market Research Group will continue to research those priority markets where there are significant potential opportunities for UK manufacturers.

- a flexible manufacturing sewing system employing robotics is being developed in Japan in a co-ordinated research effort between 3 Research Associations and 27 major companies with funding from the Ministry of International Trade and Industry (MITI). The EDC will be watching these developments closely.

- to pursue actively work on import substitution in all ways including a further look at the feasibility of a Trade Centre.

- the practical guide on "Effective Communications in Companies" will be promoted widely within the industry through mailings and regional meetings. The need for training workshops in communication skills will be considered.

17. With productivity improvement aided by good labour relations, a creditable export performance, low inflation and a favourable exchange rate, the industry is in a position of potential strength where, provided the product design and marketing effort are right, firms can seize opportunities in both home and overseas markets. This will increase sales, reduce import levels and consequently increase employment opportunities .

National Economic Development Office
Millbank Tower
Millbank
London SW1P 4QX

ANNEX 1 TO NEDC (85)6

THE INDUSTRY'S POSITION AND RECENT TRENDS

1. When the textiles and knitting sectors are combined with clothing the value added is nearly twice that of each of the motor vehicles and aerospace sectors.

2. It is as a major employer, however, that the industry can make the greatest contribution to the economy. Chart 1b illustrates the position of the clothing industry as an employer compared with several major industries. Moreover much of the industry is located in regions of high unemployment and about 80% of its labour force are women.

3. The industry is spread across 7 sectors (chart 2) which encompass a varied and exciting product mix from high quality fashion garments to specialised work clothing. Total output has increased from £1724 million in 1975 to £3164 million in 1983 in current prices. Output rose rapidly in the later part of the 1970's and despite a downturn in 1981 is now showing an upward trend, although the trend is initially flat when looked at in terms of constant 1980 prices (chart 3).

4. Total net capital investment (new building work plus acquisitions of land, plant and machinery, and vehicles less disposals of those items) rose sharply between 1975 and 1979 from £28.4 million to £66.9 million spurred on by the 1975 Clothing Industry Scheme but has fallen back in the early part of the 1980's.

5. The export performance of the industry has been a considerable success story with exports increasing in current prices from £175 million in 1975 to £561 million in 1983. (chart 4) As a proportion of total production exports have risen from 10% to 18% in the same period. The same chart shows imports rising from £388 million to £1121 million over the same period with over 40% of imports coming from OECD countries.

6. Export efforts are directed worldwide (Chart 5) with Saudi Arabia for example now being the 7th largest overseas market for clothing. Amongst the other countries the Soviet Union is becoming a growth market with 1.8% of total exports. From 1976-1981 the clothing industry had a positive balance with EEC countries and, although UK exports to the EEC have not grown as fast as might be expected, especially as the UK accounts for 17% of Community production, exports to the EEC have become increasingly important and now account for around 50% of total exports.

7. Considerable strides have also been made in productivity improvements and the rate of increase in clothing productivity has been similar to the average for all manufacturing industry since 1980 after exceeding it in the late 1970's (Chart 6).

8. The greatest threat to the industry as a major employer, however, comes from the rising imports of the high volume low cost producers. Although import penetration (the ratio between imports and home demand) for the industry is currently about 33% by value, in volume terms it is much higher and it has increased significantly in many sectors since 1978 (Chart 7). For example between 1978 and 1983 import penetration for men's and boys suits, has increased from 39% to 64%, for jackets and waistcoats from 45% to 65% and for women's and girl's woven costumes and suits from 56% to 95%. Import penetration for men's shirts and women's blouses has remained high throughout at around 65% and 56% respectively.

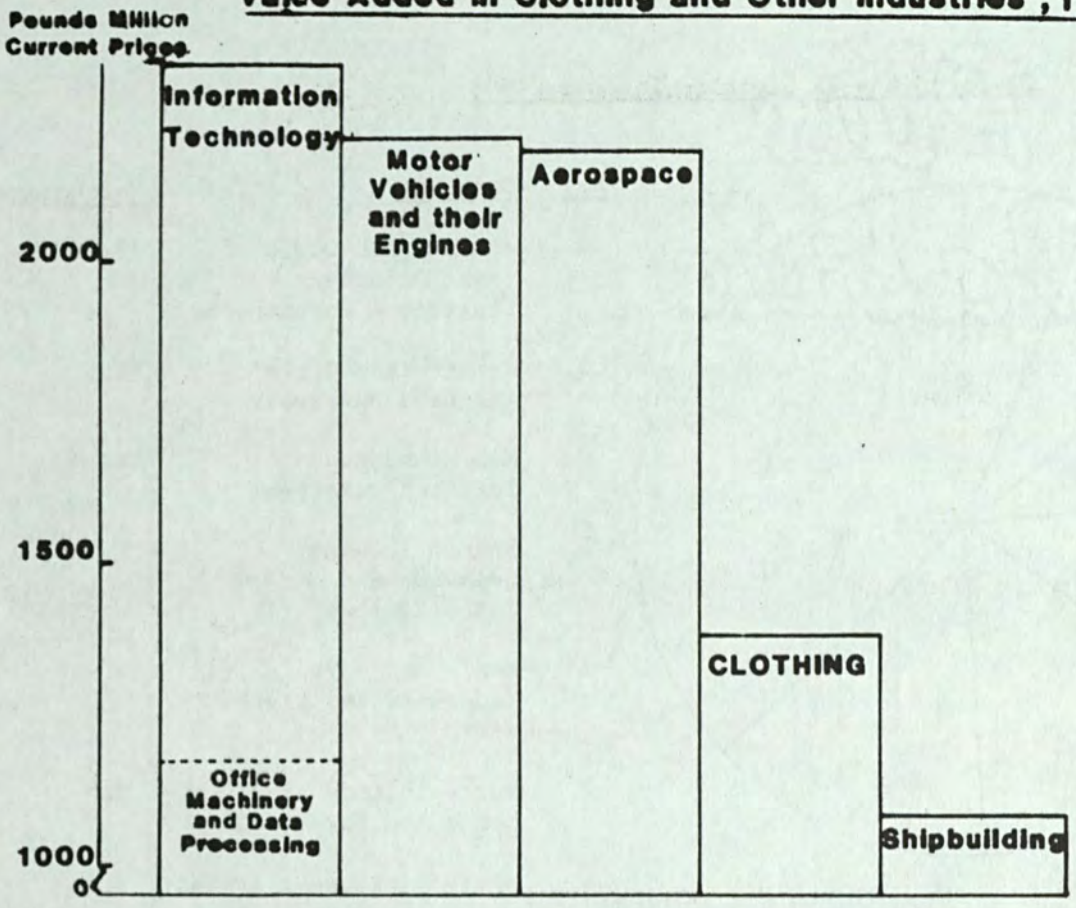
9. Large volume sales in the UK are concentrated in the hands of a relatively small number of retailers which combined with low cost imports has resulted in retail price levels in the clothing industry rising substantially less than those for all retail goods over a long period (chart 8). For example, between 1975 and 1984, retail prices (all items) increased by 161% whilst retail clothing prices rose by only 67%. In 1984 it is estimated the clothing retail prices have fallen slightly.

10. In 1982 there were 5800 enterprises in the industry with about 95% of firms employing less than 100 and accounting for 35% of total output. At the other end of the scale 59 firms employing over 500 people accounted for nearly 40% of total output. This compares with 7000 establishments in 1978, with a similar proportion of firms employing less than 100 people and 87 firms employing more than 500 with output shares of 31% and 44% respectively.

11. The impact of risng low cost imports on employment levels however causes the greatest concern. Employment in the clothing industry which was 326,000 in 1975 had fallen to 211,000 by June 1984. Since 1978 almost 100,000 jobs have been lost (chart 9).

Value Added in Clothing and Other Industries, 1983

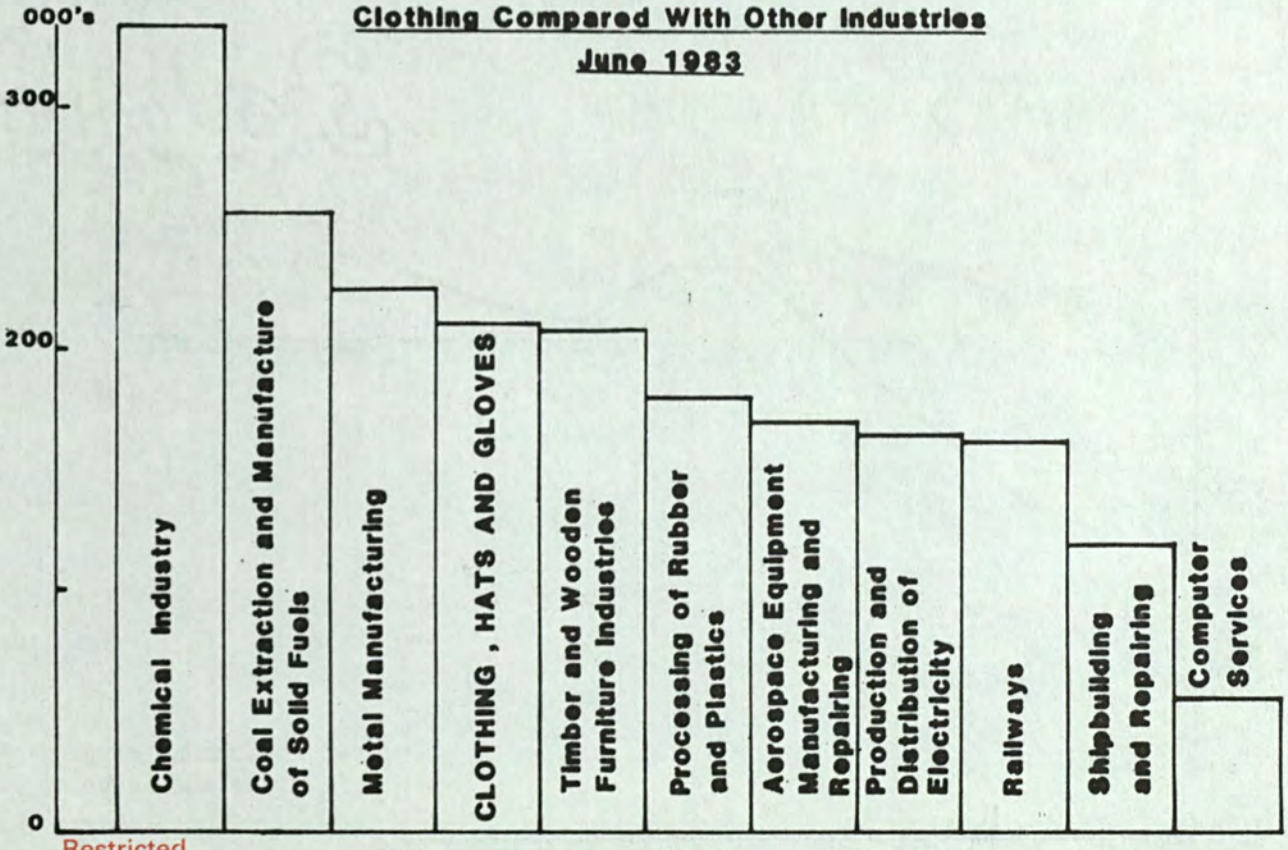
Chart 1a



Source : Department of Trade and Industry

UK Employees in Employment
Clothing Compared With Other Industries
June 1983

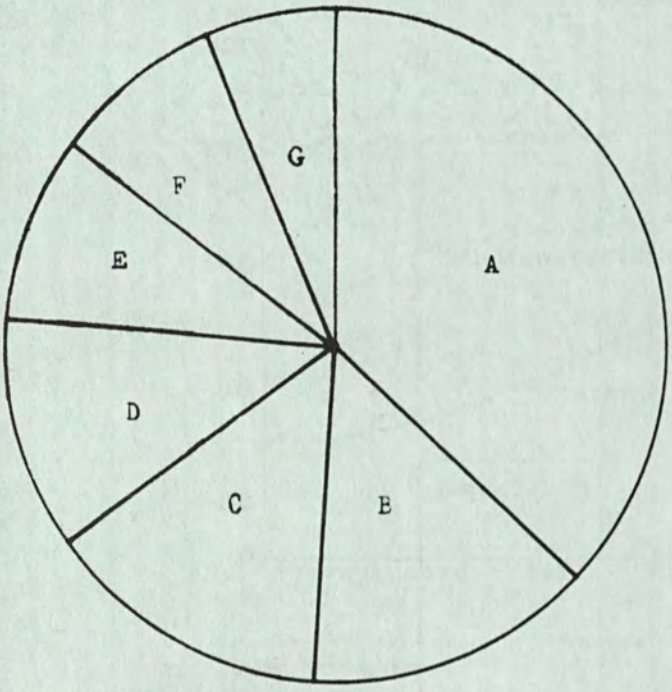
Chart 1b



Source : Department of Employment

Chart 2

Shape of the UK Clothing Industry 1983



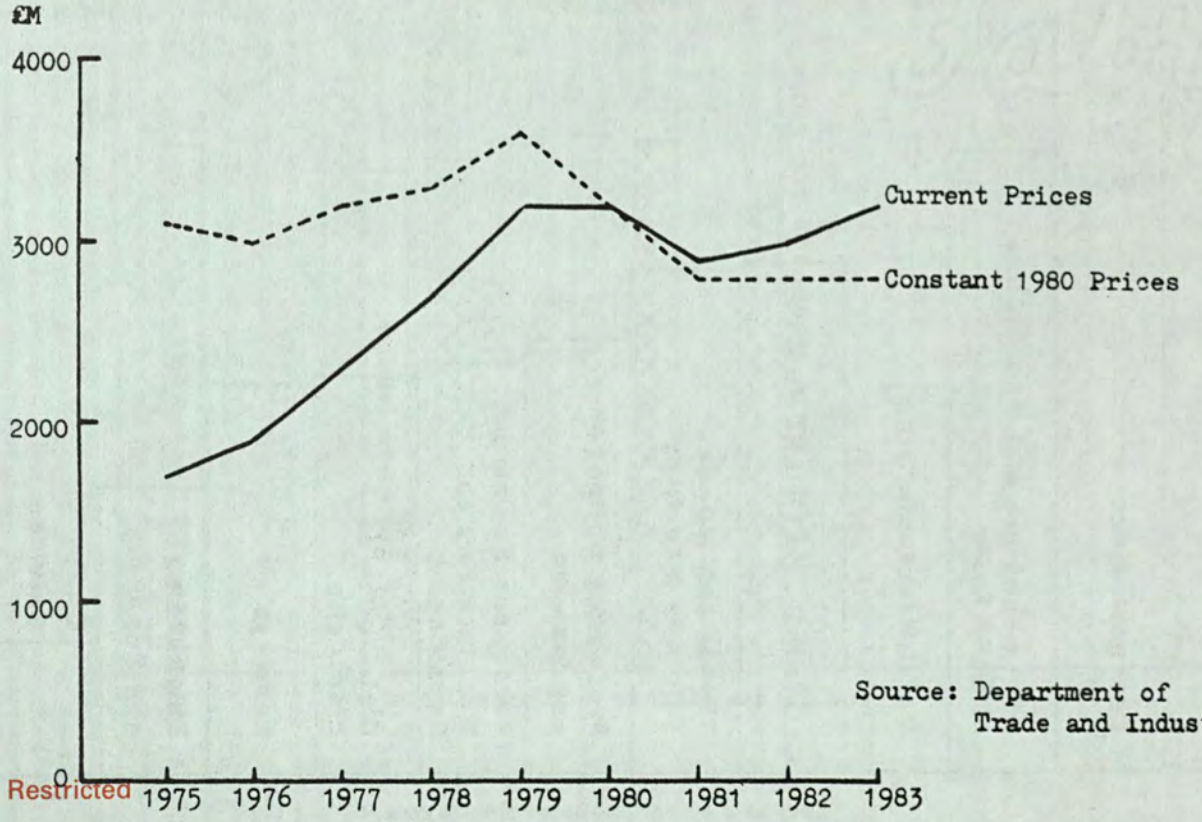
Key	Category	Percentage
A	Women's and Girls light Outerwear Lingerie & Infantswear	37.0
B	Women's and Girls' Tailored Outerwear	14.3
C	Men's and Boys' Tailored Outerwear	14.2
D	Foundationwear, Swimwear and miscellaneous	11.3
E	Men's and Boys' Shirts Underwear and Night-wear	9.1
F	Work-clothing and Men's and Boys' Jeans	8.3
G	Weather-proof Outerwear	5.8

Source: Department of Trade and Industry

Output £3164 million

Chart 3

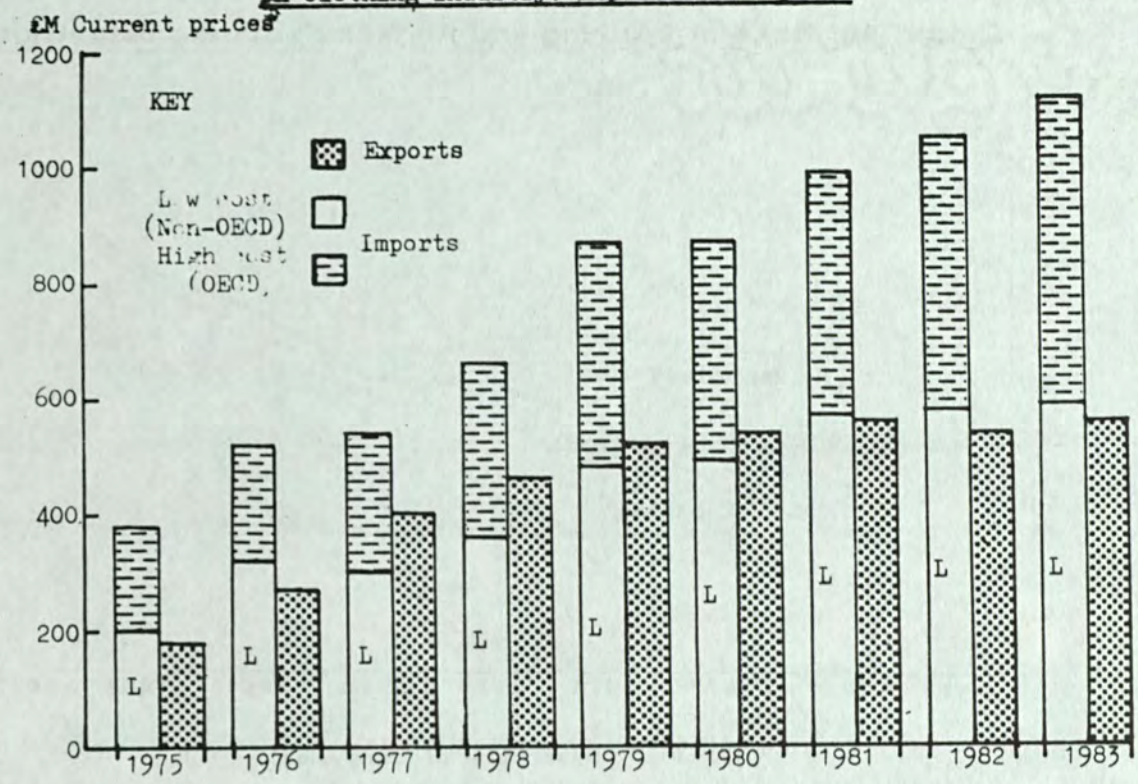
UK Production of Clothing



Source: Department of Trade and Industry

Chart 4

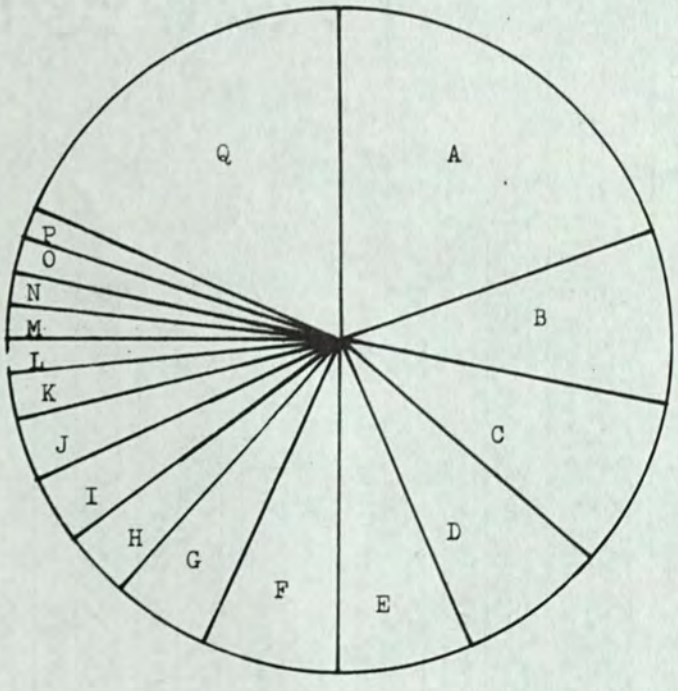
UK Clothing Industry: Exports and Imports



Sources Dept of Trade and Industry and O.E.C.D

Chart 5

UK Exports of Clothing 1983



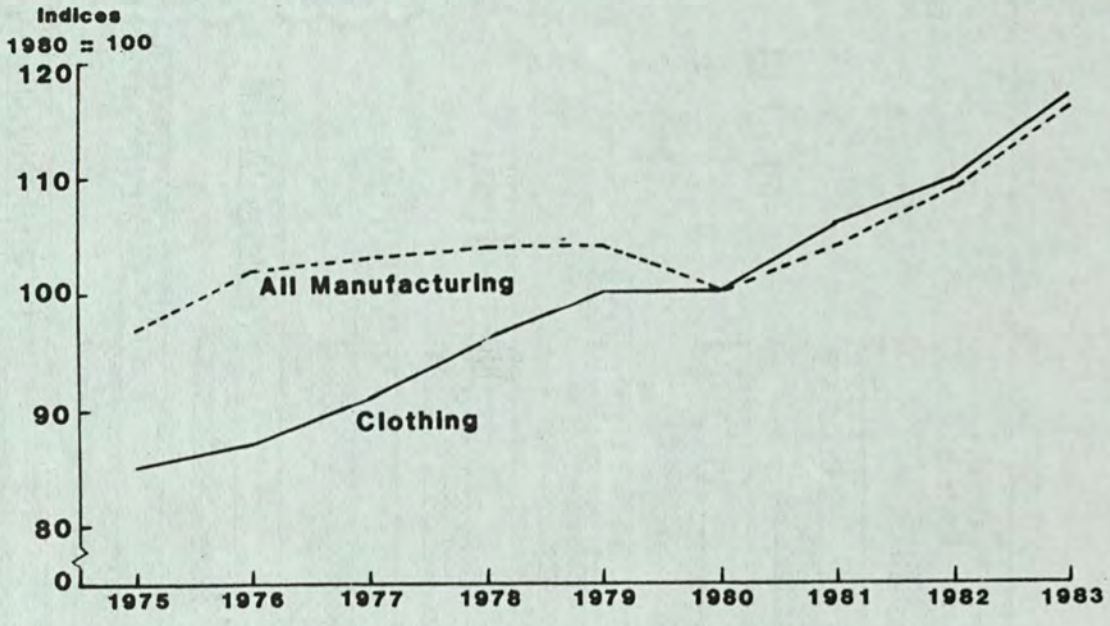
Key		% of Exports
A	IRELAND	19.8
B	FRANCE	8.7
C	W GERMANY	8.3
D	SWEDEN	7.2
E	NETHERLANDS	6.8
F	USA	6.7
G	S ARABIA	4.8
H	BELGIUM/LUX	3.3
I	SWITZERLAND	3.2
J	NORWAY	3.0
K	DENMARK	2.3
L	JAPAN	1.8
M	SOVIET UNION	1.8
N	ITALY	1.7
O	NIGERIA	1.6
P	AUSTRIA	1.5
Q	ALL OTHERS	17.5

Total UK Clothing Exports 1983 $ 822M

Source: OECD

Chart 6

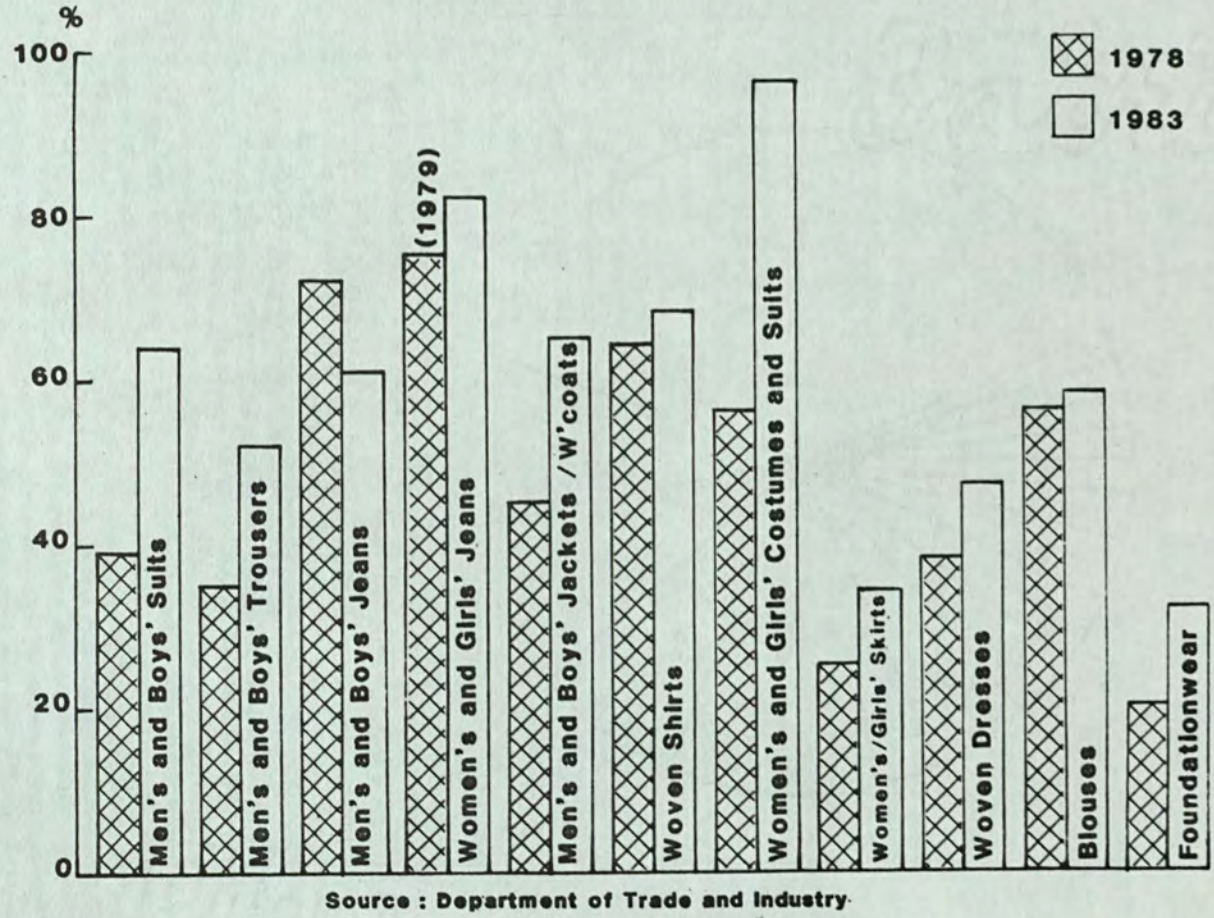
Output per Head in Clothing and All Manufacturing Industries



Source : Department of Employment

Chart 7

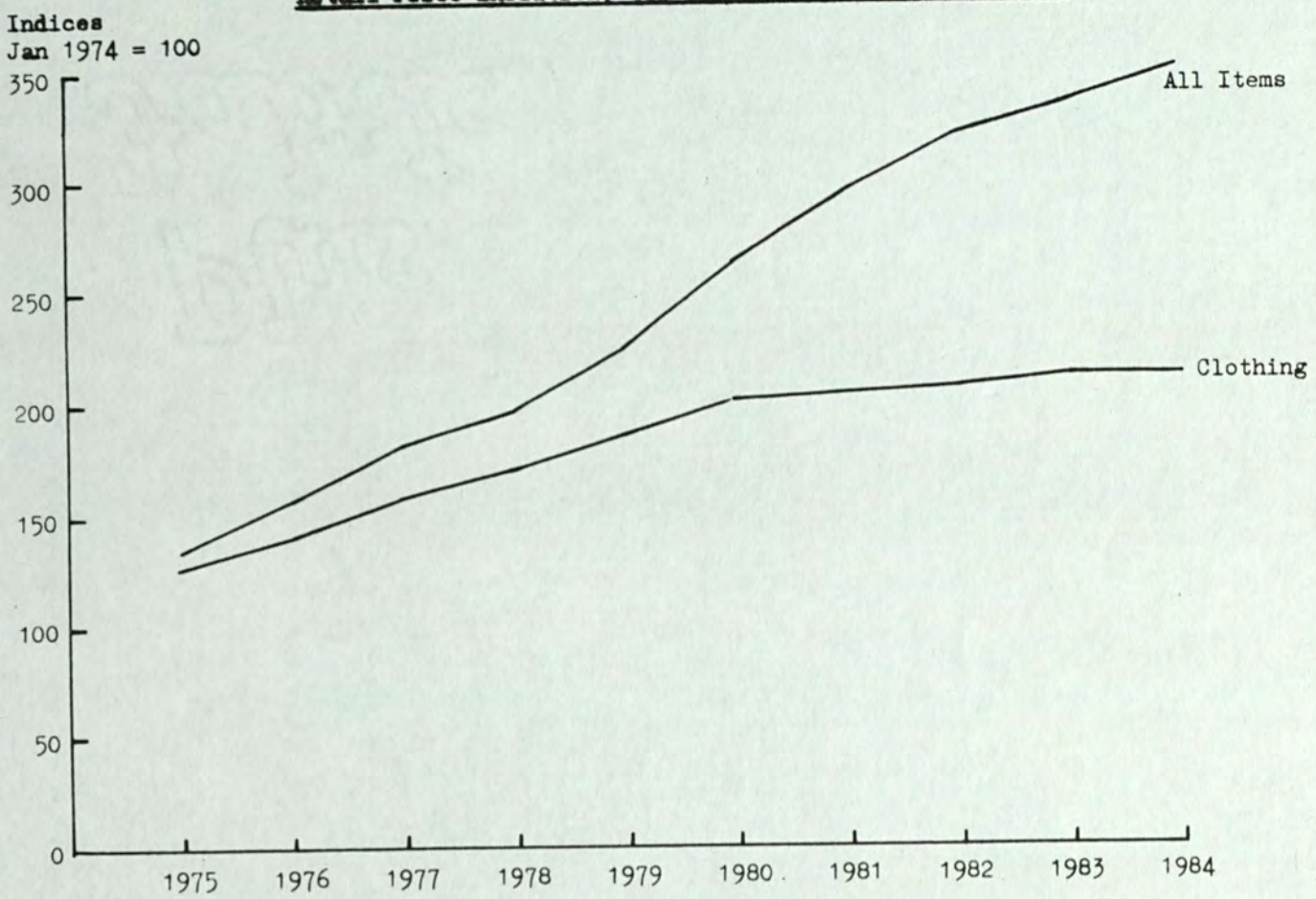
UK Clothing Market : Import Penetration by Volume



Source : Department of Trade and Industry

Chart 8

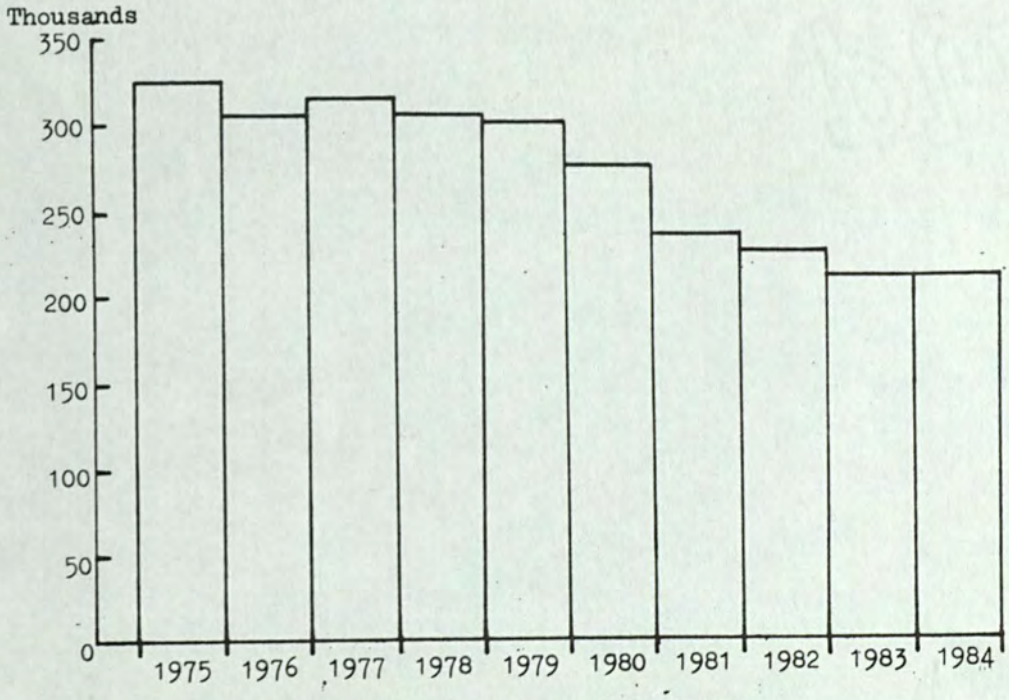
Retail Price Inflation, all items compared with Clothing



Source: Central Statistical Office

Chart 9

Employment in the UK Clothing Industry



Figures relate to June of each year
Source: Department of Employment

ANNEX 2 TO NEDC (85)6

BETTER MADE IN BRITAIN

1 The first Better made in Britain exhibition held in March 1983 is estimated to have won back £20 million of new business for UK manufacturers and created or saved, either directly and indirectly, 2000 jobs. The second exhibition which was held in October 1984 and broadened the clothing (and knitting) look by including both the footwear and textile sectors, is targeted to win back £100 million of new orders to the UK and create or save 10,000 jobs.

Concept and objectives of the Exhibition

2 The first Better Made in Britain broke new ground for the British clothing and knitting industries by seeking through a unique 'back to front' exhibition to establish widespread contact between manufacturers and UK retailers by bringing them together across a whole product area under one roof. The objective was to strengthen the domestic producer by providing an opportunity for him to talk to major retailers about the merchandise they were currently importing. This it was hoped would lead to an opportunity to match it in quality, price, availability and design for future seasons.

3 It was to consolidate the new business generated by the first exhibition and to build on the success of the experiment that in response to many requests from both manufacturers and retailers the second exhibition was launched in October 1984. The successful formula of retailers exhibiting imported items which they would rather buy in the UK, given a fully commercially acceptable source, was reconfirmed.

Facts and Figures

4 Total sales of the four industries covered by the Better Made in Britain Exhibition amounted to £8844 million in 1983. Imports from these industries have risen from £2754 million in 1978 to £4103 million in 1983 (33%) whereas the size of the home market increased only from £9958 million to £10,882 million (8%). This has resulted in import penetration rising from 27.6% to 37.7%. Over the same period 350,000 jobs have been lost with employment falling from 889,000 in 1978 to 516,000 in 1983. In the first three quarters of 1984 provisional estimates show imports amounting to £3692 million with import penetration reaching 40% and the loss of a further 16,000 jobs by June 1984.

5 The Better Made in Britain Exhibition is aimed at reversing the trend of job losses and creating employment by promoting the cause of import substitution provided UK manufacturers can be competitive with imported merchandise on the basis of price, design, quality and delivery. Most retailers also indicated that they were prepared to Buy British rather than import. It is a concept which can be adapted to other industries whether between retailers and manufacturers or manufacturers and their component suppliers.

6 The second exhibition was held on 24 and 25 October 1984 at the Kensington Exhibition Centre in London. 40 major retailers including 1 major overseas retailer and 4 overseas mail order companies covering some 70 brand names displayed over 3000 items of imported merchandise. For the clothing sector alone it is estimated that this represents an opportunity for UK manufacturers of 8 million garments. About 400 retail buyers and merchandisers were present over the two days of the exhibition. A total of 2004 tickets were sold to 1117 UK companies, 90% of which were represented at Director or Managing Director level. Both retailers and manufacturers showed considerable commitment to the exhibition - the participating retailers contributed £750-£1000 towards the cost of the stands in addition to the expenditure of dressing each stand and manufacturers paid £25 per ticket for admission. Council will be interested to know that total income and expenditure are estimated at £105,000 and £115,000 respectively.

7 The exhibition was a high profile event and the increase in participating retailers, from 28 to 40 at the second exhibition, who were prepared to put considerable time and money into identifying their companies with the initiative, demonstrated a genuine and growing desire to support the domestic industry. The exhibition was to have been opened by the Rt Hon Norman Tebbit MP, Secretary of State for Trade and Industry, but in the event the ceremony was performed by Viscount Whitelaw. Many other members of Government visited the exhibition together with key figures from the CBI, and Trades Unions. A highlight of the two days was a reception at 11, Downing Street, made available by the Chancellor of the Exchequer at which both the Chancellor and Prime Minister spoke.

Reaction

8 The event itself proved to be highly successful. Retailers were impressed with the calibre of manufacturers who approached them and commented on a noticeably more professional management attitude. A number of retailers registered interest from 200-300 manufacturers and most considered their involvement as being justified. Manufacturers found it better planned and more useful in a number of ways than the first occasion; they were pleased at the switch away from the lowest cost imports and found the retailers more helpful. The second event clearly helped both sides maximise the opportunity. There were many favourable comments on the atmosphere of the exhibition and high level of presentation adopted by the stand holders.

Media Coverage

9 Although it might have been imagined that press coverage for a second exhibition would be less easy to generate than for the first there were articles or features in 8 national and 13 regional newspapers and 35 trade journals or periodicals. The various Trade Association and Trade Union bulletins also gave strong support to the event.

The Industries Stand

10 Clearly a positive response needed to be made by manufacturers and this year the footwear, clothing and knitting industries shared a stand which demonstrated the wide ranging commercial, technical, education and training services aimed at strengthening the competitiveness of these industries into the 90's. New technological developments were also on view on the stand.

Surveys of imported merchandise

11 The aim of the surveys, undertaken on behalf of the Clothing, Knitting and Footwear EDC's by the BCC, Zina Roworth & SATRA respectively, was to establish a record of a proportion of the items exhibited both in terms of a factual analysis and to provide an assessment of the implications for UK manufacturers.

12 The reports provide much very interesting detail on the content of the exhibition. Every item examined was logged as per the basic information displayed on its ticket so a clear picture has emerged of what was on show, where it came from, the likely order sizes and delivery requirements, and usually its selling price if not the cost price. Also given is a good idea of why the item is being imported and whether it is viable for manufacture in the UK in the opinion of the researchers.

13 These surveys indicated that the bulk of the merchandise on display could be technically made in the UK. Moreover for the knitting and footwear sectors it was estimated that 75% and 50% respectively of the products could be made commercially. For the clothing sector the profitability for UK manufacturers is to be further researched by the British Clothing Industry Association.

Spreading the Message

14 The Office has commissioned a film on the exhibition with the objective of persuading other industries to consider a similar approach to strengthen the links between manufacturers and their purchasers. The concept of the exhibition is strongly supported by Government and opposition spokesmen, CBI and TUC, together with senior representatives of the Furniture, Printing, Hardware and Housewares and Cutlery industries who attended the exhibition. Over 70 leaders of other industries sent letters of support to the "Better Made in Britain" Exhibition and the Prime Minister in a letter to Sir Basil Feldman strongly supported the exhibition and hoped that such initiatives would set an example to other industries.

15 Based upon the experiences of the Better Made in Britain Exhibitions success can be measured at two levels. First there is the impact of the exhibition itself and secondly the later commercial success which in the case of the first exhibition brought £20 million of new orders for UK manufacturers.

16 The Better Made in Britain video identifies 7 key pointers for a successful exhibition. Firstly the event was pioneered by Sir Basil Feldman, Chairman of the Exhibition Committee, which included senior retail, management, government and Trade Union representatives. Secondly the product range was limited and targetted to specific areas with a reasonable chance that a high proportion of the merchandise on display could be manufactured profitably in the UK, so as to provide significant opportunities for substitution by the visiting manufacturers. Thirdly the commitment of the key buyers (the retailers on this occasion) was a essential pre-requisite and fourthly it was clearly important for the manufacturers from the various industries to support the exhibition. The friendly ambience of the Kensington Exhibition Centre was the fifth factor and helped to provide a lively and congenial atmosphere conducive to detailed but relaxed discussions. Sixth the whole event was given a high profile by the support received at top level from government, opposition, both sides of industry and TV and sports personalities. And, seventh, NEDO with its neutral stance, regular contact with manufacturers and retailers and sector committee structure was the ideal catalyst to organise such an exhibition.

Restricted

National Economic Development Council

NEDC(84)47
Cover note
22 November 1984

INVESTMENT IN THE PUBLIC SECTOR BUILT INFRASTRUCTURE

The attached paper provides a factual and analytical contribution towards consideration of investment in the infrastructure by the Council early in the New Year. The paper for discussion by the Council will be circulated at the normal time in advance of the meeting.

P V Dixon

Secretary to the Council

National Economic Development Office
Millbank Tower
Millbank
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NEDC(84)47
20 November 1984

INVESTMENT IN THE PUBLIC SECTOR BUILT INFRASTRUCTURE

CONTENTS

* Circulated to advisers only

NEDC(84)47
20 November 1984

INVESTMENT IN THE PUBLIC SECTOR BUILT INFRASTRUCTURE

Memorandum by Director General

PART I SUMMARY

Introduction

At its meeting in August 1983, the Council considered the question of investment in the built infrastructure and the prospects to the end of the decade for the construction sectors. NEDO was commissioned to examine the criteria used in practice by public bodies responsible for investment in the renewal, improvement and maintenance of major parts of the nation's infrastructure. The terms of reference agreed with the Council parties are at Annex 1.

2 Six main categories of infrastructure were selected for study:

- Roads and bridges
- Water supplies and sewerage
- Public sector housing
- School buildings
- Health service properties
- Central government's civil estate administered by the Property Services Agency (PSA).

3 In 1983 the total flow of capital funds invested in new assets in these six categories, which together account for perhaps half of total infrastructure investment, exceeded £5bn (the exact figure cannot be established from existing procedures). There was also a very large total of current expenditure on maintenance and renewal, which cannot be separately distinguished from the other current expenditures in these fields, but is estimated to be of the same order of magnitude. The value of the assets in England alone is in excess of £200 bn.

4 The study carried out by NEDO staff investigated the extent of the information on which capital and current expenditure decisions are at present based, and the objectives, criteria, methods of allocating priorities and the procedures and funding systems used. An assessment was also made of the implications for the quality and condition of the built infrastructure of each service, so far as this could be ascertained. The study deals with the systems and practices followed in England, and with those followed in other parts of the UK insofar as they are similar.

5 Such existing data as are available were collected and used as the basis for a series of some 100 structured interviews with sponsor Departments, regional and local spending authorities and other relevant organisations (listed in Annex 2). They were visited over the period February to July 1984.

6 The study considers the main categories of funding arrangements:

- Direct central government funding: PSA civil estate, NHS hospitals, and the national trunk road network, including motorways.

- Local government rate provision with central government funding through the rate support grant system : county roads, education buildings, public sector housing (partly funded by rents).

- Utility funded by charging for its services and by borrowing within central government limits : water and sewerage.

Summaries of the reports on the six areas studied are attached; the full reports are enclosed as an annex.

Theme of the Report

7 Well-run public and private sector companies provide for the maintenance of their assets, and for depreciation to replace those which they expect to be able to employ profitably in the future. They are subject to the disciplines of the market and they can test and compare the performance of specific investment programmes by the rate of return which they earn. The cash flows generated are invested provided they are judged capable of earning the anticipated return.

8 This calls for the assets to be quantified and valued both in terms of the initial investment and also according to their condition and value in use. It also calls for criteria to determine the investment to generate the anticipated return in the light of information on existing assets and assessments of future demand, both for new projects (taking account of lifetime costs) and also for cost effective planned maintenance and replacement.

9 Market forces alone cannot provide the same discipline on expenditure for the provision, maintenance and renewal of the infrastructure. Here, the interpretation of need provides the relevant criterion, except to a limited extent in the case of water and sewerage, and housing (through rents). If the very large sums spent on both capital and current account are to secure both value for money and a level of provision acceptable to the user, decisions and expenditure procedures need to take account of clearly defined objectives for each service; and to be based on:

- properly substantiated assessments of the forward demand for, and (where appropriate) economic and social benefits from, the service both locally and nationally;

- detailed information on the value, extent, nature, condition and level of use of the present stock of assets, on maintenance levels and costs and on expenditure on capital and current account;

- criteria and systems to determine priorities for capital and current expenditure both locally and nationally, and for making the best use of available resources;

- financial disciplines which enable the long-run costs and benefits of alternative maintenance regimes to be assessed and compared,

including the assessment of the whole life cost of particular assets, and of particular maintenance and replacement regimes;

- consistent arrangements for allocating available funds at both national and local level to meet the requirements, criteria and priorities identified.

10 The findings are related to these requirements.

Findings

Provision for depreciation

11 Except for the Water Authorities, assets are not formally valued in financial terms, and no formal provision for annual depreciation is therefore possible. Water Authorities, which depreciate their assets on a current cost accounting basis, are dealt with at paragraph 36. For all five other sectors, the analysis in paragraph 9 is alone relevant.

Objectives of the services

12 The objectives, whether set nationally by government or by the local authority, are usually too vague and generalised to be of practical use as benchmarks of performance, or as indicators of investment needs.

Extent, value and condition of the stock

13 The available information on the value, extent, quality, condition and performance of the stock and of the amount spent on it is extremely variable. It ranges from being quite comprehensive in certain fields (eg motorways and trunk roads) through inadequate (eg housing in relation to quality and performance characteristics) to poor (hospitals). A new information system is being introduced for the NHS hospital stock which has many good features, and is potentially applicable in other fields.

Investment criteria

14 Criteria are drawn up for investment in new stock or assets and are generally though by no means universally well developed. Except for some new projects, life cycle costs have not on the whole been taken into formal consideration. Criteria for expenditure on the maintenance and renewal of the assets are usually much less formalised than for new developments and range from standardised condition assessments (eg in motorways) to largely reactive "firefighting" on an ad hoc crisis management basis. Additionally, the system used generally fails to take account of the fact that the maintenance requirements of complex modern structures (eg hospitals) are often greater than those of the older, less technically sophisticated buildings that are replaced. Criteria will of course need to vary, and in a few cases could conceivably include even 'firefighting', but in many cases it appears that the criteria fail to provide the basis for efficient use of resources.

15 Typically, at the time of construction some of those assets referred to in paragraph 3 have very long lives attached to them. They have often deteriorated prematurely either because they have been subject to far greater use and wear and tear than originally assumed, or because methods of design and construction or materials used were unsatisfactory. At the

aggregate level, to base necessary expenditure on those assets on some theoretical rate of depreciation may lead to serious underestimates of required expenditure.

Assessments of demand and setting of priorities

16 The setting of priorities at local level, both as between viable new construction projects and the maintenance or replacement of existing assets, and as between individual projects, is made annually against assessments of forward requirements and of the condition of the stock. The priorities reflect these procedures, which are usually very imperfect, given the inadequate information base, as well as an element of choice based on spending authorities' own assessments of need. Local Authorities' Transport Policy and Plans (TPPs) and Housing Investment Programmes (HIPs) - submitted in mid year for the subsequent financial year - provide the clearest examples of an attempt at a formal statement in relation to needs.

17 Within certain infrastructural areas, at both national and local level, there is evidence that maintenance/repair has been put to the end of the queue for funds in order to keep pace with current expenditure essential to maintain the standards of the services provided - eg for medical staff and equipment in the hospital service or for teachers and equipment in schools.

18 Though local spending plans are submitted through the regional offices of sponsor Departments, they do not determine the total national allocation of funds. Nor is the national level of funds to those services which are provided directly by central government based on such formal assessments of requirements.

Allocation of funds by central government

19 Allocation of funds to each service is negotiated simultaneously with the preparation of the annual bids at local and central government level. Centrally, the allocation is made through the collective decision of the Cabinet after bilateral discussions between the sponsor department and the Treasury. The plans of spending authorities do not appear to influence the outcome of the negotiations with the Treasury, which take the level of the existing provision as the starting point. It is spending authorities' perception that next year's allocation by government is based on last year's spend and on the one-year financing cycle, although the expenditure plans themselves cover a three year period.

20 Generally there appears to be no attempt at the appropriate level within central government to base the case for annual allocations of funds on strategic assessments of requirements and priorities. Such assessments do come into play, however, in the subsequent process of allocating available resources as between capital and current expenditure.

21 Further, the allocation of funds as between categories of infrastructure at national level does not seem to be based on a review of strategic assessments of requirements and priorities. Also there is no adequate mechanism for achieving a balanced spend in relation to need as between each category of service within a Region. Such a mechanism may be hard to set up but the need for it was raised by some spending authorities.

Allocation of funds by local authorities

22 The allocation of funds by local authorities to those services which they provide is not simply based on need criteria and priority assessments. The starting point is the current year's proposed spend in each service. It is then related, so far as possible, to authorities' assessment of local needs and priorities and includes an element of "horse-trading" between different services. It does not have to correspond to the net government provision, which is partially based on assessments of need.

23 In the past three years, local authorities' receipts through the sale of assets have given them some degree of flexibility to allocate the resulting funds either to the service concerned (mainly housing) or for distribution over the full range of local authority funded services.

The one-year funding cycle

24 Most services provided by local authorities, and some of those provided by central government direct, are subject to acute problems caused by the one year funding cycle. Insufficient indication is given of the resources likely to be available beyond the allocation year concerned; allocations must be used in the year for which they are made and after allowing for virement (switching of expenditure) between services and a 10% carry over to the next year any unused portion is lost. Many instances were found in the study where the lead time, eg for housing renovation programmes or local road investment, is such that the most cost effective projects cannot be undertaken within the time scale available. In order to fit within the one-year cycle or to accommodate unexpected changes in allocation, expenditure is at times undertaken which does not give good value for money.

25 Some authorities, especially those responsible for housing, argued that a 5-year planning/funding cycle is their greatest single need and that this would be more effective and more helpful than a one-off increase in funds. An increase spread over a number of years is, nevertheless, needed by nearly all of them to overcome the situation that has built up.

Backlogs of maintenance, repair and renewal work

26 The report shows that in many areas the present criteria, systems and levels of resource allocation have led to backlogs of maintenance, repair and renewal because they do not allow spending decisions to be based on value for money. These backlogs are neither trivial nor cosmetic items, though of course deterioration on its own does not prove the need for further expenditure unless the outcome will provide value for money. The examples encountered include many which arise from delays in maintenance which so sharply increase necessary expenditures in subsequent periods that no rational discounting process can justify them. In many areas, present systems and levels of resource allocation have led to failures to maintain the fabric of buildings and structures, to remedy structural faults, to renew worn out components and to remove obsolescent features. In some areas, which are specified and quantified so far as possible in the report, delayed and insufficient expenditures have led to accumulating and accelerating backlogs of work as the deterioration of the stock and the costs of crisis repairs increase. It is claimed that there are many instances where the quality of service provided has fallen below statutory or minimum acceptable standards.

27 The extent of the backlogs is often concealed by inadequacy of information. Once these backlogs have been cleared, planned maintenance and replacement to keep the stock in good condition could be funded by the allocation of sums not very different from those currently being disbursed. In one particular area - local roads - several county surveyors reported that without expenditure of around 2 to 3 times the current annual maintenance provision, spread over several years, far greater expenditure would be required later to prevent further deterioration, and to remedy the situation.

28 In the case of hospitals, a Government report based on a sample survey has estimated a maintenance backlog of the magnitude of £2bn; the judgement offered to the study team is that although some surplus property may be included in this estimate, the magnitude of the backlog is indeed of this order. A number of the Health Authorities visited indicated that they would need to spend at least twice their existing maintenance budgets to clear their backlogs.

29 In some education authorities, and in several PSA regions, it is evident that maintenance expenditure falls short, in some cases by as much as 40%, of the amount required even to deal with the most urgently justified tasks.

30 Quite apart from the backlog of repairs which have accumulated due to wear and tear and to neglect, there is mounting evidence of defects in much of the stock of housing and school buildings erected in the 1960s, which is giving rise to growing concern. The cost of overcoming those defects in the public housing sector alone is currently estimated at £5bn by the Association of Metropolitan Authorities. This estimate is widely supported and has not been challenged.

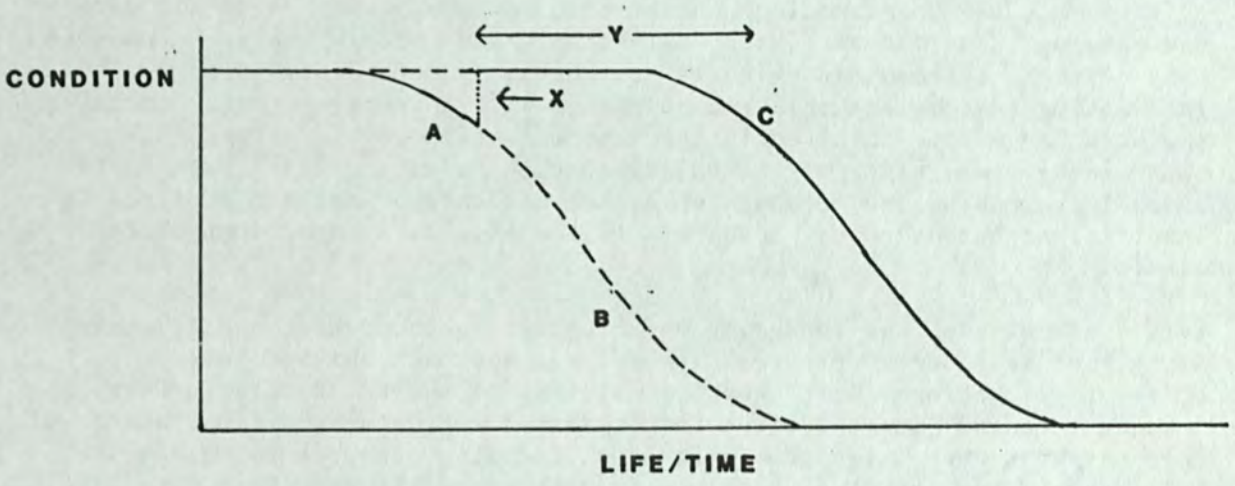
31 The report thus paints a sombre picture. Assessment of the backlogs has been based on the more conservative and well substantiated estimates in the areas under review; in many of the areas it is now evident that the situation has been deteriorating progressively over a number of years, and is not of relatively recent origin.

Consequences of delayed maintenance and renewal

32 The consequences of delaying required maintenance work can be well illustrated for roads. An average life for a road's surface dressing may be 4-8 years. A failure to renew this dressing (the minimum treatment) at the appropriate time can lead to the need for complete resurface at a cost per square metre some ten times greater than that for surface dressing. If resurfacing is also delayed so that the foundations of the road are affected, the cost of restoration can be fifty times that for surface dressing. One typical shire county estimates that at present even its principal roads are only being surface-dressed every 10-12 years.

33 The problem is expressed diagramatically below. The illustration is adapted from one prepared for roads but it epitomises the argument for effective maintenance for all infrastructural services buildings and structures. A highway should never be allowed to deteriorate below point A on the diagram which is the level at which a modest amount of regular maintenance (X) will produce a significant increase in the useful life of the road (Y). Warning levels need to be established to represent point A. In practice, many county roads - and other items of built infrastructure -

have deteriorated to condition B, so that a considerable expenditure is needed to restore the road to its original condition. The spending of only a small amount on maintenance at condition B is likely to prove of little benefit.



34 In school buildings and public sector housing dealt with in the survey, there are catalogues of deteriorating components such as rotting lintels and window frames, and a recurring theme is how only temporary, but frequent, repairs to initially cheap roofs can be afforded. Health authorities speak of painting for hygiene reasons being unreasonably delayed.

35 One health district is spending only one-third of the amount indicated by officially laid-down replacement norms for its mechanical and electrical equipment. A PSA region is replacing only around one-fifth of those lifts which annually reach the end of their normal working life.

Water and sewerage

36 The Government requires each of the Water Authorities to achieve a rate of return on the net current cost value of its assets. However, the value of underground assets is understated by the often inadequate records of their extent, capacity and condition. Each Authority provides for depreciation of mains and sewers sufficient to write off the book amount of each asset over an estimated useful life of 80 to 125 years. However, historically low levels of investment against undervalued assets and the way they have been managed have resulted in a backlog of renewal and maintenance work in both water and sewerage networks in certain regions.

CONCLUSIONS

(i) In some areas of the six categories of infrastructure examined, there are effective systems of information and priority allocation, and of criteria for new construction, notably for national trunk roads and water and sewerage. As far as repair, maintenance and improvement are concerned many of these systems and criteria are seriously deficient. Poor information systems and criteria cannot provide a sound basis for spending the very large sums involved in the most effective way. Further, maintaining the quality of the building stock is an ancillary part of the overall responsibility of some infrastructure categories, and as a result insufficient attention has been paid to the effective management of the estate.

(ii) Furthermore, the foregoing deficiencies in procedures and criteria imply that in a number of areas the current approach has led to the build-up of backlogs which are accumulating as the stock deteriorates. Because the study was selective rather than comprehensive, illustrations of this situation are given from individual spending authorities rather than a total quantified report of backlogs in each area. Nevertheless, the coverage and range of the enquiries clearly suggest that the backlogs identified are widespread. The procedures and systems adopted both help to create the situation and prevent its being effectively dealt with - especially where crisis management, which is seldom appropriate, is adopted, rather than planned maintenance and replacement over a substantial period.

(iii) Whilst it thus appears that current criteria and procedures do not result in the best value for money being obtained, this does not mean that the backlogs and defects identified could be met simply by reallocating existing funds and by improving the system, even though the benefits from enabling professional management to function effectively would be very substantial. All the evidence collected for the report suggests that the major problems identified need to be tackled on a once-for-all basis, involving a defined though delimited requirement for additional funds over a period of time.

(iv) Well developed or not, the systems described do not link in with but are detached from the central government allocation of funds. Does this matter? If not, it is reasonable to ask whether the time spent currently in setting up and operating better information, criteria and procedural systems is being wasted. In fact, several authorities reported that they have deliberately decided not to improve their information bases, criteria and systems because this would take resources they can ill spare, to little purpose.

(v) The conclusion must be that it does matter, because the very large sums involved are being spent in ways which are demonstrably not cost effective or giving best value for money. New projects are often selected to fit in with the pattern of funding available and at lowest first cost, and maintenance and renewal tends to be carried out on a reactive crisis management basis which can be considerably more expensive than a planned approach. The present situation militates against efficient management of the very large resources involved, and can only frustrate the increasing professionalism in the services examined from achieving cost effective operations.

(vi) It is therefore essential to develop the appropriate information data bases, criteria, allocation and funding systems at central and local level to provide the basis for efficient management of the resources under review and to link the allocation of funds to them. This would be an appropriate area for detailed investigation, for example by Rayner teams. Arrangements for dissemination of the best practices developed by individual authorities, for example the NHS estate assessment system now under development, are currently lacking and should also be improved. The degree and scale of deficiencies set out in the report point to the need for early and comprehensive action to improve the effectiveness of the present systems and criteria and to tackle the shortcomings identified.

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INVESTMENT IN THE PUBLIC SECTOR BUILT INFRASTRUCTURE

TERMS OF REFERENCE

- to examine the basis on which expenditure on maintaining and improving the quality of the built infrastructure through new investment and through renewal, maintenance and repair, is accounted for, and how it relates to the value of the national assets involved in each activity;

- to include the road infrastructure, water and sewerage, public sector buildings, public housing, education and health, in the scope of the work;

- to report back to NEDC in mid 1984.

For each of these fields of expenditure, it is proposed to investigate:

- the criteria used to justify and authorise expenditure, the assessment of benefit to the economy in general, and how the lowest lifetime cost is established in evaluating alternative proposals;

- the nature of the capital resources register, the basis on which the assets are valued and recorded, and the provision for depreciation and how the sums set aside for this purpose are used;

- how the decisions to allocate funds are initiated and taken in each field, and how future renewal, maintenance and repair requirements are assessed and budgetted;

- what lessons can be learnt by comparing the public sector practices with those used in the private sector.

ORGANISATIONS VISITED/CONSULTED

Annex 2

ROADS

Shire Counties

Kent
Lancashire
North Yorkshire
East Sussex
Hertfordshire
Northamptonshire
Staffordshire

Metropolitan Counties

West Yorkshire
West Midlands

Department of Transport

Headquarters Divisions
Regional Offices -
Yorkshire and Humberside Region
West Midlands Region
South East Region

Other Organisations

Scottish Development Department

HOUSING

Metropolitan Councils

Birmingham
Bolton
Brent
Calderdale
Greenwich
Hackney
Hammersmith and Fulham
Hounslow
Kirklees
Sandwell
South Tyneside
Trafford
Walsall
Wirral

District Councils

Ashford
Basildon
Blackburn
Brighton
Bristol
Gloucester
Great Grimsby
Harlow
Ipswich
Newport
Northampton
Nottingham
Plymouth
Redditch
Rochester upon Medway
Sedgefield
Southampton
Taunton Deane
Test Valley
Woodspring

Other Organisations

Association Of District Authorities
Association of Metropolitan Authorities
Department of the Environment
Institute of Housing
Northern Counties Housing Association
Glasgow City Council
The Housing Corporation (Scotland)
Scottish Development Department
Scottish Special Housing Association

EDUCATION

Non-metropolitan Counties

Cambridgeshire
Cheshire
Hereford and Worcester
Lancashire
Suffolk

Metropolitan Boroughs

Birmingham (City)
Doncaster
Gateshead
South Tyneside
Trafford

London Boroughs

ILEA
Ealing
Hounslow
Waltham Forest

Other Organisations

Department of Education and Science

WATER MAINS AND SEWERS

Water Authorities

Anglian
North West
Severn Trent
Thames
Wessex

Other Organisations

Water Directorate, Department of the Environment

HEALTH

Department of Health and Social Security

Headquarters Divisions

Regional Authorities

Oxford Region
East Anglian Region
S W Thames Region

District Authorities

East Surrey
Preston
Gateshead
South Tees

Other Organisations

Scottish Home and Health Department
Nuffield Nursing Homes Trust

PSA

Headquarters Division plus UKTO offices in Edinburgh, Manchester and London

National Economic Development Council

NEDC(84)47
20 November 1984

INVESTMENT IN THE PUBLIC SECTOR BUILT INFRASTRUCTURE

PART 2

INDIVIDUAL SUMMARIES AND CONCLUSIONS

National Economic Development Office
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ROADS AND BRIDGES

Responsibilities

1 The English road network falls into two categories which are considered separately below. The motorways and the national trunk road system are provided, financed and maintained by the Department of Transport, with the shire and metropolitan counties and some London boroughs acting as the Department's agents locally. All the other roads are provided and funded by the county councils, the Greater London Council, London boroughs and the City of London. There is some central government support from the rate support grant system and the Transport Supplementary Grant.

Overall expenditure and loading

2 Total expenditure in 1983/4 both on new construction and on maintenance and repair of the network was £2.1bn. Of this, £710m was spent on the motorways and trunk roads, with a total length of 6200 miles (4% of the total mileage) in 1982/3. The remaining £1.4bn was spent by the Counties on 157,000 miles of 'A', 'B' and unclassified roads.

3 The road network has been growing at around ½% pa over the last two decades, the development of the motorway system being a major feature. There has also been an increasing programme of by-passes for towns and villages lying on the national road network. The number of vehicles per mile of road nearly doubled over the period 1958-65, from 34 to 64, and is now in excess of 90. Most significant is the growth in multi-axle heavy goods vehicles (HGVs), which account for virtually all of the traffic induced deterioration in the structure of the carriageways, though all vehicles contribute to the wear of the road surface.

MOTORWAYS AND TRUNK ROADS

Extent and condition

4 In April 1983 there were 6238 miles of trunk roads in England which included 1413 miles of motorway.

5 Information on the trunk and motorway network is kept within the Department of Transport and its regional offices and is comprehensive. The location of roads, the individual specification of roads built within the last thirty years, major maintenance over the same period and all maintenance carried out more recently are recorded, together with inventories of major road furniture and fittings.

6 The qualitative condition of the network is reported by the agent authorities, using both detailed visual inspection and equipment to measure residual life, pavement deflection, skid resistance, riding quality etc. Their reports are now processed by a computerised system which indicates the type of treatment needed and its priority for defined defects. The quality of the trunk road network is also assessed through the National Road Maintenance Condition Survey (NRMCS), drawing on the County agents' reports.

7 Motorways are generally designed for an initial life of 20 years and strengthening and renewal requirements are normally identifiable well in advance, subject to the accuracy of the traffic forecasts. However, the older motorways attracted far more traffic than they were originally

designed for and a backlog of structural repairs built up. In response the Department of Transport has introduced a 5-year rolling programme of major works. The current 5-year programme provides for strengthening and renewing 25% of the network.

8 25% of trunk road mileage has a residual life of less than ten years before renewal and strengthening are required, according to the NRMCS. This implies a medium to longer term need for 2½% of the trunk road system to be renewed and strengthened each year, which is lower than the proportion actually strengthened in 1981-82 and 1982-83. There is increasing engineering evidence that a backlog also exists on the all-purpose trunk road network, and DTp is about to set up a 5-year programe similar to the one for motorways.

Policy objectives

9 The objectives of the current English motorway and trunk road expenditure programme as stated in the 1983 White Paper (Cmnd 9059) are to:

- provide roads which aid economic recovery and development;
- provide roads which bring environmental benefits;
- preserve the investment already made;
- secure improved road safety.

Funding

10 Estimates of work required during the subsequent financial year are put forward by the County agent authorities in July of the preceding year to the DTp's regional offices, and are sent forward to the Department with an overall regional appraisal in September. Meanwhile, in parallel, the road budget is separately negotiated bilaterally between the DTp and the Treasury through the PESC system, taking the current year's overall level of expenditure as the starting point rather than a fundamental debate of the national case for road expenditure against other public expenditure and of the detailed options for allocation of the road 'spend'. Whilst the DTp deploy separate arguments about the desirable levels of new build/improvement, as opposed to repair/structural maintenance etc, the full division of the allocated overall roads budget is a subsequent matter of judgement by the Department. This process of allocation, within the given overall total budget, takes account of the regional reviews and of the priorities arising from the severity of the defects identified. County agent authorities normally have a firm indication of the major works they are to carry out on the Department's behalf by the end of the calendar year preceding the start of the financial year in April.

11 In 1983/84 DTp spent £710m on English trunk roads/motorways. £517m went to new roads and improvements, and £126m on structural renewal (both classified as capital expenditure), and £67m on current maintenance. The DTp takes the view that much structural maintenance amounts to the renewal of capital assets, and should be classified as capital expenditure. Into this category fall not only complete carriageway reconstruction, but also less fundamental repairs,

resurfacing and surface dressing. Inclusion of structural maintenance within the Department's capital provision means that any underspend on new construction can be diverted to structural maintenance, and vice versa. Current expenditure includes cyclical and preventative maintenance (lighting, renewing markings, sweeping etc) and winter maintenance such as gritting and snow clearing. The size of individual structural renewal schemes is frequently compromised against the cost of traffic delays caused.

Criteria

12 Potential new road schemes are identified by local authorities and DTp regional offices. If a prima facie case can be made on economic and/or environmental grounds, with Ministerial approval they enter the programme. Road pre-construction procedures are lengthy (typically 10 years or more), complex and difficult to forecast, but it is the policy of DTp to ensure that the volume of schemes coming forward for construction in a given year broadly matches the funds which it is expected will be available. Adjustment to any larger programme might take some time.

13 The design of a road scheme is subject to very detailed cost-benefit analysis, and a range of environmental factors is also taken into account. Both the line of the road and the proposed details of construction are tested at public inquiry. DTp consider that road schemes promoted by them, and approved by the Treasury, show a satisfactory return on the investment of public money. Technical standards of road construction are now being refined to ensure that increasd account is taken of whole-life costing, with relatively less emphasis on initial construction costs.

14 Deterioration and wear in the carriageways and footways of the DTp roads are assessed either visually or with the equipment mentioned earlier by the County agent authorities: defects are investigated and assessed according to their severity and relative importance, and overall priorities for allocating structural maintenance resources to specific road lengths determined accordingly. A code of practice is being developed for routine maintenance which will prescribe levels of intervention more formally.

Principal findings

15 Information about the extent and condition of the trunk-road/motorway system is extensive and accessible.

16 At present and expected levels of expenditure, there are enough new road schemes with strongly positive economic and environmental benefits coming through the long pre-construction processes to fill the programme for a number of years. Pre-construction procedures may however, with modifications, in due course be capable of accommodating to increased throughput (though the study has not examined suggested alternative capital programmes).

17 The current relatively stable rolling 5-year programme of structural renewal of the motorway system should in the medium-term bring English motorways back to an adequate condition, though it will take some years to clear the backlogs which have arisen over the past few years because of higher than expected heavy traffic growth and

earlier inadequate spending levels. But possible structural problems now under investigation on the Severn bridge the Midlands motorway links and in a number of concrete bridges could call for additional resources if the programme is to be maintained.

18 Some county surveyors and other professionals argue that in the past quite small increases, of the order of 5% on first costs, would have led to considerably reduced strengthening and maintenance costs now. There is also a widely held view that until recently too much emphasis has been placed on extending lengths of the motorway system as quickly as possible, without enough regard to subsequent maintenance implications. In 1978, however, the DTp issued a technical memorandum to improve the foundation construction for new roads and to base designs for both new construction and the reconstruction of existing roads on increased vehicle damage factors.

19 There is a general professional view that the concentration on motorway repair and renewal means that other trunk roads are being inadequately funded. A backlog has already been identified on these roads and fresh funds will be required if it is not to mount rapidly.

20 Some county surveyors do not expect the proposed routine maintenance code of practice to improve on their expert judgment, and new mandatory standards could lead to increased litigation and claims from the public arising from alleged surface imperfections.

LOCAL ROADS

Extent and condition of the network

21 About 96% (157,000 miles) of English roads are the responsibility of the county councils in which they lie: 15,000 miles of classified principal roads, 49,000 miles of classified non-principal, and 92,000 miles of unclassified roads. Most counties place an arbitrary financial value on their road stock.

22 Knowledge of the physical location of the roads and associated structures is fairly complete, but information on minor street furnishings and fittings appears more variable, being fuller in urban than rural areas. Data are normally in documentary form and readily accessible; a few counties are moving to considerably more sophisticated methods of recording.

23 Few counties had as full a knowledge of the condition of their roads as they wished. In the case of minor roads (especially rural) knowledge tended to be slight, and based entirely on visual checks; mechanical methods of checking were normally inappropriate. On the other hand most counties carried out complete and systematic condition checks of their principal roads on an annual or biennial basis, using visual methods backed up by mechanical devices, coring, etc. Between these extremes there is a wide range of practices followed on secondary roads, within the constraints of local availability of funds.

24 The National Road Maintenance Condition Survey (NRMCS) reviews year-to-year changes in the condition of all classes of local roads (except motorways and unsurfaced roads) on a county-by-county basis, against the 1977 datum. The NRMCS embodies no absolute standards:

little is known of the basic specification of most local roads, whose origins are lost. The NRMCS suggests that for urban principal roads, after marked deterioration in 1981 and 1982, there was little further change in 1983. The condition of urban classified roads has remained stable since 1977. Rural principal roads deteriorated between 1980 and 1982, but there was no further change in 1983. Rural classified roads have shown little change since 1979; for rural unclassified there was a small improvement in 1983, following some earlier deterioration. 24% of urban principal roads are estimated as having a residual life of less than 5 years, and 11% of rural principal roads.

25 The statistical base for individual county results in the NRMCS is limited, and counties also conduct their own more detailed investigations of the condition of the roads, using similar professionally agreed objective methods to those of the NRMCS, as well as wider-ranging visual checks.

Policy objectives

26 Counties' formal transport objectives vary, but typically will include such aims as:

- to maintain the county roads in a safe and adequate state;

- to provide new and improved roads to assist economic activity, and improve safety and the environment.

Funding

27 About £1400m was spent by local authorities on roads in England in 1983-4. Rather more than half of this went on repairs, renewal and maintenance of the existing stock, all of which is current expenditure. The amount spent on maintenance was severely cut back in the mid 1970s, but there have been some small real increases from that level more recently. The proportion of the local authorities' road budget going to maintenance is now at its highest level since the 1950s. Local authority road expenditure is funded by rates, supported by Government block grant and Transport Supplementary Grant (TSG). (From 1985/86 TSG will be payable for capital schemes only, and not for maintenance.) The overall size of the TSG is determined annually between DTp, DoE and Treasury. Its distribution takes account of bids from the counties and local authorities' likely total revenue spending. Once funds are allocated to counties they may be spent at their discretion. The level of the counties' rates are also determined annually.

28 Counties have rolling programmes, generally of 3-5 year horizon, for capital schemes, but generally find the adoption of other than short-term revenue expenditure programmes difficult.

Criteria

29 New build schemes, which are usually less extensive than national road schemes, are appraised according to similar criteria to those used for national roads (see above), though they may not be applied as intensively for smaller schemes.

30 Measurement of structural deterioration on local classified roads also follows similar practices and criteria to those for trunk roads, and a variety of computer programs and other methods are used to refine needs and allocate priorities. There is an extensive and widely used (though non-mandatory) code of practice for determining warning and intervention levels, both for structural maintenance and for reactive and preventive maintenance. Routine maintenance regimes have by general admission been pared to absolute minima, to permit as great a volume of funds as possible to go to repairs and preventive work. Elsewhere criteria appear to have been developed on the basis of best practice.

Principal findings

31 The extent of information about local roads systems varies considerably between counties.

32 Most counties have lengthy and long-standing programmes for viable capital schemes, and at current levels of expenditure see little likelihood of these being fulfilled even in the longer term.

33 Criteria on repairs and maintenance are broadly consistent across the country.

34 There was a strong measure of agreement among those consulted that the condition of roads in the counties was unsatisfactory, and that this resulted directly from the levels of funding, rather than a failure of the system to identify what needed to be done. Rural minor roads might be an exception; arguably, until the early 1970s these had been maintained at a needlessly high standard.

35 Counties point to substantial backlogs of structural maintenance work. Only about 2% by length of principal roads have received strengthening annually over the past several years. At best the backlog is being held, often by non cost-effective expedients, eg. continual patching rather than a thorough resurface. In a third range of cases the treatment was post-critical - ie full reconstruction of a stretch of road was required, whereas timely, pre-critical, treatment could have saved substantial funds.

36 Most counties had quantified their maintenance backlogs/shortfalls. In some cases, expenditure two or three times greater than that now being undertaken, spread over a number of years, would be needed to bring the condition of local roads up to a satisfactory standard, though in other counties present expenditure levels would suffice if roads were already up to standard.

BRIDGES

37 There are some 150,000 road bridges in the UK, with over half in England. The majority are associated with local authority roads.

38 A new code of assessment has been introduced for bridges with increased traffic loading to accommodate modern heavy traffic needs. This new code will entail a substantial additional inspection programme likely to cost several hundred thousand pounds in each county. At the end of this, county officials expect that a programme

of partial strengthening and repair, and partial weight limitation and diversion, will be required. They say that the cost cannot be anticipated, but that it appears from DTp statements that no additional funds will be forthcoming to pay for it.

WATER MAINS AND SEWERS

Responsibility

1 Nine English regional water authorities, together with the Welsh Water Authority, are responsible for the provision in England and Wales of most water services including sewerage. For all but 5 per cent of the population, local authorities act as agents for the regional water authorities in the provision of sewerage.

2 The Secretary of State for the Environment and the Minister for Agriculture, Fisheries and Food exercise a number of controlling functions in England, and share with the Secretary for Wales overall responsibility for water policy in England and Wales.

Capital expenditure

3 Capital expenditure on water services is expected to be £686 million in 1984/85 and to increase to £769 million in 1985/86. The expenditure to be met from water authorities' internal finance is planned to increase from £422 million to £586 million.

Size, age and condition of the stock

4 The bulk of water authorities' assets are underground, some have reached a venerable age, and records of their location are in many cases incomplete. For example, one authority recently "discovered" 3,000 kms of sewers, increasing the known length within its responsibility from 8,000 to 11,000 kms. The best estimate by the water authorities is that there are approximately 258,000 kms of water mains and 196,000 kms of public sewers in England. New technology for inspecting sewers is enabling information on their condition to be gradually improved, but it remains the general view that the necessary knowledge is still inadequate.

Water mains

5 Almost one-third of water put into the system is unaccounted for. Estimates of water leakage range from 20 to 40 per cent of total supply. This is both an indication of the condition of the water mains and the fact that water remains a cheap commodity; leakage may be located but it is not necessarily cost-effective to repair the leak unless it is to prevent further damage.

6 The chief factor contributing to water mains failure is corrosion, which can also lead to structural failure, hydraulic inefficiency and poor water quality. Fifty per cent of UK water supplies are corrosive, as are 10 per cent of the soils surrounding the water mains. There are also millions of joints within the system which can often be points of weakness.

7 Early water mains had relatively thick walls, capable of providing a working life of 75 to 100 years even under corrosive conditions. Improved manufacturing methods have allowed a progressive reduction in wall thickness, with a corresponding reduction in working life under corrosive conditions. Without the necessary remedial action, it is estimated that half of the active length of iron mains could fail in a period of 20 years.

Sewers

8 Age, ground subsidence, disturbance by traffic, excavation for other utilities and blockage are blamed as being the main causes of faults in

sewers. It is estimated that there are about 5,000 sewer failures each year, including 3,500 collapses and 1,500 blockages, requiring excavation at a total cost of £100 million.

9 As with the water mains, the condition of sewers varies regionally and locally. The most severe sewerage problems occur in the North West region, which in 1982/83 had one quarter of all the sewer collapses reported by water authorities, and one half of all unsatisfactory storm sewage overflows. In 1982/83, the North West region experienced one significant sewer collapse for every 43 kms of sewers.

Repair, maintenance and improvement

10 In the water authorities the distinction between repair, maintenance and improvement tends to be based on the costs of particular types of work. An arbitrary cut-off point between £5,000 and £6,000 tends to be the upper limit for work defined as repair and maintenance, although in practice much of the work above this limit is also in this category.

11 Water mains' corrosion can be reduced, and renovation techniques are now sufficiently advanced to enable the life of a water main to be extended by up to 50 years. At present about 60 per cent of new iron pipes are lined and some, for use in corrosive soils, are PVC sheathed. There is however a danger that present financial constraints could force an undertaker to leave out the more expensive linings and sheathings, so bequeathing a legacy of trouble for their successors.

12 Repairs to sewers have in the past been carried out primarily in response to a failure in the system. Some preventive maintenance is now also being undertaken, although this only amounted to £8 million in 1981/82, out of a total spend on sewerage of £205 million. Authorities visited claimed that, on the basis of present levels of expenditure, the average age of the system must inevitably rise. They recognise, however, that older sewers may have a longer life than some more recently installed and that it is difficult to estimate life-expectancy with any accuracy since many of the older sewers are still in good condition.

13 Several of the water authorities report that capital expenditure is required to make good deficiencies in the distribution system that have arisen as a result of inadequate investment in the past. Such a backlog of renewal, added to the inevitable ageing of assets and increased demand in many areas from new developments and from existing customers, means that even with expanded capital programmes the authorities can offer no real improvement in the services they provide. In many cases they claim that they can only aim to maintain a standstill to prevent services deteriorating further. Reference was also made to the need for increased expenditure on sea defences.

Funding arrangements

14 Regional water authorities have two main sources of funds: internal finance (generated from charges to customers) and external borrowing. As public monopoly suppliers of essential services their charges cannot be determined simply through the market and they do not come under competitive pressure to improve their efficiency. Instead, they are subject to comprehensive and effective controls by central government, in the form of External Financing Limits (EFLs), performance aims, and financial targets.

15 Water authorities produce annual corporate plans which look five years ahead. At government request, their plans include an options exercise for an investment programme 10 per cent below their preferred level.

16 If EFLs are too low to enable proposed capital expenditure to be carried out, the only alternative is to increase charges. It is the aim of most authorities to keep the rise in charges below the RPI, but the government recognises that water charges are likely to rise faster than the general rate of inflation in the next financial year, as a result of revised financial targets.

Criteria

17 All water authorities already have elaborate priority ranking systems for expenditure programmes but improved knowledge of the stock may over time alter the degree of urgency of some of those programmes. The Water Research Centre's Sewerage Rehabilitation Manual which sets out in detail the steps needed to ensure an adequate level of service marks an important step forward. Its main recommendation is to implement a policy of crisis maintenance for 80 per cent of the existing sewer network. The remaining stock, crucial to the functioning of the system as a whole, should be monitored and maintained in good condition.

Principal findings

18 Any organisation wishing to develop a disciplined and cost effective approach to maintaining and renewing its assets requires adequate information on their condition and on the demands likely to be placed on them. However, the bulk of the water authorities' assets are underground, their condition is hard to assess, and maintenance has largely been carried out in response to failure. Without adequate and extensive surveys of location, capacity and condition of the underground assets, the necessary investment levels are difficult to quantify, and hard to justify.

19 Sudden and unexpected changes in the level of available financial resources lead to inefficiency in the water and sewerage industries. Many investment programmes are of the type which require long gestation periods. Once projects are under way, any holdups are costly and wasteful of resources. It would be beneficial to all authorities if greater flexibility were introduced into the system of controls, while at the same time maintaining the degree of stability necessary to efficient planning.

20 Water authorities have to operate within a system of tight centrally-imposed financial constraints. At the same time the need for crisis maintenance requires a flexibility in the availability and use of resources. Such flexibility could be provided by the creation of an emergency reserve fund to be drawn on for unexpected expenditure, over and above the levels required to enable planned capital programmes to go ahead.

21 In this area as in others, the financial system encourages 'make and mend and occasionally extend' solutions, rather than the choice of more expensive investments with a good rate of return but a longer payback period, such as would take place in the private sector. Statutory requirements also impose on water authorities distortions in their investment programmes which have become more acute as overall levels of investment have shrunk.

HOUSING

Responsibility

1 Local authorities are responsible for all housing within their boundaries. In addition to their role as providers of rented accommodation for those who require it, they also engage in a range of activities aimed at improving the stock of owner occupied and private rented dwellings. They include the provision of home improvement and repair grants and support for housing associations. To the extent that such support involves ranking of priorities in terms of allocation of resources, it is relevant to the scope of this report.

Expenditure

2 The latest White Paper shows that the estimated out-turn for housing expenditure for 1983/84 is £2,760 million, and indicates a planned 9.6% reduction in cash terms to £2,496 million for 1984/85. This represents a 16.5% reduction on the previous plans for that year. In cash terms local authority capital expenditure on new dwellings fell from £1,263 million in 1977/78 (37% of the total programme) to £695 million in 1982/83 (26% of the total programme), while that on improvements rose from £374 million to £934 million over the same period. At the same time receipts from sales of dwellings and repayment of loans increased from £386 million to £1,725 million. Expenditure on public housing repair and maintenance is not separately indentified in government statistics.

Size and nature of the stock

3 Since the 1920s there has been a major shift from the private to the public sector in the provision of dwellings for rent, with the public sector share of the rented stock rising from 14% in 1938 to 60% in 1971 and 70% by 1982. By 1982, public rented accommodation accounted for 27% of the total stock of over 18 million dwellings in England. There are considerable regional variations in this figure - for example, it is 37% in the North and 20% in the South West.

4 Programmes to increase the stock of public rented dwellings thus dominated much of the post-war period, but diminished in size during the 1970s for a variety of reasons. The current emphasis is on the maintenance and improvement of the existing stock. To achieve these aims in a cost effective way requires considerably more information on the condition of the existing stock and on present and future housing needs than when the aim was the speedy implementation of public housebuilding programmes to meet urgent need.

Objectives

5 The main aims of present government policy are to increase the opportunity for people to buy their homes, to improve the condition of the existing stock and to provide homes only for those in special need. Those objectives are translated into specific programmes at the local level in the light of local circumstances and locally determined priorities. However, assessment of those priorities and judgements on which of them are most pressing, cannot be wholly consistent as between authorities facing widely different circumstances.

Funding

6 The financing of local authority housing expenditure is extremely complicated and subject to close central government control. On the capital side there are two major influences on spending. The first is the Housing Improvement Programme (HIP) system whereby DoE sets borrowing limits for local authorities' housing programmes. The second is capital receipts, the use of which has varied according to the financial situation of individual authorities and of their perceived needs, and to the government's macro-economic policy.

7 Repair and maintenance expenditure is generally funded from the Housing Revenue Account. It is limited by the size of the revenue which consists mainly of rents and contributions from the General Rate Fund (GRF).

8 For most authorities an important objective is at least to maintain total expenditure at a reasonably stable level and at best to increase it to a level where it does not impair efficiency. This is reflected in their unanimous dislike of 'stops' and 'goes'.

Condition of the public housing stock

9 The information held by local authorities on the public housing for which they are responsible includes the number of dwellings and their age, location and type, together with a breakdown in broad terms by type of construction. Information on the quality of the stock at local level is usually much less detailed. The main national sources of information on this aspect are the English and Welsh House Condition Surveys, which are carried out at 5-yearly intervals by the Building Research Establishment on behalf of the Department of the Environment.

10 The 1981 English House Condition Survey (EHCS) found that almost 84% of public dwellings were in a satisfactory condition but it pre-dates the awareness of many major defects. However, many local authorities point out that the results of the EHCS can be misleading: a tower block, for example, might be in a satisfactory state of repair, but be quite unsuitable for current accommodation needs. In many instances local authority dwellings lack central heating; a surprising number still have an outside lavatory; some do not have ring main wiring; and a very large number have out-dated bathrooms and kitchens.

11 There is widespread evidence of inadequate preventive maintenance and of a considerable backlog of such work. Programmes are now needed for the refurbishment of post-war stock, and many authorities face the added large burden of remedying defective system built housing. Furthermore, the external environment of many estates remains depressing and run down, and they lack facilities such as play areas.

12 Many local authorities have now recognised the need to build an effective data base on the condition and maintenance record of their housing stock, and some are well on their way to its achievement. There are still some who either do not accept the need for more information, or who are taking little action to obtain it. The reasons advanced include: the adequate and indeed obvious evidence of the problems of ageing and defective stock; the fact that resources to carry out the necessary investigations across the whole of the local stock are not available from central government and cannot otherwise be spared; and the inadequacy of resources available to deal even with known problems

Repair and maintenance

13 Day-to-day repairs are carried out by local authorities in response to requests from tenants. Maintenance work is more formally organised and nowadays most local authorities have planned maintenance programmes which range from external pre-painting and painting programmes at their most modest, to comprehensive ones aimed at dealing systematically with the fabric of their estates.

14 Local authority officials point out that the current system of financial controls prevents the adoption of a cost effective approach to the upkeep of the housing stock, and does not permit the achievement of a level of quality satisfactory by modern standards, nor of a level of maintenance which might lower the need for, and hence the cost of, day-to-day repairs.

15 Many local authorities visited expect the existing backlog of maintenance work will grow and quality levels decline as the deterioration of the system-built estates of the late 1960s accelerates and as the early 'bulge' of post-war properties comes up for major refurbishment, despite an overall increase in spending. The implementation of disciplined, planned, and cost effective maintenance programmes will inevitably become still harder to achieve than at present.

Improvement

16 Improvement programmes now make up the larger part of local authorities' capital budgets as a result of the emphasis put on raising the quality of the housing stock by both central and local policies. There are a considerable number of post-1945 dwellings due, if not overdue, for their first major refurbishment. In many cases it will not be until towards the end of this decade that a start will be made on such work for these properties.

Newbuild

17 Current policy is to concentrate newbuild on provision for 'special needs', which in the majority of cases are those of elderly people. Except for a few instances, where population increases or existing shortages call for the construction of family-type dwellings, authorities are concentrating on the provision of sheltered homes. Current government policy, shortage of suitable sites and awareness of the growing pressure for housing suitable for the elderly have all encouraged the bias towards the development of sheltered homes.

Criteria

18 All authorities have developed criteria for maintenance of the fabric of dwellings (eg frequency of painting cycles) which, if applied, would ensure satisfactory standards. Few have been able to make sure that the programmes required to meet these criteria are carried out. Criteria of quality are a more elusive concept. They can be more precisely determined, but are subject to perceptions of the general quality of the total local stock and of the level of local expectations. Improvement expenditure for similar dwellings can therefore range widely between housing authorities.

19 Life cycle costs are not used as a foundation for decision-making; the concept is interpreted as ensuring that 'value for money' is obtained or low maintenance components are used to replace worn out or defective ones.

Principal findings

20 Of the authorities which we visited only a few claim to be able to do more than hold the stock in its present often unsatisfactory condition at current levels of expenditure. In many instances, authorities are aware of a faster rate of deterioration than current resources enable them to overcome. For example, the high cost of remedies to dwellings erected in the 1960s have already forced some authorities to relinquish programmes which they would otherwise have undertaken in the rest of the stock.

21 There is a rising backlog of expenditure for most authorities visited, coupled with further additional large commitments in authorities with a high proportion of 1960s system-built estates or other defective housing. These authorities are especially concerned at the expenditure which will be required on those dwellings, including the repurchase of properties which they will have to put right. By the time repairs and modernisation of the pre-war and system-built dwellings have been completed, authorities will run into the modernisation programmes of the early bulge of post-war properties; these properties will by then be more than 50 years old. Housing authorities therefore do not at present see any possible reduction in their level of expenditure and on the whole they claim that a higher level of expenditure is required over a number of years before the general condition of their stock can be regarded as satisfactory.

22 Many spending decisions are still based on inadequate information, so that priorities cannot be correctly decided. A proper data base, which could be required of authorities within a specified period, would provide an essential input to the central assessment of the conditions of the local housing stock and its requirements. It would also improve the guidelines for the allocation of resources to meet local needs.

23 An increase in planned maintenance, in preventive repairs and timely replacement (eg for external woodwork) would reduce costs over the longer run and also lead to an overall improvement in quality. However, a number of local authorities find that they cannot adopt this approach, partly because detailed knowledge of the present condition of their housing stock is insufficient, partly because it involves an initial large increase in expenditure, but mainly because of the short time horizon and uncertainties of the financial system within which they operate.

24 Changes in national housing policy almost invariably require some action by local authorities. Frequent small alterations add to the administrative burden. Major changes, such as 'stops' and 'goes', create major difficulties in the execution of programmes. For instance, all authorities said that they would prefer to have a limited annual increase in spending power spread over several years rather than a one-off larger increase, because this would enable them to plan and control the proposed expenditure in a more efficient manner. Anticipation by government of the lengthy period required to adjust to changes of policy direction in the use of public resources is a sine qua non for their efficient application.

25 A firmer and longer term financial framework is seen as a pre-requisite to improved performance, so as to permit a more explicit, detailed and ordered assessment of priorities than is possible under the "one year plus two" of the HIP system. Any such change to the system depends crucially on the willingness of government to provide reasonably firm estimates of future financial allocations. Both local authorities and the construction industry would benefit from the recognition by government that capital programmes require a longer term firm horizon, of say three to five years. All authorities consider such a change to the existing central system of controls to be the most essential requirement in order to raise the overall level of efficiency and performance in all aspects of public housing.

THE NHS ESTATE

Responsibilities

1 National policy and funding of the NHS are determined by the DHSS. Hospital and community health services in England are organised by 14 regional and 192 district health authorities, and 8 special health authorities administer postgraduate teaching hospitals. The regions provide the first level of executive and planning control for most purposes but the districts actually provide the services.

Size and nature of the stock

2 The English NHS estate now comprises nearly 2,000 hospitals of various sizes, other buildings such as health centres, clinics, offices, residential accommodation, laundries etc., and some 50,000 acres of land. The replacement value of the stock is estimated at more than £20bn. Around 50% of the buildings are pre-1918 and not much more than a quarter are post-1948. Since the mid-1970s, there has been a shift from large greenfield projects towards piecemeal improvements to existing hospitals, and where new hospitals are built they are smaller overall, or are built in stages.

3 The total number of hospitals has fallen from 2,441 in 1959 to 1,984 in 1980. Over the same period there was a marked reduction in large hospitals, from 81 with over 1000 beds in 1959 to 36 in 1980, but a substantial increase in smaller hospitals. Whilst the overall number of beds has fallen from 455,000 to 363,000 the patient "throughput" has increased and the average stay by patients in hospital fell from 25.6 days in 1970 to 18.6 days in 1980.

Condition of the stock

4 Until very recently the information available nationally on the extent and condition of the stock has been generally inadequate. A major exercise is now under way to rectify this, following the 1982 'Davies report' into means to ensure that health authorities identify under-used land and property and dispose of it in ways to create the maximum benefit for the NHS. The report commented that findings relating to those terms of reference could not be sustained without parallel improvements in the way the NHS estate is managed, and recommended a survey of existing stock of buildings, a continuing record of the condition and changes in the stock, functional suitability, and effective utilisation.

5 The surge of new building in the 1960s encouraged an "emergency cover only" attitude to the maintenance of older buildings, partly to conserve scarce resources for much needed medical staff and equipment, but also because of a belief that these buildings would probably be replaced in the foreseeable future. In consequence a large backlog of maintenance work has built up, and many districts report that it is still growing. The cost of the work required to bring properties in England up to the level regarded by health authorities as the minimum acceptable standard has been estimated as of the order of £2bn, though this includes work on buildings which may be surplus to current requirements.

Policy objectives

6 The main factors determining recent DHSS policy which have had an impact on the need for and use of buildings have been:

- the need to provide services for an increasing number of old and very old people;

- the need to develop services to make greater use of new technology;

- the improvement in standards of care for the mentally ill, mentally handicapped and long stay geriatric patients, and the shift in resources for such care from hospitals to community based facilities;

- the distribution of NHS resources across the country on a more equitable basis.

Funding

7 Of the total Government programme for health and personal social services, 85% is central government expenditure on health; the remaining 15% of the total DHSS programme is for personal social service expenditure, which is almost wholly undertaken by local authorities financed in part by the Rate Support Grant. Of the central government health expenditure, about 80% goes through the health authorities and is subject to cash limits and budgets, and the remainder is spent through the family practitioner committees, which are not subject to the same constraints.

8 Capital spending was some £700mn in 1983/4, and some part of this went to major renewal projects. In real terms, capital spending fell during the later 1970s but since then it has gradually increased. Most maintenance spending comes, however, from the £8,000mn revenue allocation, and cannot be separately identified, though some have suggested that it could be in the range £500mn-£1,000mn. Principal discrete elements of NHS expenditure are determined in annual negotiation between DHSS and Treasury; previous years' allocations form the starting point, with arguments for small changes being supported by evidence on the differences between forecast construction prices and general inflation, special developments such as large-scale computer projects, or evidence of deteriorating maintenance standards.

9 There are complex formulae for allocating funds between Regions, and into districts. The formulae are largely based on demographic considerations rather than the size and condition of the estate.

10 Every five years the Regions produce strategic plans which provide the structure for their subsequent expenditure. The plans look forward ten years, though in detail only over the first part of the period. Within the context of their plans, Regions are responsible for the detailed allocation of funds to capital and revenue.

11 Major capital schemes are generally managed at the Regional level. A block allocation is usually made to Districts including sums for plant and machinery maintenance, maintenance of small buildings, and some delegated authority for less expensive capital work. The majority of routine maintenance is however carried out by Districts from their revenue

provisions, which are allocated by the Regions according to population-related formulae. The majority of funds in the revenue category inevitably go to wages and salaries, and the maintenance provision is one of the claims competing at the margin for the small amount (typically 20%+) remaining. On a once-and-for-all basis, substantial funds for use by Districts (normally to spend on capital) will come forward from property disposals, and these will often have significant revenue implications.

Criteria

12 The methods for appraising the case for capital expenditure on new-build or extension of existing stock are laid down and approved by DHSS and Treasury, and rigorously applied. Sanction for larger schemes is referred upwards. Option appraisal including the use of discounted cash flow techniques are taken into account. While staff cost implications are now more fully taken into account than in the past, there is criticism that whole-life costing in proposed new structures is not always effective. For smaller capital schemes, the option appraisal processes are in practice less rigorous. So far as new projects are concerned, there is a continuing supply of economically viable capital schemes coming forward.

13 For maintenance, inspection schedules to be carried out by professionally qualified staff at the District level are laid down and generally followed. Determination of need for work to be done is judgemental, but computer programs are widely used to help in allocating priorities.

14 There are a number of priority calls on maintenance funds - equipment at the medical/patient interface; fire, health and safety needs, etc; and the requirement to keep buildings in use weatherproof - which take precedence over routine maintenance.

Private sector comparisons

15 NHS has a National Property Advisory Group, which enables private sector property practices to be taken into account where relevant. The private sector hospital estate is too small in total, and the individual hospitals in it too small and new, to permit valid comparisons.

Principal findings

16 There is an enhanced awareness within the NHS of the importance of the estate as a major resource.

17 Formulae for disbursing funds are based primarily on local demographic considerations, rather than the condition of the estate.

18 New systems for cataloguing the NHS estate are in the process of introduction. If successful, there will for the first time be a full understanding of the scope and condition of the estate.

19 There is nevertheless now a feeling within the Service that the determination of officials to manage all their assets more efficiently is being frustrated in the case of maintenance of the physical stock by a level of funding quite disproportionate to the task identified. As a result of the level of funding, non cost-effective methods of reactive maintenance are in many cases the norm.

20 Both capital and current spending on the building stock have had a relatively low priority in competing for funds and management attention with the staff and equipment directly concerned with providing medical services to the patient. In consequence, while new buildings continue to come into use, many patients experience a rising standard of medical care but within ageing, out-dated, and deteriorating buildings. There is a national maintenance backlog estimated as of the order of £2bn, and many districts have evidence that their backlogs are still growing.

21 A further reason for the backlog is a failure in some quarters to appreciate that the maintenance requirements of new and complex structures and hardware are often much more expensive than those of their older predecessors. Examples quoted of this latter factor were costs twice as high for modern mechanical and electrical hardware, and three/four times as high for buildings.

22 Typical estimates of backlogs included a need for 10% of a District revenue budget rather than the 7% received; and in a Region that, if best professional practices were followed, maintenance expenditure should be five times its existing level. In other Districts officials said they would need at least to double maintenance spending to begin to cut into their backlogs.

SCHOOL BUILDINGS

Responsibility

1 The day-to-day running of the publicly maintained education service in England and Wales is the responsibility of the 105 Local Education Authorities (LEAs), which have a duty to provide schools and colleges in their areas and to administer them.

Capital expenditure

2 In 1982/83, capital expenditure by local authorities on schools amounted to £264 million, compared with a total current spend of £6,729 million. The larger part of capital expenditure is estimated to be earmarked to construction work. Between 1982/83 and 1986/87 total capital spend on schools by local authorities is projected to fall by 23 per cent. There are no data available on the share of current expenditure earmarked to repair and maintenance of school buildings.

Size of the national stock

3 In 1981/82 there were 22,523 maintained primary schools in England and Wales and 4,863 secondary schools. From 1946 to 1981/82 over eight million new places were created in all schools, of which 884,000 were provided in new schools. By January 1984 the stock had decreased to 21,822 primary and 4,680 secondary schools, as a result of closures brought about by the fall in the school population.

Policy and objectives

4 Post-war school building has been dominated by the basic need for new places. The need arose because of:

- very little new building during the Second World War;
- war damage: 5,000 schools (approximately 17 per cent of total stock) were affected;
- raising the school leaving age to 15 in 1947;
- raising the school leaving age to 16 in 1973;
- an increase in the birth rate in the late 1940s, and again between 1955 and 1964;
- growth of new communities on the periphery of old towns, and the growth of new towns.

Later developments have on the whole been aimed at improving facilities, replacing inadequate primary schools and increasing the level of minor improvements.

Age and condition of the national stock

5 As a result of the large post-war school building programmes, less than 10 per cent of secondary and 20 per cent of primary schools today consist entirely of pre-1945 accommodation. However, the age of the stock is not an indication of its structural condition and the more recently

erected stock is already of some concern to LEAs. Even where older schools are structurally sound, they may have inadequate lighting, heating, plumbing and wiring systems and lack the space or facility requirements of modern teaching. There are also still a considerable number of temporary places in use.

6 Since regular surveys are insisted upon by most authorities, knowledge of the condition of the stock is reasonably up-to-date. This does not mean that schools are well-maintained. The primacy of providing the service tends to eclipse the needs of the stock when budgetary allocations are made. As a result, there is evidence of increasing neglect of those problems which fall outside statutory requirements. A number of authorities categorise work required as essential, necessary or desirable. They claim that not all work in the first category is carried out, due to financial constraints and to the low priority given to maintenance of buildings.

Repair and maintenance

7 Because of the poor condition of the woodwork and of many of the flat roofs, which together account for the worst of the fabric problems, it is difficult to separate repair and maintenance activity. For instance, because external painting cycles have to be delayed, more repairs are called for in the interim and more windows replaced instead of repainted. Regular maintenance programmes are, however, observed for heating systems.

Improvement and newbuild

8 The fall in school populations has created an opportunity for an assessment of the need for places and of the gap between the present level of standards and amenities and that required by modern curricula and teaching methods. The reduction in school places has been reflected in a considerable fall in newbuild programmes and an increasing emphasis on improving the general standard of the existing stock.

Funding arrangements

9 Local education is financed largely through the General Rate Fund, and salaries and wages account for the bulk of revenue expenditure. Repair and maintenance work can either be earmarked to revenue budgets or capitalised. Its treatment depends on the financial situation of individual authorities.

10 Sales of buildings or land now surplus to requirements do not necessarily fully benefit the LEAs' capital budgets since in most authorities such windfalls are pooled and allocated across the whole range of bids from the various services.

Criteria

11 The only relevant criteria for repair and maintenance are weather-tightness and health and safety precautions. Those which relate to improving the quality of the environment, either physical or educational and often poor, are of little relevance to many authorities since the necessary resources to go beyond essential work are not forthcoming.

12 The importance of the condition of the buildings and of developing the criteria to ensure a satisfactory state of repair is dependent upon where the responsibility for such decisions is lodged within LEAs. Where

responsibility for maintenance expenditure rests with the education committee itself, the main emphasis is likely to be on the quality of the service rather than with the needs of the building fabric.

13 DES sanctions major projects, including improvement programmes, which require capital expenditure above a certain amount fixed by DES and occasionally adjusted for inflation.

Principal findings

14 The various decision-making processes used by local education authorities to allocate resources fail to ensure that levels of repair and maintenance will be adequate to maintain the stock of buildings in reasonable condition. Indeed the main conclusion which must be drawn from interviews with education officers is that much of the stock is of poor quality and deteriorating. At the local level, other issues appear to predominate.

15 Repair and maintenance of education buildings is a small item in local authorities' budgets which tend to be dominated by education salaries and wages on the revenue side of expenditure. However small, this expenditure still does not escape when economies are sought. The standard approach is for one year's expenditure to provide the basis for the following one, adjusted for expected inflation, and then to be trimmed as centrally dictated financial exigencies and local political views require.

16 DES regulations stipulating higher standards of amenities which should be reached by 1991 cannot be met with the current level of resources.

17 Present practice flies in the face of good property management and means must be found to ensure that the physical assets of the education service do not suffer from even worse neglect than other parts of the infrastructure. The most urgent need is to raise the quality of school buildings and then to provide the necessary resources to maintain that quality. Unless expenditure is permitted to rise in real terms in the near future, disrepair will increase and the scale of unpostponable expenditure will rise considerably.

18 Some system of control within central or local decision-making structures, or external to them, needs to be established. One solution might be to introduce some form of regular independent survey and assessment of the condition of the stock and of work required to reach some agreed standard of quality. The responsible organisation must have mandatory powers to ensure proper upkeep of property. It could be modelled on the existing factory inspectorate or the NHS system now under development could perhaps be adopted here.

19 DES uses a three year planning period, which includes a firm allocation to LEAs for the first year and provisional indications of the committed expenditure element of allocations for the following two years. That is, although LEAs themselves plan spending programmes three years ahead, DES forward indications do not accommodate any projects due to begin beyond the first year. The scale of many newbuild programmes is such that they can usually be fitted within a three year horizon and the same is true of major improvement programmes. According to LEAs, allocation of resources would be improved if DES gave firm allocations for a full three year period, including new work starting in the second and third years.

20 Earlier notification of capital allocations would also lead to better use of resources since it would ensure that design costs are only incurred for projects guaranteed of implementation.

21 A first step towards a better appreciation by relevant government departments of the current state of school buildings would be for DoE/DES to require all LEAs to submit a detailed strategy statement for education buildings similar to that currently provided for housing.

22 Whilst this report has been mainly concerned with the physical condition of buildings, there is a growing need to alter structurally sound buildings which fail to provide the environment required for today's curricula. The strategy should ensure that the educational quality of buildings, which is a crucial aspect of the teaching environment, is fully taken into account.

CENTRAL GOVERNMENT'S CIVIL ESTATE

Responsibilities and objectives

1 The Property Services Agency (PSA) has the task of providing, managing, and maintaining as economically as possible, the property used by central government throughout the UK. The civil estate consists of office accommodation, storage, and specialised buildings such as courts, museums and art galleries. (This report is not concerned with the defence estate).

2 The PSA is responsible for the day-to-day estate and property management of the specialised buildings, but the decisions on the scale and nature of the new building projects, and in some cases the maintenance, are taken by the particular departments concerned, who also fund the work out of their public expenditure programme budgets. The PSA has sole responsibility for the remainder of the civil estate and exercises this responsibility through 8 English regional headquarters, separate local headquarters for Scotland and Wales, 34 area works offices, 31 area estate offices and 156 district works offices.

Extent and condition of the estate

3 The central government's civil estate in the UK consists of 9,000 separate buildings, very approximately valued in total at £2.8bn, and amounting to some 12 million square metres in all. Office accommodation, of which 60% is leasehold, accounts for 7 million square metres, and the remainder is fairly evenly divided between storage and specialised buildings such as courts, museums and art galleries.

4 No private sector landlord in the UK has an estate approaching the size and diversity of that administered by the PSA, which includes many historic and listed buildings requiring particular attention.

5 Full information on every building occupied by a public sector client is recorded initially, following a survey before occupation, and it is kept up-dated on a regular basis through periodic inspections. Detailed information is also held on the repairs and maintenance carried out on a building, and on changes in its physical condition.

6 However, these records are manual, and are held locally. While some changes are now in hand, at present information is only available in a summary form at regional level, and officials reported that in consequence there was a major deficiency in the management information available to them. In contrast, many private sector landlords now have computerised information systems on which to base their estate management programmes.

Funding

7 Expenditure on the civil estate in the UK in 1982/83 was £122mn on new works and £242mn on maintenance, though not all of this latter is spending which directly contributes to upkeep of the estate. Freehold office accommodation is now rarely acquired except where there are no leasehold alternatives.

8 Under the Property Repayment Scheme (PRS) introduced in April 1983, departments pay rent to the PSA. They also pay an accommodation charge to cover PSA expenditure on larger maintenance and minor new works and have an allocation for minor maintenance works (up to £1000) which they can carry

out themselves. There is no direct link between PRS payments and the sums allocated by the Treasury to PSA for repairs, renewals and maintenance.

9 Although PSA headquarters assemble information from the regions on requirements for maintenance, minor new work, and refurbishment opportunities, the starting point for the annual budget negotiation is the existing public expenditure provision (which reflects the amount to be recovered from departments via the accommodation charge). Maintenance funds are divided between regions roughly pro-rata to the level of their 'minimum' bids, with some regard to special requirements such as listed or unusual buildings and also to the area of their holdings. Around £9/square metre is currently allocated to maintenance nationally, with the London allocation somewhat greater than this.

10 The same PRS rent per square metre is paid by occupants of office, storage or specialised accommodation throughout a region (except in London, where there is further 'zoning'), irrespective of the location or the condition of the buildings. In 1986 it is expected that rents will be individually assessed. The current rent is assessed at near to 'market' averages in the region, but also reflects the PSA's buying power as a large and - at least until recently - attractive customer for leasehold accommodation. However, since many of the PSA's current leasehold agreements are long-standing, the actual rent paid to the landlord may be below the charge levied by the PSA on the client. In one region visited, rental paid to the landlords averaged around £2/square foot, while 'rents' levied on tenants by PSA were £2.40.

Criteria

11 PSA will normally endeavour to meet client departments' requirements for new accommodation with leasehold or rented property. This is because of shortage of funds, particularly on PSA's own office public expenditure programme provision. Capital expenditure on freehold office property is mainly confined to work on existing sites or buildings and cases where it is not possible to lease suitable accommodation. Specialised buildings are not normally available for lease, and are provided according to the needs of the departments concerned and how far these can be accommodated in their public expenditure programmes which fund the work.

12 For repairs and maintenance expenditure, all buildings in the PSA estate are classified in terms of the standard of maintenance required. Apart from "normal", the classification extends upwards to "exceptional" - impeccable at all times for operational, public importance, or other reasons; and downwards to "limited life" - maintained to allow not more than 5 years life - "wind and weatherproof" and "demolition pending". Buildings are given a full routine inspection every 2 years (although this period can vary between 1 and 6 years in exceptional circumstances) during which the maintenance work required is identified and its cost roughly estimated. A more limited annual inspection is also carried out which will pick up indications of rapid or unexpected deterioration.

13 In the light of the maintenance standard set for the building, the work required is classified in one of three categories, broadly indicating that it is vital, essential or desirable. The top grading effectively indicates that the work should be carried out in the next financial year, if not earlier.

14 The inspection and routine maintenance of mechanical and electrical equipment generally follows the schedules laid down by the manufacturers, although these schedules are sometimes relaxed somewhat when experience has shown that it is safe to do so.

Private sector comparisons

15 The PSA participates in the Building Cost Maintenance Service, which allows limited comparisons between maintenance spending in the public and private sectors. It shows, for example, that the major banks' spending per square metre is about twice that of the PSA. The PSA also has an Advisory Board of 13 members, 11 of whom come from the private sector. The Board commented in the PSA's 1982/83 annual report, 'The Advisory Board also remains concerned by some of the constraints under which the PSA has to operate and particularly when these inhibit the attainment of value for money. The standards applied to the maintenance of civil properties remain a major cause for concern'.

Principal findings

16 In many aspects of its work PSA is offering a service which is comparable to that offered by private sector property companies. However, it is by no means clear that in the areas considered in this report the Agency's service reaches normal private sector standards.

17 The amount of information about the civil estate is nominally extensive. However, the system of information collection, storage and retrieval leaves much scope for the improvement which in some areas is now in hand.

18 There is only a limited link between the rents paid by a government department occupant of a building and the overall standard of accommodation and service which the occupant may receive.

19 The criteria for repairs and maintenance in the civil estate follow professional best practices and allow priorities to be effectively identified.

20 Senior officials report that effective stewardship of the estate is made more difficult through problems in recruiting and retaining technical staff: private sector salaries and conditions are considerably more attractive.

21 It is reported that allocation of funds for repair and maintenance now covers only about two-thirds of bids for essential work and that bids for non-vital work are now barely met at all. In at least two instances the validity of the list of essential projects has been fully confirmed by independent consultants.

22 The effects of budget stringency on maintenance were clear throughout the regions visited. A number of non-discretionary claims on funds had to be met first. These included obligations arising from premises where public sector clients were only part-tenants, and where the private sector landlord would therefore carry out work to his own (usually higher) standards and costs, or premises where the landlord closely specified the regime to be followed (such as the frequency of interior and exterior painting).

23 The limited amount of 'discretionary' funds remaining bore no relationship to the work needed on the structure of the civil estate or the mechanical and electrical equipment in it. Officials reported that the clients were not getting a good deal because the conditions in which public servants had to operate were often very poor, and full utilisation of premises was sometimes impossible.

24 Professional opinion is emphatic that the condition of the PSA office stock is deteriorating, and is likely to continue doing so until the provision for repair and maintenance work is considerably increased. More specifically, it was said, far too little preventive maintenance was carried out; there had to be a disproportionate emphasis on reactive repair work, which was less cost effective. Furthermore, much of this reactive work was not carried out to best advantage: recurring cheap-at-the-time palliative measures, rather than more expensive but lasting full repairs, often had to be the rule. There were examples of structures which had become dangerous and where repairs could not be afforded; all that could be done was to take steps to prevent eg loose coping stones from falling on to passers-by.

25 Painting for protective purposes, let alone decorative, could rarely be given adequate priority. Much mechanical and electrical equipment was well beyond its economic life, and required frequent attention either to prevent breakdown or following it. An example was given in the case of lifts, which have a working life of some 25-30 years. One PSA region estimated that on this basis they should be replacing around 50 lifts per year: in practice only about 10 were replaced.

National Economic Development Council

NEDC(84)53
21 November 1984

ELECTRONIC COMPONENTS

Memorandum by Mr Eric Hammond OBE,
Chairman of the Electronic Components Economic Development Committee.

KEY ISSUES

1. The manufacture of electronics is one of Britain's fastest growing industries and within it, electronic components is one of the fastest growing sectors. The Electronic Components Economic Development Committee is, however, concerned about the future and, whilst the EDC has engaged in a wide range of issues in many product areas, this report concentrates on the strategically significant sub-sector of integrated circuits. The key issues are:

* the integrated circuit (IC) is now the fundamental component for much of the electronics industry. Competitive equipment makers need access to the latest component technology. This can be assured only if the UK IC suppliers remain at the forefront of that technology;

* a positive trade balance in ICs, whilst desirable, is not the most important reason for the UK making a substantial commitment to this industry. More fundamental is that the IC is now the key ingredient in electronics;

* enormous changes are taking place in the way ICs are made and how they are used. The next generation of ICs will be 'intelligent', performing complex tasks in equipments essential for the competitive success of many of the UK's manufacturing and commercial businesses. It is vital for the UK to be fully competitive in this technology;

* at the forefront of each IC technology there are only a small number of companies worldwide. Britain needs an indigenous expertise in each area. Market forces alone will be insufficient to ensure this, as the governments of our major competitors recognise;

* IC companies in the UK have, overall, been lagging behind our competitors. In 1983 only one British company appeared in the list of the top ten companies selling ICs in UK;

* the industry is constrained by a severe shortage of skilled engineers, scientists and technicians.

2. These considerations pose fundamental questions for 'UK plc": do we intend to compete fully in world markets in both the development and the applications of the new technology, or not? The EDC's view is that we should and its work has been directed at finding ways to ensure success.

3. The Annexe (attached) outlines the work of the EDC, and sets out the major factors that the EDC believes will determine how successful the components and therefore equipment industries will be in the future.

CONCLUSIONS AND RECOMMENDATIONS

4. The analysis in the Annexe shows that the UK based IC supply industry is faced with a formidable set of challenges:

i) to keep abreast of a rapidly developing technology that is at the leading edge of applied science;

ii) to stimulate and serve the needs of the electronic equipment industries who need to exploit these technologies for their own competitive advantage; and

ii) to expand its manufacturing output at a rate at least as fast as the market. This is forecast to be some 30% per annum to the end of the decade.

5. The UK manufacturing base in ICs is a mixture of UK and foreign owned companies. Although the overall balance of trade position in ICs is strongly adverse there are changes in the market requirements due to technological advance with an increasing trend towards ICs which are more 'tailor made' for applications in equipments and systems. These changes could well be to the advantage of British IC manufacturers who are better able to work closely with the equipment companies (where necessary on a European scale) to exploit the fruits of innovation to mutual advantage. In this, UK based manufacturers are advantaged over those foreign suppliers whose strength lies in commodity products.

6. The challenges are formidable, but the opportunities are real. To achieve the desired transformation of the industry across a broad front will require a concentrated dedication of will and commitment to the future from the IC supply industry, Government and the equipment industry whose interests are increasingly inter-related to those of the IC suppliers.

7. The work of the EDC has been directed towards:-

* establishing what are the key issues for the development of a stronger UK base in IC manufacture;

* promoting an informed debate in the industry and in Government about what needs to be done to support and nurture this critically important sector; and

* finding ways to bring about a stronger and more effective dialogue between component suppliers and equipment manufacturers. The EDC has established a supplier user task force to this end.

8. In summary, the main recommendations which the EDC now invites the NEDC to support are:-

i) Recommendation to British based IC companies

* carry out a review of medium and long term business plans with the objective of growing at least as fast as the market and recognising the high rate of capital and other investment this is likely to require;

* draw maximum advantage from pre-competitive collaboration between companies and where appropriate extend this into joint agreements to exploit the market on a European and/or world scale;

* liaise effectively with equipment companies to derive joint benefit from the advantages of application-specific integrated circuits;

* develop stronger links with schools, universities and other colleges to help solve critical skill shortages;

ii) Recommendation to electronic equipment companies

* respond to the need for closer working with component suppliers at the product design stage to exploit fully the capability of advanced components and where appropriate to acquire for themselves the tools and know how for IC design;

iii) Recommendation to Government

* review the support schemes related to the IC industry and augment them to be sufficiently effective in assisting the IC manufacturers in their expansion plans - it is likely that the total investment to be generated will need to be approximately £400m per annum until the end of the decade which is at least a threefold increase over current investment levels. A higher level of grant is needed to concentrate resources in key areas. The need to augment support arrangements is partly a consequence of the impact on the IC industry in particular of the 1984 Budget withdrawal of 100% capital allowance;

* give early consideration to the best way of ensuring that there is commercial exploitation of the output expected from the collaborative research being done under Alvey and Esprit, so as to produce marketable products with the associated support infrastructure in components and softare. Also, ensure that smaller innovative companies are more fully participative in the Alvey programme;

* implement the expected recommendations from the Butcher Information Technology Skills Committee and whatever other measures may be necessary to tackle the problem of shortages in critical skills. Also, provide additional funding to SERC to enable them to maintain their essential activities in post graduate funding and providing valuable "hands on" experience in microelectronics.

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ANNEXE TO NEDC(84)53

INTRODUCTION

1. The role of the components industry has traditionally been to serve the electronic equipment industries of telecommunications, computers, consumer and industrial goods, etc. by supplying them with components to assemble into their products.

2. In the UK, the components industry is diverse both from the marketing and manufacturing points of view. Definitions of what should be included vary and there is no satisfactory way of handling the sub-assembly business. This paper adopts a fairly restricted product range and, because of compatibility problems, sub-assemblies are largely omitted (Appendix 1 contains a reconciliation to the Business Monitor). Included are valves, integrated circuits, discrete semiconductors, printed circuit boards, capacitors, connectors, resistors, and a range of other passive components. Total output in 1983 was more than £1 billion. Details of markets, output, exports and imports of some broad product ranges are shown in Appendix 1, but the following table demonstrates the total industry position over the last few years, with annual growth rates inserted between the years:

TOTAL ELECTRONIC COMPONENTS

£M	1980	%	1981	%	1982	%	1983	%	1984*
UK Market	991	2	1009	15	1163	28	1491	31	1951
Production	875	(6)	823	11	913	18	1077	30	1397
Exports	285	(5)	271	18	321	22	391	36	531
Imports	401	14	457	25	571	41	805	35	1086
Trade Balance	(116)		(186)		(250)		(414)		(555)
Export%	33		33		35		36		38
Import%	40		45		49		54		56

Source: Business Monitor and NEDO estimates. (see Appendix 1)
*1984 derived from half year figures

3. In addition to this wide variety of products, the structure of the industry is diverse and contains many different types of companies:

-some 25 substantial and independent UK companies, encompassing about 70 maufacturing sites;

-subsidiaries of larger and diversified UK groups which are usually based in the electronic equipment sector - in some 30 manufacturing sites;

-manufacturing subsidiaries of large foreign groups which are either in electronic components or equipment;

-a myriad of smaller independent companies.

It is estimated that this adds up to more than 700 manufacturing sites, although part of this is explained by the large number of printed circuit board companies which total more than 400.

4. The UK has traditionally had a strong capability in a wide range of the more specialised types of components, maintaining a comparative advantage in discrete semiconductors particularly at the power end of the range, in vacuum technology and passives, particularly associated with the defence and aerospace industries. This has been a reflection of the structure of the UK equipment industries into which the components industry is selling. However that structure is changing and the UK components industry is not adapting fast enough. Figures are not available on a market outlet basis, but the tables in Appendix 1 demonstrate that more and more of the UK market, even in passives, is unfortunately being satisfied from imports.

NATURE OF THE BUSINESS

5. In many ways the term 'Components Industry' is now a misnomer. It implies the manufacture of products for a main industry, such as the headlamp or seat-belt producers, which serve the motor industry. If a classification remains necessary in the electronics industry today, it should be between components and applications. The design and manufacture of components can no longer be regarded as an ancillary activity - a handmaiden to those with a more important purpose in life. Its role is now central and its success crucial to all electronics applications. A strong components industry will stimulate many of Britain's other industries - from process control to motor vehicles themselves.

6. As a result, the core engineering skill in the design of a piece of equipment no longer resides solely, as it used to, in the ability of the equipment designer to combine components, through the sub-assembly method, to achieve the desired result. Increasingly the function is being realised directly in the IC. The traditional sub-assembly is, through changes in technology, becoming a component in its own right.

7. The cause of this shift in the centre of gravity of the electronics industry from the equipment industries to the components industry is that the IC is now the fundamental ingredient of the applications industries. The reason that electronics, and ICs in particular, have become so pervasive is that very complex systems are now relatively cheap, use little power, and do not demand special environmental conditions. Moreover, it is likely that the speed of developments in the past decade will be more than matched by developments in the next decade. This leads to two fundamental points:

* first, the importance of Britain developing an advanced IC industry for the benefit of the equipment industries;

* second, that the components industry needs an advanced equipment industry which applies the latest technologies effectively.

THE STRATEGIC SIGNIFICANCE OF INTEGRATED CIRCUITS

8. Although ICs currently comprise only 25% of the UK's output of electronic components, they hold the key to the future of not only the components industry, but, more widely, the future of all industries employing advanced electronics. This means - or should mean - almost every aspect of Britain's industrial base, and much of its service sector. On a

worldwide basis, the electronic equipment industries are forecast to grow at 13% per annum to 1990, whilst ICs will grow at 22% pa. For this reason this paper concentrates on ICs and how they will change the interface between the component and equipment industries. (Supplementary information on other active and passive components can be found in the Appendices.)

9. A new generation of electronic components is revolutionising the way ICs are made, what they do and how they can be used. This revolution concerns the capacity to put not just memory, logic and control on a circuit, but to programme it to be intelligent, and thus to make "intelligent" machines. The key to this will be the capacity of the new generation of ICs to perform complex tasks not only in parallel, but also for these separate operations to interact.

10. Increasingly ICs can be distinguished between commodity circuits and application-specific ICs (ASICs).

* Commodity ICs are manufactured and sold worldwide by all the major semiconductor companies. They provide memory, logic and other facilities required in complex circuits.

* However, these attributes frequently need to be tailored to the requirements of the end user. The term ASIC is used to cover all ICs that are customisable to meet a particular application, and it includes gate arrays, standard cells, full custom circuits, and programmable logic arrays. By 1990 ASICs will account for 30-50% of the world IC market. Production and use are related. In theory, equipment makers could import all the ICs they need. In practice, they will suffer if they do, because they will lose out in world markets to those equipment makers that work closely with ASIC makers to produce the most suitable components and hence the best products.

11. The importance of an advanced industrial country like Britain staying at the forefront of component technology is hard to overstate. Increasingly the crucial skills needed to make world competitive products and supply world beating services will be those skills used to design and apply the ICs themselves, rather than assembling commodity ICs in conventional equipment.

12. From this it follows that while it would be desirable for the UK to have a positive trade balance in both commodity ICs and ASICs, it is of more strategic significance to have a strong capability in ASICs to provide the user industries with more optimisable designs.

13. Related to this is another, more directly commercial point. An increasing share of the value-added in electronic equipment will be in the ICs themselves. Any attempt to assess Britain's prospects in equipment manufacture and use of the most advanced ICs must, therefore, start with an assessment of the significance of the current IC revolution.

14. Moreover, if Britain is to succeed in developing a competitive IC industry, IC companies will need to employ more designers and the most advanced computer-aided design (CAD) techniques in order to achieve the lowest possible price-per-function. The user industries will also need to acquire their own advanced CAD capabilities.

CAD does two things for ICs. First, it allows ICs to be designed far more quickly and to a far greater degree of complexity, than was possible before. Second, it also allows fundamentally new kinds of IC to be developed - the 'intelligent chip', in which sub-systems communicate directly with each other. This quality will greatly expand the potential applications of ICs - for example in advanced manufacturing systems using robotics and office and other systems using speech input-output.

THE CHIP BUSINESS IS UNLIKE ANY OTHER

15. The rate of technical change in ICs is greater than in any other major industry; the market it serves is growing faster than any other major market; the number of products made by the IC industry is growing as fast as any in the UK; the dramatic fall in price-per-function in this industry is greater than in any other industry. This is a capital-hungry industry investing typically more than 35% of turnover on research and development, and capital investment. Smaller companies, and those in the ASICs, are investing at an even higher rate.

16. In many industries the best results are obtained through competition among a variety of companies, each with broadly equal levels of technology and each trying to secure an advantage through price and/or quality and/or productive efficiency. The IC business, however, is unlike any other:

* Close links between ASIC manufacturers and equipment companies are essential.

* In any given area at the forefront of any IC technology there are only a limited number of companies worldwide.

* High-tech IC manufacture is highly specialised: customers of the most advanced chips cannot readily take their business elsewhere.

* Defence needs. Independent defence capabilities are important for strategic reasons; otherwise we are, in practice, dependent on imported technology in key areas where an early supply of critical and innovative components is essential.

17. For all these reasons, it is important to ensure that Britain has a capability in each key technology. If a small community of business executives make only a few 'wrong' decisions (as far as 'UK plc' is concerned), Britain will find itself relegated from the second division of high-tech countries (assuming US and Japan comprise the first division). Should we fall further behind and fail to maintain a presence in high-tech IC developments, it will be impossible to recover.

COMPETITIVE POSITION

18. Between 1980 and 1983 the UK market for ICs grew by 95% to £458 million; however output only grew by 70% to £272 million. During the same period exports grew by 62%, while imports grew by 100%. The table below shows a deteriorating trade balance.

TOTAL INTEGRATED CIRCUITS

£M	1980	%	1981	%	1982	%	1983	%	1984
UK Market	235	6	249	28	318	44	458	42	652
Production	160	5	168	23	206	42	272	44	393
Trade Balance	(75)		(81)		(112)		(186)		(259)

% are growth between years
Source: Business Monitor and NEDO Estimates - see Appendix 1
*1984 derived from half year figures

19. However, components trade figures do not provide a good indicator of the industry's performance, as they mix two separate factors: the success of British component makers in selling to the world, and the demand by UK equipment makers for components. The 'best' component trade figures would result from an excellent components industry but a weak equipment industry - this pattern would, in theory, generate considerable exports, but little demand for imports.

Instead, the way to assess the components industry is, in general, to examine its growth in output and exports; and specifically - though more subjectively - examining whether we are succeeding in establishing an effective British presence in particular areas.

20. In 1983 the main companies selling in the UK were:

1983	$M UK Sales	$M World Sales
Texas Instruments (US)	80	1540
Motorola (US)	70	1060
Mullard (Philips) (Dutch)	50	250
Intel (US)	50	780
National Semiconductors (US)	50	790
Ferranti (UK)	30	70
Hitachi (Japanese)	30	910
NEC (Japanese)	30	1090
Siemens (German)	30	180
Fairchild (US/French)	30	370

Source: Dataquest

[NB: Dollar figures have been given as this is the currency in which the international IC trade is conducted, and prices are set. Figures in £s would tend to be misleading, especially at a time of fluctuating exchange rates.]

It is encouraging that most of these companies have a presence in the UK, but disturbing that only four manufacture in the UK, and only one of those - Ferranti - is UK owned. The top five companies, all foreign owned, accounted for half the UK market in 1983.

21. Worldwide sales of the five main British based IC companies in 1983 were:

Ferranti	$68m
Inmos	$60m
Plessey	$58m
STC	$30m
MEDL (GEC)	$23m

Source: Dataquest and NEDO Estimates

These figures show how relatively small the UK companies are compared with their American, Japanese and European rivals; and how urgent it is for them to grow rapidly if they are to be at all credible in world markets.

However, these figures also conceal some rapid growth rates in recent years, particularly by Ferranti, Plessey and STC in (semi) custom ICs, and Inmos and STC in the commodity market.

22. Two main conclusions emerge from this analysis:

* that the UK's indigenous IC companies are small compared with our competitors and, overall, not growing fast enough to hold their share of either the British or international markets;

* that the UK's IC output figures are substantially enhanced by the output of multinational companies located in this country; without them our output and trade figures would be extremely disturbing.

23. However, it is worth noting the findings of the US market research group ICE (Integrated Circuit Engineering), which ranks all IC companies worldwide with sales of more than $25 million a year. In both 1982 and 1983 British companies came top in growth rate - Ferranti in 1982 and Inmos in 1983.

24. The position of Inmos deserves special comment. This is a company whose formation and development was encouraged by the EDC and supported by Government, in the face of widespread predictions of its failure. It is now thriving and remains British (now owned by Thorn-EMI). In particular Inmos' highly innovative transputer will make a significant contribution to the UK's ASIC capability. Inmos' transputer is potentially one of the most powerful ASIC in the world. The Japanese government funded programme to develop 5th generation technology, ICOT (Japanese Research Institution on 5th Generation Computer Technology), and several major American computer companies, believe Inmos will be their major source of supply.

25. The area in which UK companies have tended to specialise - the manufacture of applications specific or customised ICs for local electronic equipment industry - will provide many of the fastest growing market opportunities during the coming decade. UK indigenous companies are therefore now well placed to improve their performance and to fulfil the ASIC needs of the equipment industries; they have a sound technical base from which they must be encouraged to expand faster.

THE KEY ISSUES FOR THE FUTURE

26. It is evident that urgent steps must be taken to restore Britain's place in the international IC industry.

:) The IC Industry itself

Clearly there is much that the IC industry can do itself to exploit more effectively the changing markets and technologies, to promote closer contact with the equipment companies and to build on stable industrial relations. The foregoing analysis has shown that the investments required in research, development, design facilities and capital plant for manufacture are large by any standards. The UK market is currently growing at about 30% per annum; to increase output at this rate will require managerial and financial commitment of a long term nature. The necessary requirement for greater use of CAD will itself impose a strain on human skills and company resources.

Therefore, the EDC recommends that IC companies:-

* review their medium and long term business plans for ICs with the objective of growing at least as fast as the market. The list of current investment programmes is impressive, but is inadequate to fulfil UK equipment demand; it is estimated that an annual investment rate of £400m will be required;

* draw what advantage they can from pre-competitive collaboration between companies to maximise the advantages of scale, the pooling of development and advanced manufacturing techniques. Through building on the experience of working with the (British) Alvey and (European) Esprit projects to emulate the recent example of collaboration between Philips and Siemens to develop and manufacture advanced ICs; this is the most ambitious attempt yet to reverse the European semiconductor industry's decline in world markets;

* in recognition of the increasing importance of ASICs companies will need to establish close working relationships with equipment companies to liaise effectively at the design stage of new products;

* in view of the current and impending shortages of critical higher level skills companies should develop stronger links with schools, universities and other colleges of education for example by sponsoring students and lectureships and through the provision of equipments.

27. ii) The Equipment Companies

This paper has argued that the fortunes of the electronic equipment manufacturing companies are inextricably entwined with the components industry and that they are mutually interdependent. To be competitive in international markets the equipment companies will need to exploit effectively all the benefits that advanced ICs offer. The EDC has established a supplier/user task force to promote the necessary collaboration and it is recommended that:-

* companies review their plans for new products to ensure that full advantage is taken of changing component technology. More particularly, equipment companies should respond to the need for closer working with component suppliers at the design stage where for example to exploit fully the capability of ASICs they will need to consider acquiring themselves the tools and know-how for IC design.

28. iii) Government

There is much that Government has done and is doing to assist in the development of the components industry generally and the IC industry in particular. The package of inter-related schemes of support for innovation, including the MISP 2 programme and the Alvey project are noteworthy. But our major competitor nations also recognise that market forces alone are insufficient to create an effective IC capability and their Governments are more generally involved in underpinning their indigenous industries either indirectly or directly through state support for R & D and capital investment. For example, the German and Dutch governments are prepared to spend more than £110 million to support the joint Philips/Siemens project during the next four years - that is approximately equal to the total British MISP 2 scheme.

The EDC considers that Government has an essential role to play to assist the IC industry in realising its full potential. Specifically it is recommended that Government should:-

29. Investment

* review the current package of schemes related to the IC industry to ensure that an adequate level of encouragement and support is available to the companies to underpin the necessary rate of technological development and business growth. Consideration should be given to augmenting the MISP 2 scheme to reflect the continuing need for substantial additional capital investment; (overall it is estimated that the IC industry needs to invest at a rate of £400m per annum) and to provide a higher level of grant to enable a concentration of resources in key areas. An additional reason for augmenting support in this way is to counteract the adverse effect on the IC industry of the withdrawal of 100% capital allowances in

the 1984 Budget. With its high level of capital investment, short write-off period (because of advancing technology) and relatively low profitability the IC industry is particularly badly effected by this measure. Note: In the financial years 1981-84 Government support (excluding regional development grants) totalled more than £2 billion to the steel industry, almost £650 million to shipbuilding, but only £126 million for the whole of microelectronics;

* consideration should be given to widening the scope of support so that related areas are included eg the supply of equipment and materials to the IC industry; and the development and use of more efficient IC packaging technology etc;

30. Research exploitation

* examine the role that Government could play to assist in the exploitation of the fruits of collaborative research from the Alvey and Esprit programmes. The Alvey project is a rare and welcome example of the UK providing funds on a sufficient scale to match, and even overtake, our competitors, but thought needs to be given now on how to make best use of this mechanism and to exploit it. Urgent consideration should be given to the following points:-

a) bring together the work of the Alvey Directorate's four sections in order to develop marketable 'intelligent' machines and the necessary infrastructure in components and software to support them;

b) ensure, in accordance with the Directorate's original plans, that smaller companies, both in production technology and software, are fully participative and are able to exploit leading edge technologies;

31. Education and skills

* address the problem of shortages of critical skills by implementing the recommendations that are likely to emerge from the Butcher Information Technology Skills Committee and whatever other measures are necessary to remedy these now well documented deficiencies;

* provide additional funds to the SERC to enable it to maintain its support for post graduate studentships and conversion courses and more particularly, to keep in existence the specialist facilities doing practical work in microelectronics.

MANPOWER AND SKILL REQUIREMENTS

32. Employment in the overall component industry (total of PQ3444 & 3453) has declined sharply since 1980, but within that decline there have been considerable skill shifts, as follows:

	1980	1981	1982	1983	%change 80-83
Scientists and Technologists	3420	3534	3773	3995	+17
Technicians (inc draughtsmen)	6159	5476	5304	5542	-10
Operators	45736	37025	32955	33280	-27
All Other Employees	32996	29402	27278	26159	-21
Total	88311	75437	69310	68976	-22

Source: EITB Statutory returns

33. In three years, total employment has declined by 22%, although total output has risen substantially. This decrease in overall levels is a reflection of two moves within the industry. Firstly there is the shift towards more capital intensive products. For example a relative decline in professional tubes which have been comparatively labour intensive, against large increases in integrated circuits which are capital intensive. Secondly, there have been increases in the capital intensity within most products.

34. This paper has made extensive reference to the need for considerable investment in the components industry, not only to increase output, but to improve effectiveness. It is therefore likely that there will be a continuation of this trend of increasing output per head. Recent increases have been nearly 20% per annum and output would need to expand at that rate, just to hold the employment level steady.

35. Despite an overall decline of 22%, the number of scientists and technologists has risen in absolute terms. This trend to higher skills will continue and the shortages of skilled engineers is already a severe constraint on the industry. To overcome this, action is required in two related areas:

- The 1982 UGC cuts effectively froze the undergraduate intake for courses in electrical and electronic engineering and related subjects. The position is even more serious than this implies, because although the total numbers have been held, up to one third of places available in British universities are now reserved for foreign students paying full commercial fees. There has therefore been a decline in the number of UK students being trained in these subjects. The recent interim report from the Butcher Committee estimates a reuired increase of about 25% by 1990 in the number of trained electronic engineers available to UK industry. Industry estimates suggest that the additional numbers required may be as high as 40% for the IC industry.

- The Science and Engineering Research Council (SERC) provides an essential service to the industry by providing funds for post-graduate work and, specifically in microelectronics, by supporting the six specialist facilities doing practical work - Edinburgh (silicon); Sheffield (III-V compounds); Surrey (Ion Beam); Southampton (Silicon); Rutherford Appleton Laboratory (Electron beam lithography and CAD software). Recent decisions to reduce the SERC's funds put at least one of these facitilities at risk. The SERC IT Directorate should have sufficient funds to finance the requirements of industry adequately and these should not be at the expense of other programmes.

THE WORK OF THE EDC

36. Much of this paper has been devoted to the central role of ICs in electronic components. ICs, however, form only part of the EDC's work programme. For example, in recent years the EDC's work has included:

* Quality: The EDC co-operated with the Electronics Consumer Goods EDC in its work to make the UK TV manufacturing industry competitive with Far Eastern sources. The Parts per Million approach to quality has resulted in dramatic reductions in the level of rejects and has enhanced the manufacturing base of components as well as sets. The Electronic Consumer Goods EDC has highlighted the importance of recent improvements in component quality in its "FACT" booklet. This work on components quality has complemented the main thrust on quality and standards by BS/CECC.

* Printed Circuit Boards: The EDC investigated the important sub-sector of printed circuit boards, organised a maker/user seminar and produced a report which made recommendations about various aspects of the sector.

* Productivity: The EDC published and widely distributed a report which was based on a series of case studies of the way that companies had increased productivity and improve their competitiveness. The report encouraged other companies to follow these examples and placed emphasis on the early involvement of the workforce.

* Applications: The EDC brought together manufacturers, academics, members of research establishments and users of VLSI integrated circuits in a workshop to discuss the problems and opportunities provided by the new technology and to define better the future requirements of the user sectors.

* Government Support Schemes: The EDC has influenced the Government to continue and expand its support schemes in microelectronics. The establishment of MISP 1 & 2, MAP, CADMAT and the Alvey directorate will ensure considerable government assistance for research, production and applications. The EDC proposed a specific Government scheme for fibre-optics. This was introduced and the Fibre Optic Support Scheme (FOS) has been very successful. It has been supplemented by the Joint Optoelectronic Research Scheme (JOERS). This meant that the UK was well placed in this key technology. However, recent developments in other countries - the USA, Japan, Korea etc - make our relative position in world markets in the future, more questionable.

* Inward Investment: The EDC prepared a list of specific guidelines for inward investment projects and presented this to Government to ensure that foreign owned companies are only encouraged to invest in the UK in a manner which enhances the UK manufacturing base.

* Tariffs: The EDC has secured the agreement of the UK's semiconductor and Printed Circuit Board (PCB) industries to a rationalisation of the tariff structure for components imported into the EEC. Imported semiconductors currently attract a duty of 17% while populated PC Boards only attract an import duty of approximately 5-7%. This is an incentive to import semiconductors already on PCBs. The PCB industry and manufacturers of equipment, such as the computer industry, sought a reduction in the tariff on semiconductors in order to increase the proportion of indigenous components used and the amount of assembly work carried out in the UK. The semiconductor industry has now agreed to this, and the matter is currently being considered by the European Commission.

37. The EDC functions at two levels: a formal level, represented by papers to the EDC and meetings of members; and an informal level, represented by the work of staff co-operating with members of the industry on specific issues. For example, the EDC staff has added an educational and marketing dimension to the industry's major annual Semi-Custom Conference.

38. One of the most useful features of the EDC is that its existence - quite apart from its formal meetings - enables contacts to be made and information to be circulated to the benefit of the whole industry. This information is often of a delicate nature but the Office, which has no commercial axe of its own to grind, is able to perform a vital intermediary role as it is trusted by all parties.

Restricted

File

National Economic Development Council

NEDC(84)
7th Meeting

MEETING to be held at the
National Economic Development Office on
Wednesday, 5 December at 10.00 am
(Luncheon will be available in the Office)

A G E N D A

1. FUTURE WORKING METHODS OF THE NEDC

   Paper submitted jointly by the TUC and CBI
   (NEDC(84)51, circulated herewith)

2. SECTORAL REPORT: ELECTRONIC COMPONENTS

   Report by Mr E A Hammond, OBE, Chairman of the Electronic Components Economic Development Committee
   (NEDC(84)53, circulated herewith)

3. THE CHANCELLOR OF THE EXCHEQUER'S AUTUMN STATEMENT

   (NEDC(84)52, circulated herewith to non-government Council Members and principal advisers only)

4. TAX POLICY AND THE JOBS EXERCISE
   Memorandum by the Chancellor of the Exchequer
   (NEDC(84)54, circulated herewith)

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5. *EFFECTS OF NEW TECHNOLOGY UPON EMPLOYMENT

   Paper by the Department of Employment
   (NEDC(84)46, circulated on 6 August 1984)

   * This item is put forward for noting and release without discussion.

6. ANY OTHER BUSINESS

National Economic Development Office
Millbank Tower
Millbank
London SW1P 4QX

20 November 1984

Restricted

Restricted

National Economic Development Council

NEDC(84)51
19 November 1984

FUTURE WORKING METHODS OF NEDC: TUC/CBI PAPER

Note by the Director General

I circulate herewith, as agreed, the paper on this subject submitted jointly by the TUC and CBI for the meeting of the Council on 5th December.

National Economic Development Office
Millbank Tower
Millbank
London
SW1P 4QX

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FUTURE WORKING METHODS OF NEDC

Joint paper by TUC/CBI

The TUC and CBI have agreed that reform of the working methods of NEDC along the lines set out below will reinvigorate the Council and its programme of work, making it a more effective instrument to promote national economic growth.

1. Need to improve connection between Council agendas and TUC and CBI work; where an issue is given priority by the two organisations, the Council agenda should reflect it.

2. TUC and CBI to increase their contribution of papers to the Council.

3. Arrangements for compiling the agenda including the role of the Group of Four and the Co-ordinating Committee to be reviewed.

4. Where there is a clear annual timetable for Government decision-making (eg on PESC, Budget) there should be a clear "slot" allocated for NEDC discussion well in advance of the Government decision. This should fit within a pattern of quarterly discussions on economic strategy, as opposed to irregular ad hoc exchanges with inadequate preparation.

5. Need for sharper focus on promoting conditions favourable to faster economic growth - this will centre on the "new jobs" exercise, capital investment, infrastructure and other major factors in Britain's economic development.

6. All major economic questions should be open for prior Council discussion and influence (example - timely discussion on regional policy was helpful to all sides).

7. Discussion should be permitted at short notice (48 hours) on items of topical interest within the remit of the Council.

8. Council papers should be shorter, more precise, carefully and crisply drafted, including "action" points.

9. Papers must be submitted to the Council on time.

10. Follow up required from Council should be clearly specified.

11. Where follow up is not achieved (after monitoring) a report should be made and explanation given.

12. By use of Sub-Groups, involving members and senior officials, carry out thorough preparatory work, to make Council discussion more effective.

13. Council meetings could then be bi-monthly for Council but holding other dates in diary. One possibility would be Plenary sessions with meetings of the smaller groups on other available dates.

14. Consideration could also be given to the number of officials attending each type of meeting.

15. In this context the role of Ministers arises. Their use of substitutes has become too frequent.

16. Revitalise and relaunch "Action at Company and Plant Level" to improve links between Council and EDCs, EDCs and their sectors and companies, and in the regions.

17. Keep coverage and scope of sectoral committees under review, and ensure a proper valuation is placed on their work.

18. The number of copies of Council papers prior to discussion should be strictly limited. All parties should honour the understanding that no briefings or comment be given to the media prior to Council discussion.

19. Following the Council meeting all parties should be free to comment if they so choose.

20. The Council should consider an external review of the public presentation of the NEDC and EDC work.

27 September 1984

NEDC file

No. 3 TIM RENTON ON NEDC

SUPPLEMENTARY

"WOULD MY RHF REMIND THE TUC OF CLEM ATLEE'S ADVICE - NEVER WALK OUT BECAUSE YOU WILL HAVE TO WALK BACK. BUT WILL SHE MAKE USE OF THE INTERVAL TO SEE IF THE WORK OF NEDC CAN BE MADE MORE PRODUCTIVE BY STUDYING THOSE INDUSTRIES AND SERVICES IN WHICH BRITAIN CAN BE PRE-EMINENT IN THE 1990S AND HOW THIS CAN BEST BE ACHIEVED."

ANSWER

I very much endorse the views of my hon Friend. It is extremely sad that the TUC have walked out on the major exercise which NEDC is conducting into the industries of the 1990's - the exercise which the TUC themselves initially took up with great enthusiasm.