

Business Monitor

PA328

Report on the
Census of Production

1990

Miscellaneous machinery
and mechanical equipment

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PA328

BUSINESS MONITOR

A publication of the Government Statistical Service

Report on the Census of Production 1990

Miscellaneous machinery and mechanical equipment

Presented by the Chancellor of the Exchequer
to Parliament in pursuance of the Statistics of Trade Act 1947
(10 & 11 Geo.6 Cha.39 sec 7)

CENTRAL STATISTICAL OFFICE

London: HMSO

BUSINESS MONITORS MAKING UP THE COMPLETE CENSUS REPORT

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PA328 MISCELLANEOUS MACHINERY AND MECHANICAL EQUIPMENT

PA328

The information in this report relates to businesses classified to the Miscellaneous machinery and mechanical equipment industry, Group 328 in the Standard Industrial Classification Revised 1980. The Industry Group covers the following Activity Headings:-

- 3281 Internal combustion engines (except for road vehicles, wheeled tractors primarily for agricultural purposes and aircraft) and other prime movers**
- 1. Industrial internal combustion engines**
Manufacture of internal combustion reciprocating engines other than for road vehicles, wheeled tractors primarily for agricultural purposes, ships and aircraft. Included are stationary engines for machinery and generators, and engines for mobile equipment such as pumps, compressors, agricultural machinery, construction, earthmoving and mechanical handling equipment, and for rail traction engines.
- 2. Marine engines**
Manufacture of internal combustion engines and steam and gas turbines for propulsion and other marine uses, including freshwater vessels.
- 3. Other prime movers**
Manufacture of steam and gas turbines and other prime movers for all applications except for road vehicles, ships, aircraft and electricity generation.
- 3283 Compressors and fluid power equipment**
- 1. Compressors**
Manufacture of air and gas compressors and exhausters other than compressors for commercial refrigeration machinery.
- 2. Oil hydraulic equipment**
Manufacture of equipment for operating machinery by hydraulic means including actuators, control valves, hydraulic pumps and motors.
- 3. Pneumatic control equipment**
Manufacture of equipment for operating machinery by pneumatic means including actuators and control valves.
- 3284 Refrigerating machinery, space heating, ventilating and air conditioning equipment**
- 1. Refrigerating machinery**
Manufacture of refrigerating machinery, commercial refrigerators and commercial refrigerating equipment including deep freeze and quick freeze machinery but excluding domestic type refrigerators and deep freeze units which are classified to Group 346.
- 2. Space heating equipment**
Manufacture of warm air generators, central heating boilers, heat emitters and other water, steam and radiant heating equipment but excluding domestic type gas heaters and domestic type electric heaters which are classified to Groups 316 and 346 respectively.
- 3. Fans and other ventilating equipment**
Manufacture of fans, ventilators and ventilating units including hoods, cowls and ducting. Fans for industrial purposes are included. Domestic type electric fans are classified to Group 346.
- 4. Air conditioning equipment**
Manufacture of air conditioning and dust extraction systems including major components thereof. Air treatment and distribution equipment is included.
- 5. Burners**
Manufacture of domestic and industrial oil fuel and other burners.
- 3285 Scales, weighing machinery and portable power tools**
- 1. Scales and weighing machinery**
Manufacture of scales, spring balances and other weighing machines other than analytical and other precision balances which are classified to Group 371.
- 2. Portable power tools**
Manufacture of portable power tools including those used in civil engineering, mining and quarrying. Flexible shaft drive tools are included.
- 3286 Other industrial and commercial machinery**
- 1. Industrial and commercial machinery and service equipment**
Manufacture of non-electronic testing machines and equipment, coin or token operated automatic slot machines, garage equipment, fire-fighting equipment, hand, power and tractor operated mowers for lawns, parks and sports grounds. Electronic testing equipment is classified to Group 344 and measuring, checking and precision testing instruments and apparatus to Group 371. Hand held fire extinguishers are classified to Group 316 and agricultural mowers to Group 321.
- 2. Machinery for foundries and rolling mills**
Manufacture of founding and die-casting equipment and metallurgical rolling mills.
- 3. Manufacture of other machinery and mechanical equipment not elsewhere specified**
- 3287 Pumps**
Manufacture of centrifugal reciprocating, rotary and other pumps for liquids including hand metering and petrol station pumps and excluding pumps for internal combustion engines, which are classified according to the type of engine.
- 3288 Industrial valves**
Manufacture of industrial type valves, taps and cocks. Valves for internal combustion engines are excluded and classified according to the type of engine.

3289 Mechanical, marine and precision engineering not elsewhere specified

1. Marine engineering

Manufacture of auxiliary marine machinery (other than engines and turbines), diving and underwater engineering equipment not elsewhere specified.

2. Precision components for engines and machinery not elsewhere specified

Manufacture of precision components common to wide ranges of engines and machinery eg pistons, gaskets, lubricators.

3. Mechanical engineering working not elsewhere specified

Manufacture of gas welding and cutting machines and torches. Electric welding equipment is classified to Group 343. Establishments manufacturing mechanical engineering products (including machinery parts) not elsewhere specified, or of such a mixed character that they cannot be placed elsewhere in Class 32.

For a full description of the 1980 classification see Standard Industry Classification Revised 1980, obtainable from Her Majesty's Stationery Office, price £4.25.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which commence on page 5.

EXPLANATORY NOTES AND DEFINITIONS

INTRODUCTION

1. These notes give basic information to help with the interpretation of tables in this Industry Report. More general information about the Census is given in a separate Business Monitor - Report on the Census of Production, Introductory Notes (PA 1001).

2. Since 1980, Censuses have been conducted on the Standard Industrial Classification Revised 1980 (SIC(80)). The Standard Industrial Classification exists to promote uniformity and comparability in the official statistics of the United Kingdom. The SIC(80) is the result of an attempt to align the United Kingdom classification with the General Industrial Classification of Economic Activities within the European Communities (NACE). It is based on activity rather than commodities produced. A full description of SIC(80) is given in Standard Industrial Classification Revised 1980, obtainable from Her Majesty's Stationery Office, price £4.25.

REPORTING UNIT

3. From the earliest censuses of production until that for 1986 the reporting unit to the census was the establishment. This was defined as the smallest unit which could provide the full range of data required for an economic census. Establishments were asked, where possible, to exclude from their returns to the census any non-production activity.

4. In 1987, for a number of administrative and statistical reasons, a new system of company-based reporting was introduced. Under the new system the reporting unit to the census is, generally, the company, but there are some exceptions. These arise, for example, for large mixed activity companies which are asked to make separate returns to the census for each of their production activities on an establishment basis. Throughout this monitor this mixture of reporting units are referred to as "businesses". These businesses are no longer asked to exclude non-production activities.

5. In practice, since most businesses, both before and after the change, reported for the company as a whole, little difference to the main economic series has resulted from the change.

6. For most businesses, the returned data are appropriate to a single activity heading of SIC(80) and fall within a single geographical region. Where information covers a mixture of activities, the business is classified according to the main activity. Where the business operates at a number of different addresses then, in order to enable regional data to be compiled, separate information on employment and capital expenditure is sought for each address.

THE REGISTER

7. A register of businesses throughout the United Kingdom is held on the CSO computer and provides the basis for CSO inquiries. For each business the register contains identification particulars and information about its eligibility for inclusion in an inquiry, its relationship with other businesses in common ownership, its industrial classification, the nationality of its parent and location indicators for regional analyses. Regional and size analyses of manufacturing units are published in Business Monitor PA1003 - Size analyses of United Kingdom businesses.

8. The Annual Census and other CSO inquiries provide a major source of information for checking the register and updating employment data. Where businesses do not make returns to these inquiries, estimates of employment are imputed from VAT turnover. For businesses which have an imputed employment of 11 or more, the estimates are checked by means of register proving forms. For businesses on the register making returns to the Quarterly or Annual Sales Inquiries, industrial classification is reviewed annually and is derived from an analysis of their commodity sales. For other businesses the classification is obtained either from VAT sources or from the register proving forms. Estimates of employment made by the CSO and the Department of Employment differ because they are derived from two separate inquiries and use different procedures and employment definitions.

COVERAGE

9. The Census covers United Kingdom businesses engaged in industrial production, ie mining and quarrying, manufacturing, construction, and gas, electricity and water supply industries (Divisions 1 to 5 of SIC(80)). Businesses in the Channel Islands and the Isle of Man are excluded.

10. Under the sampling arrangements agreed for the 1990 Census, forms were despatched to all businesses with 100 or more employed and, for most production industries, samples of 1 in 4 and 1 in 2 respectively being taken for businesses in the 20 to 49 and 50 to 99 employment size bands. It was necessary to increase the sample in those industries where there were few businesses in the sample size band or where response in earlier years was poor. About 16,800 forms were despatched in the United Kingdom for the 1990 Census.

PERIOD COVERED

11. Businesses were asked to make returns for the calendar year 1990 but, where this was not possible, returns for business years ending between 6 April 1990 and 5 April 1991 were accepted. Returns covering fewer than twelve months were accepted for businesses which had started or ceased trading during the year.

ESTIMATION

12. All published Census results include estimates for non-responders, unsatisfactory returns and businesses not selected for the Census. Estimates are also made for items not covered in the shorter form sent to smaller businesses.

13. Within employment size groups in each industry, the "average per head" is calculated for each census variable by dividing the total returns value for each variable by the total returned employment. This value is multiplied by the employment thought to exist in each non-responding or non-selected business to yield an estimated value for that business. Estimates for items not collected on the shorter form are made in a similar way using returned employment.

14. The accuracy of the totals produced by adding together estimates and returned data is mainly dependent on the level of response. The extent to which businesses making satisfactory returns account for the total employment of any industry is shown as a percentage in footnote (a) to table 1. Thus the accuracy of the data published in an Industry Report where 95 per cent of the employment in the industry is covered by the returns made will, in general, be better than that in an Industry Report where the coverage is only 70 per cent.

15. Additionally, the extent to which individual headings in an Industry Report are related to employment should be taken into account in assessing the accuracy of estimated data. Thus an estimate of total earnings which bears a close relationship to total employment is likely to be more accurate than an estimate of capital expenditure where the relationship to employment is not so clearly marked.

SUPPRESSION OF INFORMATION RELATING TO INDIVIDUAL UNDERTAKINGS

16. Sub-section 9(5)(b) of the Statistics of Trade Act 1947 states that:

"The following provisions shall have effect with respect to any report, summary or other communication to the public of information obtained under the foregoing provisions of this Act -

in compiling any such report, summary or communication the competent authority shall so arrange it as to prevent any particulars published therein from being identified as being particulars relating to any individual person or undertaking except with the previous consent in writing of that person or the person carrying on that undertaking, as the case may be; but this provision shall not prevent the disclosure of the total quantity or value of any articles produced, sold or delivered; so, however, that before disclosing any such total the competent authority shall have regard to any representations made to them by any person who alleges that the disclosure thereof would enable particulars relating to him or to an undertaking carried on by him to be deducted from the total disclosed."

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17. Figures which would be likely to disclose particulars relating to an individual undertaking are not published unless the contributor has given written consent for their publication.

CHANGES MADE FOR 1990

18. The 1990 Census reverted to a 'slimline' format with fewer businesses being required to complete forms than in 1989. The questions asked in 1989 on road transport costs and on postal and telecommunications costs were dropped but additional questions were included on capital and current costs associated with pollution abatement.

SYMBOLS USED

19. The following symbols are used throughout the PA series of Business Monitors:

- .. not available
- nil or less than half the final digit shown
- * information suppressed to avoid disclosure
- R revised

ROUNDING OF FIGURES

20. Figures in the tables have been rounded to the nearest final digit where necessary and, in these instances, the sum of the constituent items may not always agree exactly with the total shown.

EXPLANATION OF TERMS USED IN THE CENSUS REPORT

21. The notes and definitions given in this section are based on the instructions given to respondents as to the way in which returns were to be completed.

CAPITAL EXPENDITURE

22. This represents the value charged to capital account together with any other amounts which ranked as capital items for taxation purposes during the year to which each return related. From 1988 contributors were asked to include the value of assets acquired as lessees under finance leasing arrangements. The value is inclusive of any amounts received or expected to be received in grants and/or allowances from government sources, statutory bodies or local authorities. Capital expenditure during the year in respect of production units where production had not started before the end of the year and the value of CAPITAL GOODS PRODUCED FOR USE WITHIN THE BUSINESS by its own staff are included. The value of any assets acquired in taking over an existing business is excluded. The figures include non-deductible VAT but exclude deductible VAT. No allowance is made for depreciation, amortisation or obsolescence.

a. on LAND AND EXISTING BUILDINGS

23. This represents the value of freeholds and the value or premium payable or receivable for leaseholds acquired or disposed of. The figures for acquisitions include architects' and surveyors' fees, legal fees, stamp duties, agents' commissions and Land Registry fees. The figures for disposals are net of any such professional fees payable.

b. on NEW BUILDING WORK

24. This represents the value of new building and other constructional work such as the extension and reconstruction of old buildings, and the value of any newly constructed buildings acquired. The figures include architects' and surveyors' fees, legal fees, stamp duties, agents' commissions and Land Registry fees.

c. on PLANT AND MACHINERY, VEHICLES

25. This represents the value of new and second-hand plant and machinery and vehicles acquired or disposed of. The figures for acquisitions are net of any discounts received but include the cost of transport and installation and Customs and Excise car tax. The figures for disposals exclude amounts written off for capital assets which are scrapped.

CAPITAL GOODS PRODUCED FOR USE WITHIN THE BUSINESS

26. This represents the value of all work of a capital nature carried out during the year by the staff of, and for use in, the businesses covered by the returns.

COST OF INDUSTRIAL SERVICES RECEIVED

27. This includes amounts payable to other organisations for work done on materials supplied by the business completing the return, for repairs and maintenance including those in respect of rented buildings, and for contracts which have been sublet. Direct payments to outworkers and amounts charged to capital account are excluded.

COST OF NON-INDUSTRIAL SERVICES RECEIVED

28. Up to 1987 contributors were asked to include annual payments for assets acquired on a finance leasing basis. From 1988 they were asked to include the total value of such assets as capital expenditure during the year in which they were acquired. The cost of non-industrial services received includes commercial insurance premiums, bank charges and amounts payable to other organisations for the hire of vehicles, plant and machinery, for the rent of industrial and commercial buildings, for the services of accountants, auditors, agents, solicitors and surveyors other than in connection with the acquisition or disposal of capital assets, for postal and telecommunications services, for carriage by all forms of transport within the United Kingdom, for advertising, market research etc. for the right to use patents, trade marks, copyrights etc. for manufacturing and quarrying rights and technical know-how. Interest payments and amounts payable for sea and air freight on goods exported and on materials and fuel imported are excluded.

EMPLOYERS' NATIONAL INSURANCE CONTRIBUTIONS ETC.

29. This includes employers' national insurance contributions under the Social Security Pensions Act 1975, commercial insurance premiums for policies providing pensions, superannuation or other retirement benefits, sickness benefits, personal accident benefits, disability benefits or death benefits for employees, including former employees, or their dependants. Also included are contributions to canteens, social centres, children's and holiday homes etc. and the cost of supplying luncheon vouchers.

EMPLOYMENT

30. This is the average number of ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES and OPERATIVES on the payroll and the number of WORKING PROPRIETORS employed during the year of return. Full-time and part-time employees are included but outworkers (ie people who worked in their own homes on materials supplied by the business) and casual employees such as jobbers are excluded. The average number of employees returned by individual businesses may have been calculated by, for example, the average of the number of employees on the payroll for the last week of each calendar month.

a. ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES

31. This includes directors who received a definite wage, salary or commission, managers, foremen, draughtsmen, editorial and advertising staff, travellers, all office employees and research and design employees except operatives.

b. OPERATIVES

32. This includes all manual wage earners including operatives in power stations, operatives engaged in outside work of erecting, fitting etc, inspectors, maintenance workers and cleaners. Staff engaged in transport (including roundsmen) and employed in warehouses, stores, shops and canteen are included.

c. WORKING PROPRIETORS

33. These are people who are regarded as self-employed for national insurance purposes, members of their families who worked in the business without receiving a definite wage or salary for at least half the

normal working hours and directors who worked in the business but did not receive a definite wage, salary or commission. Part-time Directors paid by fee only and directors who received a definite wage, salary or commission are excluded.

ENTERPRISE

34. This is defined as one or more businesses under common ownership or control.

GROSS OUTPUT

35. This is calculated by adjusting the value of TOTAL SALES AND WORK DONE by the changes during the year of WORK IN PROGRESS and GOODS ON HAND FOR SALE.

GROSS VALUE ADDED AT FACTOR COST

36. This is calculated by deducting from NET OUTPUT the COST OF NON-INDUSTRIAL SERVICES RECEIVED, RATES and the cost of LICENSING OF MOTOR VEHICLES. This estimate of gross value added approaches more closely than NET OUTPUT the definition of net output or value added in national accounts statistics.

GROSS VALUE ADDED AT FACTOR COST PER HEAD

37. This is calculated by dividing GROSS VALUE ADDED AT FACTOR COST by total EMPLOYMENT.

NET CAPITAL EXPENDITURE

38. This is calculated by adding to the value of NEW BUILDING WORK acquisitions less disposals of LAND AND EXISTING BUILDINGS, VEHICLES and PLANT AND MACHINERY.

NET OUTPUT

39. This is calculated by deducting from GROSS OUTPUT the cost of PURCHASES OF MATERIALS FOR USE IN PRODUCTION AND PACKAGING AND FUEL and PURCHASES OF GOODS FOR MERCHANTING OR FACTORING, the COST OF INDUSTRIAL SERVICES RECEIVED and is adjusted for net duties and levies etc. where applicable. Purchases are adjusted for changes during the year of STOCKS OF MATERIALS, STORES AND FUEL.

NET OUTPUT PER HEAD

40. This is calculated by dividing NET OUTPUT by total EMPLOYMENT.

NON-INDUSTRIAL SERVICES RENDERED

41. This includes amounts charged for the hire of vehicles, plant and machinery, for the rent of industrial and commercial buildings, for the right to use patents, trade marks, copyrights etc. for manufacturing and quarrying rights, for technical know-how and for the provision of transport to other organisations. It also includes revenue from staff facilities such as canteens.

OPERATING RATIOS

42. These ratios are calculated using industry totals, ie including the estimates for businesses not responding to or not selected for the Census. Respondents are able to compare the ratios for their own businesses with those for the industry as a whole.

PURCHASES OF MATERIALS FOR USE IN PRODUCTION, AND PACKAGING AND FUEL. PURCHASES OF GOODS FOR MERCHANTING OR FACTORING

43. These include the cost of raw materials, components, semi-manufactured goods and workshop materials, replacement parts and consumable tools not charged to capital account, packaging materials of all types, stationery and printed matter, fuel, electricity and water, materials of all types used by the business or given out to others, for the production of machinery or other capital items used in the business, and materials used when working on goods supplied by customers. The figures exclude VAT, purchases of machinery and plant, which are included in CAPITAL EXPENDITURE, and amounts payable to transport firms or credited to the business's own transport departments for delivery of materials. The figures are net of the value of goods or packaging materials returned to suppliers and trade discounts receivable. Materials purchased duty-paid are included at their duty-paid value less draw-

backs, rebates etc. Imported goods are included at their full delivered cost. If the transport from docks or airport of imported goods is not included in the cost of goods purchased, the cost is entered at cif plus duty, if applicable. Transfers of goods from other departments of the business not covered by the return are included at the estimated selling value recorded by the other departments.

REMUNERATION PAID TO OUTWORKERS

44. This represents amounts paid to outworkers, ie people who do work in their own homes generally on a piece-work basis, whose names appear on the payroll. Amounts paid to outworkers by subcontractors are included in the COST OF INDUSTRIAL SERVICES RECEIVED. Estimates are not made for remuneration of outworkers for businesses not completing Census returns.

SALES OF GOODS PRODUCED

45. This represents sales of goods during the year, whether or not they were produced in the year of the return. It also includes sales of goods made from materials given out to other firms or to outworkers and sales of waste products and residues. The value of sales is the 'net selling value', ie the amount charged to customers whether values 'ex-works' or 'delivered' less VAT, trade discounts, agents' commissions etc and allowances on returned goods. Where products attract Excise duty, the value includes duty if the goods are sold 'duty-paid', but excludes it if they are sold in bond or exported. The cost of packaging materials less allowances for returnable containers is included. Sales of fixed assets and exceptional receipts are excluded. Transfers of goods produced by a business to departments not covered by the return (including other businesses in the same enterprise group) are treated as sales, valued as if sold to an independent purchaser.

STOCKS

46. This represents the value of goods on hand for sale, including goods for merchanting or factoring and of materials, stores and fuel held by businesses, whether held in the United Kingdom or abroad. Values include any duty payable but exclude VAT.

WAGES AND SALARIES

47. This represents amounts paid during the year to ADMINISTRATIVE, TECHNICAL AND CLERICAL EMPLOYEES and to OPERATIVES. All overtime payments, bonuses, commissions, holiday pay and redundancy payments, less any amounts reimbursed for this purpose from government sources, are included. No deduction is made for income tax or employees' national insurance contributions etc. Payments to WORKING PROPRIETORS, payments in kind, travelling expenses, lodging allowances etc. and EMPLOYERS' NATIONAL INSURANCE CONTRIBUTIONS ETC. are excluded.

WORK DONE AND INDUSTRIAL SERVICES RENDERED

48. This includes amounts charged for work carried out including that done by sub-contractors on customers' materials and amounts charged for materials supplied in the course of such work. Industrial services such as repairs and maintenance, installation work and technical research and studies rendered to other organisations is also included. For certain industries this heading covers a wide variety of activities, for example, butter packed on commission in the food industries, making up of garments, fur dressing and textile finishing in the textile industries, and preparatory work on typesetting, block making and binding in the printing and publishing industries. Work done is an important part of the activities of the electrical machinery and heavy engineering industries, and includes erection, installation and repair and jobbing work.

WORK IN PROGRESS

49. This represents materials which have been partially processed and are awaiting further processing before being sold or transferred. Progress payments made to sub-contractors are excluded and progress payments received from other organisations are not deducted.

TABLE 4

Employment, labour costs, output, net capital expenditure and stocks and work in progress by size of total employment, 1990

All United Kingdom businesses classified to the industry (a)

Size group	Busin- esses	Enter- prises (b)	Employment			Wages and salaries (c)			
			Total including working proprietors	Opera- tives	Adminis- trative,tech- nical and clerical	Operatives		Administrative, technical and clerical	
						Total	per head	Total	per head
Number	Number	Thousand	Thousand	Thousand	£ million	£	£ million	£	
1-9	7,291	7,275	20.6						
10-19	978	973	14.1	57.8	27.6	674.8	11,679	414.4	14,997
20-49	1,025	1,010	33.0						
50-99	315	306	22.0						
100-199	193	176	26.7	16.8	9.9	195.8	11,660	143.4	14,455
200-299	75	70	18.3	10.9	7.4	129.0	11,803	109.9	14,839
300-399	46	45	15.5	8.7	6.8	100.9	11,589	103.4	15,260
400-499	26	22	11.7	6.5	5.2	76.4	11,784	71.9	13,856
500-749	33	29	19.6	12.1	7.6	150.5	12,472	117.9	15,595
750-999	14	12	11.9	6.7	5.2	87.2	13,101	76.1	14,642
1,000-1,499	9	8	11.1	5.7	5.4	76.7	13,431	75.6	13,915
1,500-Plus	5	5	11.8	6.6	5.1	83.1	12,514	85.2	16,597
Total	10,010	9,720	216.3	131.8	80.2	1,574.4	11,949	1,197.7	14,926

(a) Businesses employing fewer than 20 persons are not required to complete census returns. Because of this, data for these businesses should be regarded merely as the best estimates available and used with caution.

(b) The count of enterprises shown in each row represents the number of enterprises, irrespective of size, owning the businesses shown in each size group. Because an enterprise may own businesses in more than one size group, the sum of individual enterprise counts may exceed the total for the industry.

(c) The cost of employers' contributions to the national insurance, pensions and welfare schemes and the running costs of canteens are excluded from the table but were estimated for the industry at £363.1 million. The remuneration of outworkers on returns received - also excluded from the table - was £606 thousand.

(d) Net capital expenditure includes the value of assets acquired under finance leasing arrangements - see Table 2.

(e) Gross value added data relate to businesses employing 1-199.

Total sales and work done	Gross output	Net output	Gross value added at factor cost		Net capital expenditure (d)	Total stocks and work in progress at end of year	
			Total	per head			
£ million	£ million	£ million	£ million	£	£ million	£ million	
3,844.3	3,872.1	2,061.3	(e)	(e)	158.8	604.3	
1,342.8	1,354.8	706.2	2,296.3(e)	19,728(e)	51.4	265.0	
966.7	979.6	492.3	403.4	21,984	45.0	211.9	
860.4	858.9	430.0	355.0	22,928	37.1	146.5	
616.6	626.6	324.4	27,790	261.6	22,411	20.4	151.3
1,096.0	1,094.1	512.4	26,108	430.3	21,927	35.3	205.7
651.2	648.6	330.5	27,889	285.1	24,055	21.0	116.4
943.5	754.2	329.2	29,552	293.7	26,358	12.8	269.8
989.7	1,013.1	495.3	42,049	410.4	34,845	25.3	220.3
11,311.2	11,202.0	5,681.6	26,268	4,735.8	21,895	407.0	2,191.1

TABLE 5

PA328

Percentage analysis of twelve-month periods covered by returns received for the 1990 Census by number of returns and total employment

Accounting year ended	Percentage of total returns received	Percentage of total employment
1990		
April 6-30	2.6	1.8
May	2.2	1.3
June	4.3	2.7
July	2.5	2.0
August	2.3	0.8
September	7.7	6.1
October	3.7	2.7
November	2.3	2.4
December	44.4	52.0
1991		
January	2.9	4.8
February	1.8	1.1
1 March - 5 April	23.2	22.4

TABLE 6

Operating ratios, 1986-1990

All United Kingdom businesses classified to the industry

	Unit	1986	1987	1988	1989	1990
Gross output per head	£	35,769	39,635	44,075	49,155	51,791
Net output per head	£	18,093	20,443	22,501	25,509	26,268
Gross value added per head	£	14,867	16,937	18,728	21,443	21,895
Gross value added as a percentage of gross output	%	42	43	43	44	42
Ratio of gross output to stocks		3.9	4.1	4.4	4.5	5.1
Wages and salaries as a percentage of gross value added	%	62	58	57	54	59
Ratio of operatives to administrative, technical and clerical employees		1.7	1.6	1.7	1.8	1.6
Wages and salaries per operative	£	8,509	9,091	9,976	10,716	11,949
Wages and salaries per administrative, technical and clerical employee	£	10,685	11,412	12,475	13,773	14,926
Net capital expenditure per head (a)	£	1,243	1,212	1,531	1,651	1,882
Net capital expenditure as a percentage of gross value added (a)	%	8	7	8	8	9

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

TABLE 7

PA328

Regional distribution of employment, net capital expenditure, net output and gross value added at factor cost, 1990
All United Kingdom businesses classified to the industry

Area	Total employment (a)		Net capital expenditure (b)		Net output (c)		Gross value added at factor cost (c)	
	Thousand	per cent of United Kingdom	£ million	per cent of United Kingdom	£ million	per cent of United Kingdom	£ million	per cent of United Kingdom
Standard regions of England								
North	11.3	5.2	31.8	7.8	343.7	6.1	258.6	5.5
Yorkshire and Humberside	21.7	10.0	31.9	7.8	581.8	10.2	487.3	10.3
East Midlands	18.3	8.5	28.5	7.0	457.5	8.1	374.6	7.9
East Anglia	12.6	5.8	19.4	4.8	402.2	7.1	352.9	7.5
South East	53.6	24.8	114.9	28.2	1,407.9	24.8	1,160.0	24.5
South West	19.7	9.1	34.5	8.5	474.4	8.4	402.0	8.5
West Midlands	32.8	15.2	51.6	12.7	821.5	14.5	690.8	14.6
North West	23.9	11.0	41.4	10.2	645.7	11.4	552.1	11.7
England	193.9	89.7	353.9	87.0	5,134.8	90.4	4,278.3	90.3
Wales	*	*	*	*	*	*	*	*
Scotland	14.6	6.7	36.9	9.1	354.5	6.2	300.1	6.3
Great Britain	*	*	*	*	*	*	*	*
Northern Ireland	*	*	*	*	*	*	*	*
United Kingdom	216.3	100.0	407.0	100.0	5,681.6	100.0	4,735.8	100.0

(a) Average number employed during the year, including full and part-time employees and working proprietors.

(b) New building work plus acquisitions less disposals of land and existing buildings, vehicles and plant and machinery. The value also includes assets acquired under finance leasing arrangements - see Table 2.

(c) Where a census return covered addresses in two or more regions, an estimate of the net output attributable to each address was made by assuming that net output was proportionate to employment. An estimate for each region was obtained by aggregating estimates of net output for addresses located in that region. Gross value added at factor cost was treated similarly.

TABLE 8

Output and costs, 1990
All United Kingdom businesses classified to each Activity Heading within the industry

	Unit	3281	3283	3284
Enterprises(a)	Number	295	397	934
Businesses	"	307	429	983
Sales of goods produced	£ million	1, 178. 3	1, 133. 3	1, 914. 3
Work done and industrial services rendered	"	52. 3	38. 7	176. 0
Capital goods produced for use within the business	"	*	2. 1	1. 4
Non-industrial services rendered	"	*	5. 2	5. 4
Goods merchanted or factored	"	138. 9	145. 5	146. 5
Total sales and work done	"	1, 376. 4	1, 324. 8	2, 243. 7
Increase during the year, work in progress and goods on hand for sale	"	19. 8	14. 6	8. 0
Gross output	"	1, 396. 2	1, 339. 3	2, 251. 7
Purchases of materials for use in production, packaging and fuel	"	659. 2	528. 6	995. 7
Purchases of goods for merchenting or factoring	"	95. 8	105. 1	99. 7
Increase during the year, stocks of materials, stores and fuel	"	-4. 0	-6. 8	-3. 0
Cost of industrial services received	"	32. 0	44. 5	64. 1
Net output	"	605. 3	654. 4	1, 089. 2
Total employment	Thousand	19. 9	24. 6	40. 9
Net output per head	£	30, 349	26, 558	26, 660
Cost of non-industrial services received				
Hire of vehicles, plant and machinery	£ million	4. 3	10. 1	15. 0
Rents of industrial and commercial buildings	"	3. 7	8. 2	16. 2
Commercial insurance premiums	"	5. 9	5. 6	10. 3
Bank charges	"	0. 9	1. 1	1. 7
Other non-industrial services	"	41. 0	68. 9	127. 1
Licensing of motor vehicles	"	0. 2	0. 2	0. 8
Rates, excluding water rates	"	9. 1	11. 2	17. 0
Gross value added at factor cost	"	540. 3	549. 1	900. 9
Gross value added at factor cost per head	£	27, 089	22, 285	22, 052

(a) The count of enterprises shown in each column represents the number of enterprises owning the businesses shown for each activity heading. Because an enterprise may own businesses in more than one activity heading, the sum of the enterprise counts may exceed the total for the industry.

	3285	3286	3287	3288	3289
	91	413	269	214	7, 214
	102	421	280	222	7, 266
	419. 0	1, 219. 0	723. 0	555. 6	2, 259. 6
	53. 3	95. 5	74. 8	15. 7	456. 3
	*	0. 4	0. 1	0. 3	1. 5
	*	3. 4	2. 4	0. 4	25. 9
	106. 6	97. 4	80. 2	61. 0	114. 5
	579. 2	1, 415. 7	880. 6	633. 0	2, 857. 8
	0. 4	-182. 9	1. 1	9. 2	20. 7
	579. 6	1, 232. 8	881. 7	642. 2	2, 878. 5
	196. 0	578. 9	365. 4	227. 8	1, 010. 5
	60. 8	59. 5	63. 4	37. 8	81. 4
	-4. 5	-1. 5	-0. 8	0. 9	0. 6
	8. 4	35. 7	15. 9	19. 1	115. 9
	309. 8	557. 0	436. 1	358. 4	1, 671. 3
	10. 4	19. 0	16. 8	13. 6	71. 0
	29, 667	29, 266	25, 889	26, 450	23, 546
	3. 3	9. 6	8. 0	3. 5	16. 9
	3. 8	6. 4	4. 7	3. 5	29. 3
	2. 6	5. 9	4. 3	4. 1	18. 5
	0. 5	0. 9	1. 0	0. 7	3. 2
	72. 1	85. 4	56. 2	40. 9	143. 8
	0. 2	0. 3	0. 3	0. 1	0. 6
	4. 2	8. 3	7. 8	5. 5	30. 6
	223. 1	440. 3	353. 7	300. 1	1, 428. 4
	21, 358	23, 131	20, 996	22, 144	20, 124

TABLE 9

Capital expenditure, 1990 (a)
All United Kingdom businesses classified to each Activity Heading within the industry

	3281	3283	3284
Land and buildings			
New building work	5.0	9.1	12.5
Land and existing buildings			
Acquisitions	1.0	7.1	14.2
Disposals	0.8	6.1	9.0
Net	5.2	10.0	17.7
Plant and machinery			
Acquisitions	31.7	58.9	50.4
Disposals	1.0	1.5	2.5
Net	30.6	57.4	47.9
Vehicles			
Acquisitions	2.8	5.5	16.7
Disposals	0.7	1.8	5.6
Net	2.1	3.7	11.1
Total net capital expenditure	38.0	71.2	76.6

(a) From 1990 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

TABLE 10

Stocks and work in progress, 1990
All United Kingdom businesses classified to each Activity Heading within the industry

	3281	3283	3284
10a Increase during year			
Materials, stores and fuel	-4.0	-6.8	-3.0
Work in progress	6.5	1.3	4.5
Goods on hand for sale	13.3	13.2	3.5
Total	15.8	7.7	5.1
10b Value at end of year			
Materials, stores and fuel	97.7	90.0	140.0
Work in progress	172.9	106.6	112.4
Goods on hand for sale	78.9	110.3	97.4
Total	349.5	306.9	349.7

Operating ratios, 1990
All United Kingdom businesses classified to each Activity Heading within the industry
£ million

	3285	3286	3287	3288	3289
Gross output per head	*	9.7	1.3	*	11.4
Net output per head					
Gross value added per head	1.4	2.6	1.4	0.2	8.9
Gross value added as a percentage of gross output	*	3.9	1.3	*	5.1
Ratio of gross output to stocks	1.2	8.4	1.4	0.3	15.1
Wages and salaries as a percentage of gross value added	16.2	24.1	19.1	19.6	104.7
Ratio of operatives to administrative, technical and clerical employees	0.5	1.0	1.2	0.3	8.8
Wages and salaries per operative	15.7	23.1	17.9	19.3	96.0
Net capital expenditure per head (a)	3.1	5.9	3.0	2.3	17.5
Net capital expenditure as a percentage of gross value added	0.9	1.8	0.6	0.5	5.2
Assets acquired under finance leasing arrangements - see Table 2	2.2	4.2	2.4	1.7	12.3
Total	19.1	35.7	21.7	21.3	123.4

TABLE 11

PA328

Operating ratios, 1990

All United Kingdom businesses classified to each Activity Heading within the industry

	Unit	3281	3283	3284	3285
Gross output per head	£	70,008	54,359	55,116	55,494
Net output per head	£	30,349	26,558	26,660	29,667
Gross value added per head	£	27,089	22,285	22,052	21,358
Gross value added as a percentage of gross output	%	39	41	40	39
Ratio of gross output to stocks		4.0	4.4	6.4	5.1
Wages and salaries as a percentage of gross value added	%	50	59	58	58
Ratio of operatives to administrative, technical and clerical employees		1.5	1.3	1.5	1.4
Wages and salaries per operative	£	12,195	11,995	11,636	11,160
Wages and salaries per administrative, technical and clerical employee	£	15,710	14,816	14,801	13,981
Net capital expenditure per head (a)	£	1,904	2,888	1,875	1,830
Net capital expenditure as a percentage of gross value added (a)	%	7	13	9	9

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.

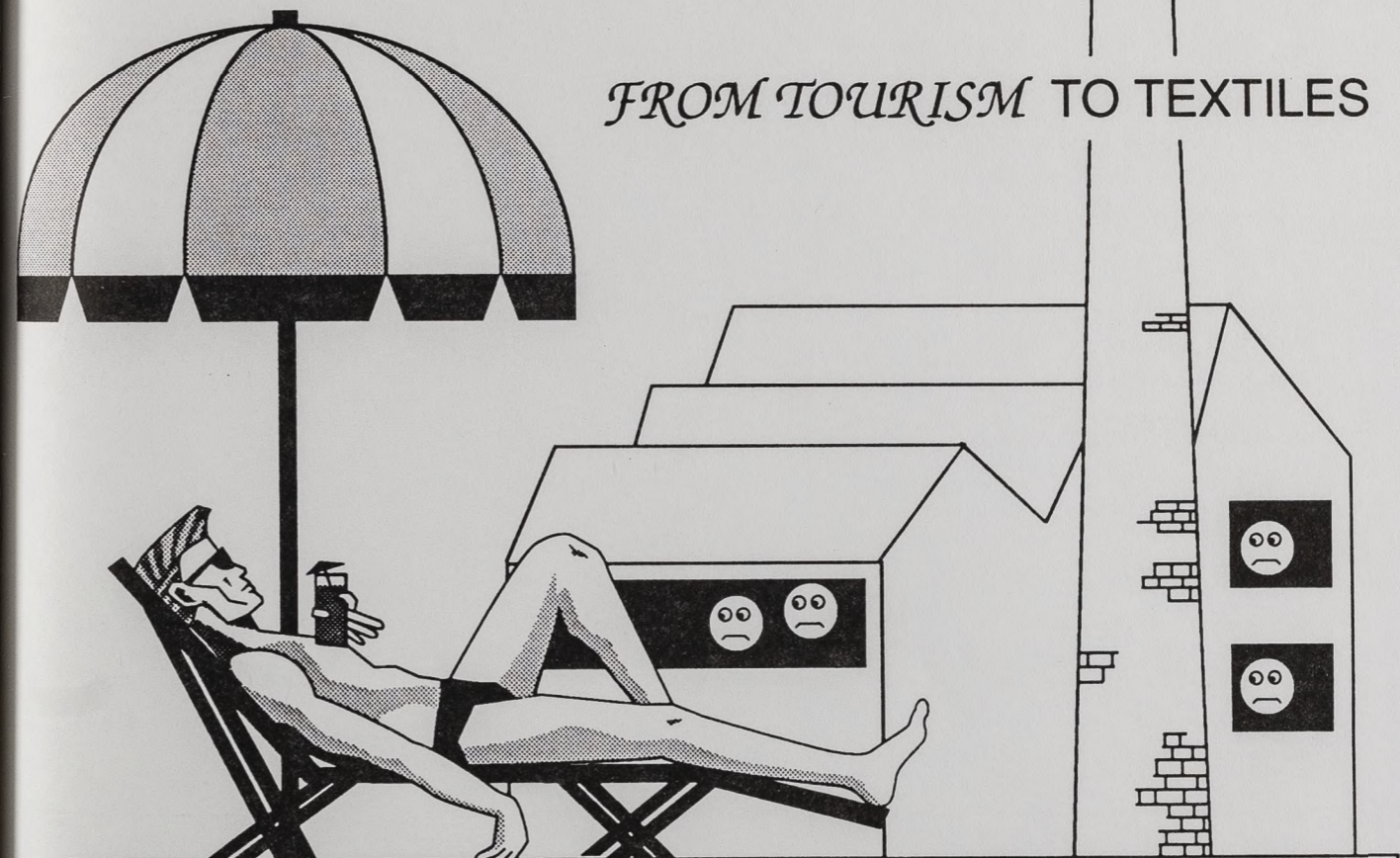
TABLE 11

Operating ratios, 1990

All United Kingdom establishments classified to each Activity Heading within the industry

	Unit	3286	3287	3288	3289
Gross output per head	£	64,766	52,336	47,388	40,553
Net output per head	£	29,266	25,889	26,450	23,546
Gross value added per head	£	23,131	20,996	22,144	20,124
Gross value added as a percentage of gross output	%	36	40	47	50
Ratio of gross output to stocks		3.4	5.3	4.2	7.5
Wages and salaries as a percentage of gross value added	%	59	62	56	61
Ratio of operatives to administrative, technical and clerical employees		1.1	1	1.6	2.6
Wages and salaries per operative	£	11,843	11,982	11,494	12,221
Wages and salaries per administrative, technical and clerical employee	£	15,971	14,360	14,154	14,967
Net capital expenditure per head (a)	£	1,876	1,287	1,575	1,738
Net capital expenditure as a percentage of gross value added (a)	%	8	6	7	9

(a) From 1988 contributors were asked to include as capital expenditure the value of assets acquired under finance leasing arrangements - see Table 2.



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