

PO-CH/NL/0406

PART A

Part A.

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Begins: 13/2/87.

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PO -CH /NL/0406



PART A

Chancellor's (Lawson) Papers:

OUTPUT OF THE PRODUCTION
INDUSTRIES 1986 - 1987

DD's: 25 Years

18/12/95.

PO -CH /NL/0406

PART A

FROM: R D KERLEY
 DATE: 13 FEBRUARY 1987

1. ~~MISS O'MARA~~

2. **CHANCELLOR OF THE EXCHEQUER**

The latest manufacturing output figures, with growth of 3 per cent since the beginning of 1986, should be useful defensive ammunition in next week's PNP debate.

cc	Chief Secretary	Mr S J Davies
	Financial Secretary	Mr Pickford
	Economic Secretary	Mr Naisbitt
	Minister of State	Mr Dyer (+1 for No 10)
	Sir Peter Middleton	Mr Cropper
	Sir Terence Burns	Mr Ross Goobey
	Mr Cassell	Mr Tyrie
	Mr Monck	Mr Stirling -
	Mr Burgner	CSO
	Mr Scholar	Mr Kingaby -
	Mr Sedgwick	CSO
	Mr Gieve	Mr Lang - CSO
	Mr Culpin	HB/02

Shaker
Money
Moana
Pse + trans 13/2

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - DECEMBER AND FOURTH QUARTER 1986

This will be published at 11.30am on Monday, 16 February.

2. The index of production fell by 1.0 per cent in the fourth quarter of 1986 compared with the previous quarter, but rose by 1.0 per cent compared with 1985Q4.

3. Manufacturing output rose by 1.0 per cent in the fourth quarter of 1986 compared with the previous quarter, and by 1.9 per cent compared with 1985Q4.

4. Recent movements

percentage changes	1986Q4 on 1986Q3	1986Q4 on 1985Q4	December on <u>November</u>	1986Q4 on <u>1983Q2</u>	1986Q4 on 1981Q1 <u>trough</u>	1986Q4 on <u>1979H1</u>
Index of Production	-1.0	+1.0	-0.6	+8.8	+15.1	+2.4
within which:						
Manufacturing	+1.0	+1.9	+0.4	+10.7	+13.9	-3.9
Energy and Water	-5.5	-1.2	-3.2	+4.7	+18.3	+21.7

5. For 1986 as a whole, output of the production industries increased by 1.4 per cent over 1985, following growth of 4.7 per cent between 1984 and 1985, (0.6 per cent and 2.7 per cent respectively after allowing for the coal strike). Manufacturing output grew by 0.3 per cent compared with 3.1 per cent between 1984 and 1985.

6. The CSO's assessment is that manufacturing output reached at least a temporary peak in 1985Q2 and then fell almost 2 per cent by 1986Q1. However, during the remainder of 1986 output more than recovered, and in the fourth quarter was 1 per cent higher than in 1985Q2 and also 1 per cent higher than in 1986Q3.

7. Energy sector trends are proving difficult to analyse, with short term movements in oil extraction caused by seasonal maintenance work, and reduced production at the end of the year due to a pipeline leak. However, the underlying output of the energy sector appears, at best, to be flat, and indeed may have declined slightly towards the end of last year.

8. The underlying output of all production industries in 1985H2 was 1 per cent below the level reached in the first half of that year, but since then underlying output has increased steadily, mainly reflecting the improvement in manufacturing output. The decline in the published index between 1986Q3 and Q4 of 1 per cent is mainly the result of lower oil extraction, and about half of this fall can be attributed to the pipeline leak.

Lines to take

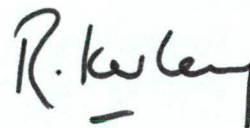
Positive

8. Continued growth in manufacturing output. Up 1 per cent in 1986Q4 on previous quarter and up 3 per cent since beginning of year (1986Q1-4).

Defensive

9. Fall in total production between third and fourth quarters of 1986 indicates faltering growth?

No. Fall in Q4 reflects weakness in energy sector output which was distorted by pipeline leak. Manufacturing output continues to grow strongly.



R D KERLEY

Unclassified

From: - MRS M. HENSON

DATE: 16 FEBRUARY 1987

MR KERLEY

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES -
DECEMBER AND FOURTH QUARTER 1986

The Chancellor has seen and
was grateful for your minute of
13 February.

Memo Henson

UNCLASSIFIED

hwp



FROM: MRS M HENSON
DATE: 16 February 1987

MR KERLEY

**INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - DECEMBER AND
FOURTH QUARTER 1986**

The Chancellor has seen and was grateful for your minute of
13 February.

Meena Henson
MEENA HENSON

JO464

MR D NORRGROVE
Prime Minister's Office

13/2/87.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - DECEMBER 1986

The provisional index of the output of the production industries for December 1986 will be published at 11.30 am on Monday 16 February. A copy of the Press Notice is attached.

Latest figures

The December 1986 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 109.0 (1980=100, seasonally adjusted), a decrease of $\frac{1}{2}$ per cent on November. For manufacturing the index was 106.0, an increase of $\frac{1}{2}$ per cent on November (see also paragraph on bias adjustment below).

In the fourth quarter of 1986 the output of the production industries was 1 per cent lower than in the previous quarter, with manufacturing output 1 per cent higher. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined almost 2 per cent by the first quarter of 1986. However, during the remainder of 1986, output more than recovered this lost ground, and in the fourth quarter was 1 per cent higher than in the second quarter of 1985 and also 1 per cent higher than in the third quarter of 1986.

Trends in the energy sector are difficult to determine, particularly due to short-term movements in oil extraction caused by seasonal maintenance work and, at the end of the year, by reduced production due to a pipeline leak. However output in recent months has shown some decline.

The underlying output of all production industries in the second half of 1985 was approximately 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures declined between the third and fourth quarters of 1986 as a result of a reduction in energy output (mainly lower oil extraction).

1986 as a whole


Between 1985 and 1986 output of the production industries increased by $1\frac{1}{2}$ per cent (allowing for the effects of the 1984/85 coal dispute this would be $\frac{1}{2}$ per cent). Manufacturing output grew by $\frac{1}{2}$ per cent between the two years.

Bias adjustment for manufacturing output

In line with revised procedures introduced in January last year, figures of manufacturing output for the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Figures for January 1987

Figures for January 1987 are scheduled for publication on Tuesday 17 March.



D C K Stirling
13 February 1987

Central Statistical Office

Personal numbered copies of the minute and attachment to:

Treasury

(Principal Private Secretary
(Sir Peter Middleton

Cabinet Office

(Mr Jack Hibbert

Department of Trade and Industry

(Private Secretary
Secretary of State's Office

(Private Secretary
to Geoffrey Pattie

(Private Secretary
to Giles Shaw

(Private Secretary
to John Butcher

(Sir Brian Hayes
(Mr H H Liesner
(Mr A Whiting
(Mr N Harvey
(Mr S W Treadgold

Bank of England

(Mr R Leigh-Pemberton

Table A

Copy No.

** PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on February 16 1987 and thereafter unclassified **

Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.8	113.9	94.3	119.0	104.1	101.1	101.7	98.8
1986	109.6	125.1	104.1	111.0	96.6	119.4	102.6	101.7	102.7	103.0
1985 3	108.3	120.9	103.8	115.8	94.0	118.3	103.6	100.5	102.8	100.0
4	108.4	121.8	103.6	112.6	95.8	117.2	103.1	101.8	102.6	99.9
1986 1	109.1	127.2	102.6	110.3	93.6	118.2	101.4	100.7	102.6	100.0
2	109.3	125.3	103.5	110.0	96.9	118.3	102.0	101.1	103.4	102.1
3	110.6	127.4	104.6	107.7	97.3	120.3	103.1	102.2	102.0	104.6
4	109.5	120.4	105.6	116.1	98.4	121.0	103.9	102.7	102.8	105.2
1986 0	109.7	122.6	105.1	112	97	122	103	103	102	105
N	109.7	121.3	105.6	117	99	120	104	103	104	106
D	109.0	117.4	106.0	119	100	121	105	103	102	105

Percentage change latest 3 months on:
previous 3 months

a year earlier	-1.0	-5.5	+1.0	+7.8	+1.1	+0.6	+0.8	+0.5	+0.8	+0.6
1st quarter 1981(a)	+1.0	-1.2	+1.9	+3.1	+2.7	+3.2	+0.8	+0.9	+0.2	+5.4
1st half 1979(b)	+15.1	+18.3	+13.9	+16.8	+10.2	+25.5	+15.8	+3.1	+13.0	+12.6
	+2.4	+21.7	-3.9	-11.1	-8.7	+11.4	-5.3	+2.8	-14.2	-5.3

DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified
1985	67.2	150.3	98.6	105.9	113.9	94.3	120.4	74.2	99.3
1986	79.2	152.8	99.7	111.6	111.0	96.6	120.9	68.3	96.2
1985 3	80.5	145.8	98.1	108.0	115.8	94.0	119.5	76.0	100.1
4	81.2	148.8	98.4	106.6	112.6	95.8	118.5	73.0	98.3
1986 1	80.2	155.1	95.6	115.2	110.3	93.6	119.5	74.5	95.9
2	79.4	151.9	103.1	113.0	110.0	96.9	119.7	69.8	96.5
3	78.3	158.6	101.0	110.8	107.7	97.3	121.9	66.7	96.1
4	79.1	145.9	99.2	107.3	116.1	98.4	122.7	62.2	96.6
1986 0	80	152	97	106	112	97	124	65	96
N	80	148	99	108	117	99	121	64	96
D	78	139	102	108	119	100	123	57	98

Percentage change latest 3 months on:
previous 3 months

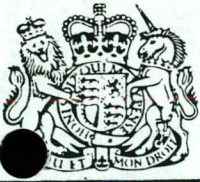
a year earlier	+1.1	-8.0	-1.8	-3.2	+7.8	+1.1	+0.7	-6.7	+0.6
1st quarter 1981(a)	-2.6	-1.9	+0.8	+0.7	+3.1	+2.7	+3.5	-14.8	-1.8
1st half 1979(b)	-18.8	+35.9	+3.1	+10.9	+16.8	+10.2	+27.0	-30.8	+9.2
	-17.1	+54.7	-12.2	+2.4	-11.1	-8.7	+13.9	-54.7	-21.4

DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.7	130.8	86.3	94.7	104.0	95.1	98.3	104.7	98.1	99.7
1986	92.7	129.7	82.5	92.6	104.6	95.6	99.1	105.8	101.7	104.4
1985 3	91.7	129.3	88.9	93.4	104.0	93.4	99.4	105.7	98.7	101.4
4	93.9	129.4	81.7	93.0	104.7	95.8	99.6	105.2	99.3	100.5
1986 1	93.0	125.6	80.7	93.6	104.0	93.9	98.6	106.1	99.5	100.5
2	93.3	127.2	82.5	92.1	103.5	96.3	99.4	106.8	101.5	102.9
3	92.6	132.2	80.9	92.7	105.4	95.5	97.7	105.7	102.3	107.2
4	91.8	133.9	85.9	92.0	105.6	96.6	100.8	104.5	103.6	107.2
1986 0	93	132	84	92	105	97	99	105	103	107
N	92	135	85	92	106	97	102	106	104	108
D	91	135	89	92	106	97	101	103	104	107

Percentage change latest 3 months on:
previous 3 months

a year earlier	-0.9	+1.2	+6.2	-0.8	+0.2	+1.2	+3.2	-1.1	+1.2	-0.1
1st quarter 1981(a)	-2.2	+3.5	+5.1	-1.1	+0.9	+0.9	+1.1	-0.6	+4.3	+6.6
1st half 1979(b)	+5.1	+44.7	+11.9	-12.8	+7.0	-4.6	+11.3	+14.3	+9.1	+16.7
	-16.6	+29.6	-30.2	-2.0	+5.9	-3.6	-19.2	-9.5	-3.1	-7.6

(a) Last trough for production industries (b) Last peak for production industries



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16 February 1987

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INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - DECEMBER 1986

Output of the production industries in the fourth quarter of 1986 is provisionally estimated to have fallen by 1 per cent from the level of the previous quarter; manufacturing output rose by 1 per cent.

Output of production industries (to December 1986)

The December index of the output of the production industries - energy and manufacturing - is provisionally estimated at 109.0 (1980=100, seasonally adjusted). In the fourth quarter of 1986, production industries' output was 1 per cent lower than in the previous quarter but 1 per cent higher than in the same period a year earlier.

Manufacturing output in the latest quarter was 1 per cent higher than in the previous quarter and 2 per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the metals industry increased by 8 per cent between the latest two quarters; the output of all the other broad industry groups increased by about 1 per cent except for food, drink and tobacco, which was little changed.

The output of the energy sector in the latest quarter was 5½ per cent lower than in the previous quarter and 1 per cent lower than in the same period a year earlier.

By market sector, the output of the consumer goods industries increased by 1½ per cent between the latest two quarters but the output of the intermediate goods industries fell by 2½ per cent; the output of the investment goods industries was little changed.

The output of the production industries in the fourth quarter of 1986 was 15 per cent higher than at its trough in the first quarter of 1981; manufacturing output was 14 per cent higher.

1986 as a whole

Between 1985 and 1986, output of the production industries increased by $1\frac{1}{2}$ per cent, following growth of $4\frac{1}{2}$ per cent between 1984 and 1985. Allowing for the effects of the 1984/85 coal dispute, comparisons are $\frac{1}{2}$ per cent and $2\frac{1}{2}$ per cent respectively.

Manufacturing output grew by $\frac{1}{2}$ per cent between 1985 and 1986 compared with 3 per cent between 1984 and 1985. Within manufacturing, however, "other manufacturing" industries showed a 4 per cent increase in output compared with 1985 and other minerals a 2 per cent rise, while the metals industry recorded a 3 per cent fall.

Output of the energy sector increased by 4 per cent between 1985 and 1986 following a 9 per cent rise between 1984 and 1985. After adjusting for the effects of the coal dispute, these comparisons reduce to $1\frac{1}{2}$ per cent and 2 per cent respectively.

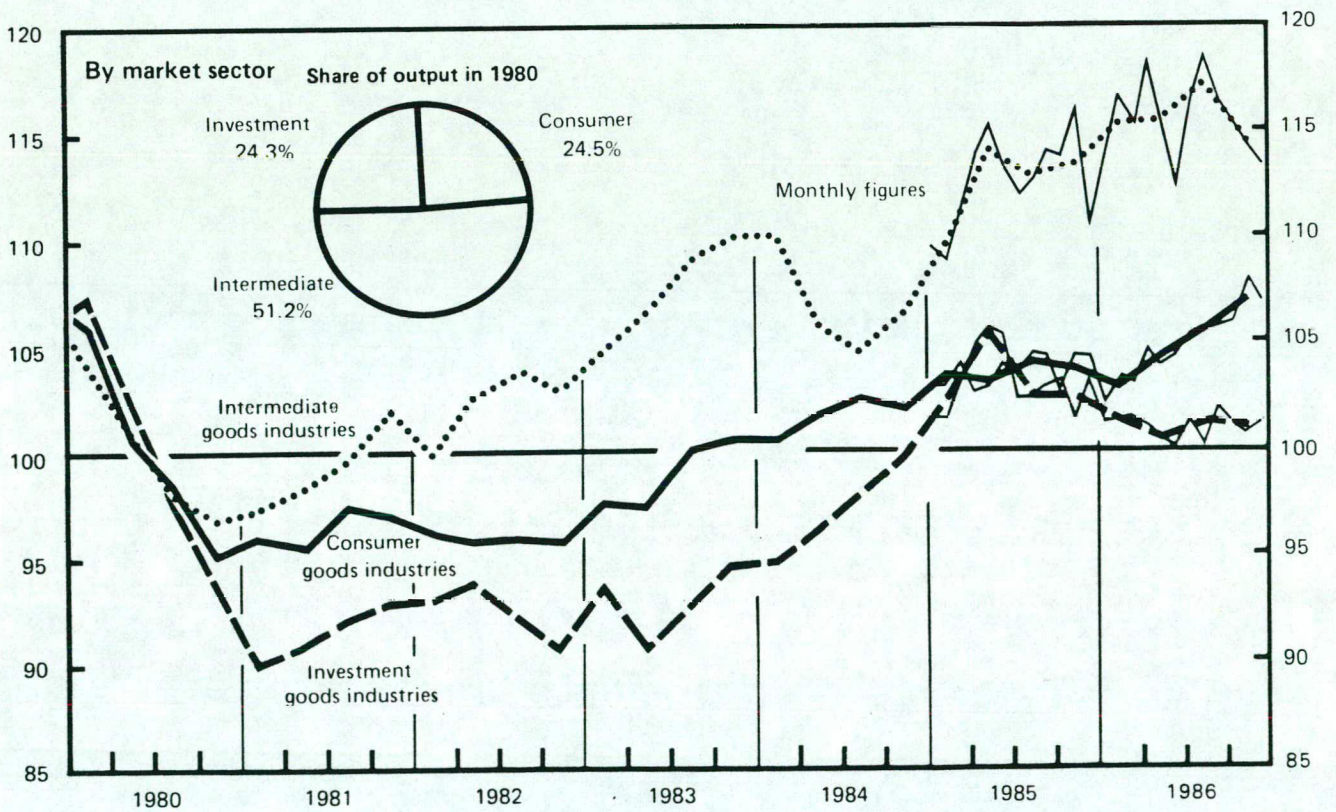
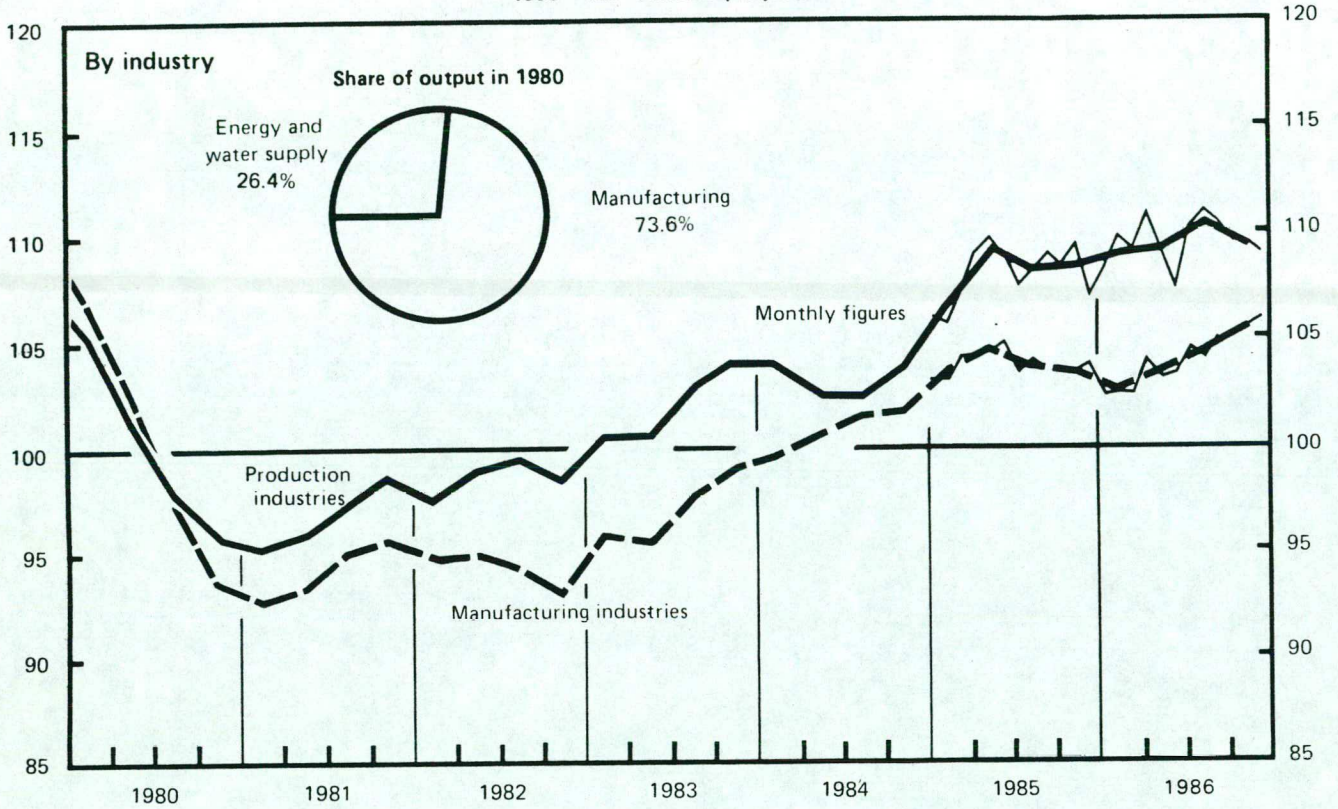
Output of production and construction industries (to Q3 1986)

Output of the construction industry in the third quarter of 1986 is estimated to have been 3 per cent higher than in the previous quarter. Output of the production and construction industries in the third quarter was $1\frac{1}{2}$ per cent higher than in the previous quarter, and 16 per cent above the trough in the first quarter of 1981.

Revisions

Estimates have been revised to take account of long-run revisions to data and the twice-yearly updating of seasonal factors. In 1986 the index of production has been revised up by about 1 per cent in May and down by around $\frac{1}{2}$ per cent in September. The index of manufacturing output has been revised downwards by about $\frac{1}{2}$ per cent in both September and October.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES
1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

Weights	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
	1000	264	736	245	243	512
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.8	92.9	107.6
1984	103.2	110.1	100.7	101.6	97.1	106.8
1985	108.1	120.1	103.8	103.6	103.2	112.6
1986	109.6	125.1	104.1	105.0	101.1	115.7
Seasonally adjusted						
1981 1	95.1	101.8	92.7	96.0	89.9	97.1
2	95.8	103.3	93.2	95.5	90.6	98.4
3	97.3	103.8	95.0	97.4	91.9	99.6
4	98.3	106.5	95.3	96.7	92.9	101.7
1982 1	97.2	104.1	94.7	96.1	92.9	99.8
2	98.9	110.0	94.9	95.8	93.7	102.9
3	99.2	113.3	94.1	95.9	92.3	103.8
4	98.2	112.5	93.1	95.6	90.7	102.8
1983 1	100.3	112.8	95.8	97.6	93.5	104.8
2	100.6	115.0	95.4	97.4	90.8	106.7
3	102.8	117.6	97.5	100.0	92.8	109.0
4	104.0	118.0	98.9	100.4	94.5	110.1
1984 1	104.0	116.8	99.4	100.5	94.3	110.2
2	102.6	109.1	100.3	101.7	96.4	106.1
3	102.4	105.3	101.4	102.4	97.9	104.6
4	103.7	109.4	101.7	102.0	99.6	106.4
1985 1	106.4	115.0	103.3	103.4	102.2	109.8
2	109.3	122.6	104.5	103.2	105.4	114.1
3	108.3	120.9	103.8	104.1	102.6	113.0
4	108.4	121.8	103.6	103.8	102.7	113.4
1986 1	109.1	127.2	102.6	103.0	101.4	115.4
2	109.3	125.3	103.5	104.4	100.6	115.5
3	110.6	127.4	104.6	105.7	101.2	117.2
4	109.5	120.4	105.6	107.1	101.1	114.5
1984 D	104.2	109.1	102.4	102.2	100.6	106.6
1985 J	106.1	115.0	102.9	103.1	101.6	109.6
F	105.8	113.4	103.1	103.1	101.5	108.9
M	107.4	116.7	104.0	104.0	103.4	110.8
A	109.0	122.2	104.2	102.8	105.0	113.9
M	109.8	124.8	104.4	102.9	105.8	115.2
J	109.1	120.8	104.9	104.0	105.5	113.3
J	107.7	119.3	103.5	103.6	102.4	112.1
A	108.2	120.0	104.0	104.5	102.5	112.8
S	109.0	123.5	103.8	104.3	102.9	114.1
O	108.5	123.0	103.3	102.7	103.2	113.9
N	109.5	126.3	103.5	104.3	101.6	115.9
D	107.1	116.2	103.9	104.3	103.2	110.5
1986 J	108.3	124.6	102.4	102.2	101.3	114.2
F	109.8	129.7	102.7	103.5	101.3	116.7
M	109.2	127.4	102.6	103.2	101.6	115.3
A	110.9	130.1	104.0	104.8	101.2	118.2
M	109.2	126.0	103.2	104.0	100.5	115.6
J	107.7	119.7	103.4	104.4	100.2	112.6
J	110.2	126.1	104.5	105.4	101.3	116.5
A	111.1	130.2	104.2	105.8	100.3	118.5
S	110.5	125.9	105.0	105.9	101.9	116.7
O	109.7	122.6	105.1	106.1	101.2	115.4
N	109.7	121.3	105.6	108.1	100.8	114.7
D	109.0	117.4	106.0	107.0	101.3	113.5
% 3-month on 3-month change (3)	-1.0	-5.5	+1.0	+1.3	-0.1	-2.3

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply

(3) Average of October to December 1986 compared with the average of July to September 1986.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

	Metals	Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing	
	Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49	
	Weights	25	41	68	325	99	52	126
1981	106.0	89.0	99.6	91.8	98.3	92.7	93.2	
1982	103.2	90.9	99.7	92.9	99.8	91.2	90.8	
1983	104.7	93.9	107.4	94.9	100.9	94.6	93.7	
1984	108.2	95.0	113.9	99.3	101.9	97.9	97.7	
1985	113.9	94.3	119.0	104.1	101.1	101.7	98.8	
1986	111.0	96.6	119.4	102.6	101.7	102.7	103.0	
Seasonally adjusted								
1981	1	99.4	89.3	96.4	89.7	99.5	91.0	93.5
	2	104.3	88.6	98.2	90.8	97.1	92.1	93.1
	3	107.4	89.9	102.4	93.0	98.2	93.2	93.1
	4	113.1	88.4	101.3	93.7	98.3	94.4	92.9
1982	1	110.4	90.0	99.8	93.7	99.1	91.8	91.1
	2	108.3	92.0	99.7	93.6	100.3	91.2	91.3
	3	100.4	91.0	99.5	92.6	100.5	91.4	90.7
	4	93.8	90.7	99.7	91.7	99.4	90.5	90.2
1983	1	98.8	93.3	104.1	94.6	99.9	92.7	92.7
	2	104.8	91.4	106.8	93.1	98.8	93.3	92.8
	3	105.4	95.3	108.9	95.0	103.1	95.0	93.6
	4	110.0	95.4	109.9	96.8	101.8	97.6	95.6
1984	1	112.1	94.6	111.4	97.1	101.9	96.6	97.2
	2	104.8	95.1	112.1	98.6	102.7	97.5	98.3
	3	108.9	95.9	115.8	100.4	102.0	98.5	97.2
	4	107.0	94.5	116.3	101.0	101.2	99.2	98.2
1985	1	111.1	93.2	120.1	103.7	101.8	99.9	97.9
	2	116.1	94.3	120.6	106.0	100.2	101.7	97.6
	3	115.8	94.0	118.3	103.6	100.5	102.8	100.0
	4	112.6	95.8	117.2	103.1	101.8	102.6	99.9
1986	1	110.3	93.6	118.2	101.4	100.7	102.6	100.0
	2	110.0	96.9	118.3	102.0	101.1	103.4	102.1
	3	107.7	97.3	120.3	103.1	102.2	102.0	104.6
	4	116.1	98.4	121.0	103.9	102.7	102.8	105.2

1984	D	109	96	117	102	101	100	99
1985	J	109	93	120	103	102	99	98
	F	109	92	120	103	102	99	98
	M	115	95	120	104	102	102	98
	A	115	94	122	106	100	101	97
	M	117	95	119	106	100	101	98
	J	116	94	121	106	100	103	98
	J	116	94	119	103	100	103	100
	A	118	93	118	104	101	103	100
	S	113	95	119	104	101	103	100
	O	112	96	117	103	102	101	99
	N	114	96	118	102	101	105	101
	D	112	95	117	104	103	102	100
1986	J	111	95	119	101	100	102	100
	F	110	92	119	101	102	104	100
	M	110	93	116	102	101	102	100
	A	109	97	118	103	102	104	102
	M	111	96	118	102	101	102	102
	J	111	98	119	101	101	104	103
	J	109	96	119	103	102	101	105
	A	107	98	120	102	102	103	104
	S	107	98	121	104	102	102	105
	O	112	97	122	103	103	102	105
	N	117	99	120	104	103	104	106
	D	119	100	121	105	103	102	105

% 3-month on 3-month change (2)		+7.8	+1.1	+0.6	+0.8	+0.5	+0.8	+0.6

(1) Mainly building materials

(2) Average of October to December 1986 compared with the average of July to September 1986.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	100.9	95.3	101.9	115.9	96.9	137.6
1984	102.5	98.6	103.2	110.1	100.7	147.1
1985	106.9	99.8	108.1	120.1	103.8	150.3
1986	-	-	109.6	125.1	104.1	152.8
Seasonally adjusted						
1981 1	94.8	92.4	95.1	101.8	92.7	107.3
2	94.8	89.5	95.8	103.3	93.2	108.1
3	96.3	90.9	97.3	103.8	95.0	111.4
4	96.7	86.9	98.3	106.5	95.3	114.4
1982 1	96.1	89.1	97.2	104.1	94.7	113.2
2	97.6	90.6	98.9	110.0	94.9	126.7
3	98.1	92.6	99.2	113.3	94.1	131.5
4	97.7	94.3	98.2	112.5	93.1	131.1
1983 1	99.4	93.7	100.3	112.8	95.8	131.2
2	99.2	92.1	100.6	115.0	95.4	132.8
3	102.0	97.7	102.8	117.6	97.5	141.9
4	103.1	97.8	104.0	118.0	98.9	144.5
1984 1	103.1	97.0	104.0	116.8	99.4	147.6
2	101.6	98.1	102.6	109.1	100.3	146.1
3	102.2	100.5	102.4	105.3	101.4	143.7
4	103.1	98.7	103.7	109.4	101.7	151.1
1985 1	105.4	99.5	106.4	115.0	103.3	154.1
2	107.9	100.0	109.3	122.6	104.5	152.5
3	106.9	99.1	108.3	120.9	103.8	145.8
4	107.3	100.8	108.4	121.8	103.6	148.8
1986 1	107.5	98.1	109.1	127.2	102.6	155.1
2	108.2	102.0	109.3	125.3	103.5	151.9
3	109.8	104.9	110.6	127.4	104.6	158.6
4	-	-	109.5	120.4	105.6	145.9

(1) The long run series in column 3-5 are consistent with Table 1.

(2) Includes water supply

NOTES TO EDITORS

1. Index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and revised to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries" index of production" is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.

2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).

3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.

4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.

5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics".

6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.

7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.

8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.

9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.

10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments included in the manufacturing figures this month are:

1986						
July	August	September	October	November	December	
-	+0.1	+0.1	+0.1	+0.2	+0.3	

PERSONAL AND CONFIDENTIAL
until 11.30am 17 March 1987
then RESTRICTED

FROM: R D KERLEY
 DATE: 13 March 1987

1. ~~MISS O'MARA~~

2. **CHANCELLOR OF THE EXCHEQUER**

This news will almost certainly be completely swamped by the Budget. The Opposition may try to make something of the monthly fall. But it comes as no surprise after January's bad weather and we have a good forecast.

MSM

13/3

cc Chief Secretary Mr S J Davies
 Financial Secretary Mr Pickford
 Economic Secretary Mr Naisbitt
 Minister of State Mr Dyer (+1 for No 10)
 Sir Peter Middleton Mr Cropper
 Sir Terence Burns Mr Ross Goobey
 Mr Cassell Mr Tyrie
 Mr Monck Mr Stirling -
 Mr Burgner CSO
 Mr Scholar Mr Kingaby -
 Mr Sedgwick CSO
 Mr Gray Mr Lang - CSO
 Mr Culpin HB/02

Put in the graph of this - ASAP.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

This will be published at 11.30am on Tuesday 17 February.

2. The index of production fell by 0.7 per cent in the three months to January compared with the previous three months, but rose by 1.4 per cent compared with the same period a year earlier and by 0.4 per cent between December and January.
3. Manufacturing output rose by 0.5 per cent in the three months to January compared with the previous three months, and by 2.2 per cent compared with the same period a year earlier but fell 2.2 per cent between December and January.
4. Recent movements

percentage changes	Latest 3 months on previous 3 months	Latest 3 months on same period year earlier	January on <u>December</u>	Latest 3 months on <u>1983Q2</u>	Latest 3 months on <u>1981Q1</u> trough	Latest 3 months on <u>1979H1</u>
Index of Production	-0.7	+1.4	+0.4	+9.1	+15.4	+2.7
within which:						
Manufacturing	+0.5	+2.2	-2.2	+10.5	+13.7	-4.0
Energy and Water	-3.5	-0.4	+7.2	+6.0	+19.8	+23.2

5. The CSO's assessment is that manufacturing output reached at least a temporary peak in 1985Q2 and then fell 2 per cent by 1986Q1. However, during the remainder of 1986 output more than recovered, and in the fourth quarter was 1½ per cent higher than in 1985Q2 and also 1½ per cent higher than in 1986Q3. The decline in January is thought to be largely an effect of the severe weather in that month.

6. Energy sector trends are difficult to determine, with short term movements in oil extraction caused by seasonal maintenance work, and reduced production at the end of the year due to a pipeline leak. January output was high reflecting the high demand for energy during the severe weather together with the repairing of the oil pipeline. However, the underlying output of the energy sector appears, at best, to be flat, and indeed may have declined slightly towards the end of last year.

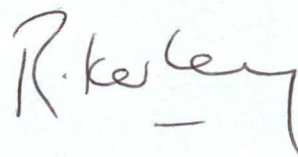
7. The underlying output of all production industries in 1985H2 was approximately 1 per cent below the level reached in the first half of that year, but since then underlying output has increased steadily, mainly reflecting the improvement in manufacturing output. The decline in the published index between 1986Q3 and Q4 was mainly the result of lower oil extraction. In January increased energy output was broadly offset by lower manufacturing output, so that the published index for production industries remained the same as that for the fourth quarter.

8. Although not part of the index of production, the press notice will contain figures for fourth quarter construction industry output. The output of the construction industry is estimated to have risen by 0.8 per cent between the third and fourth quarters of 1986 to a level 3.4 per cent above its level in the fourth quarter of 1985. Output in 1986 as a whole was 2.2 per cent higher than in 1985.

Line to take

9. Fall in manufacturing output between December and January indicates faltering growth?

No. January index distorted by severe weather in that month. Underlying trend in manufacturing still strongly upward.



R D KERLEY

Previous peak in industrial
production 109.3 ~~107.2~~ 1979Q2.

Highest ever level 110.6 1986Q3.

Current level 109.8 1986Q4 (also
19 109.8 3 months to January 1987)

R. Kerley 16/2

p5206

16/3/87

c/charts as requested.

FROM: R D KERLEY
DATE: 16 March 1987

CR 16/3

- 1. MISS O'MARA *obviously one can get a slightly different picture depending on the scaled the graph.* cc HB/02
- 2. CHANCELLOR *mom 16/3*

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

You asked for a graph of industrial production and manufacturing output (Mrs Ryding's minute of 16 March).

2. I attach graphs showing quarterly movements since 1970 and the three-month moving average since 1979.

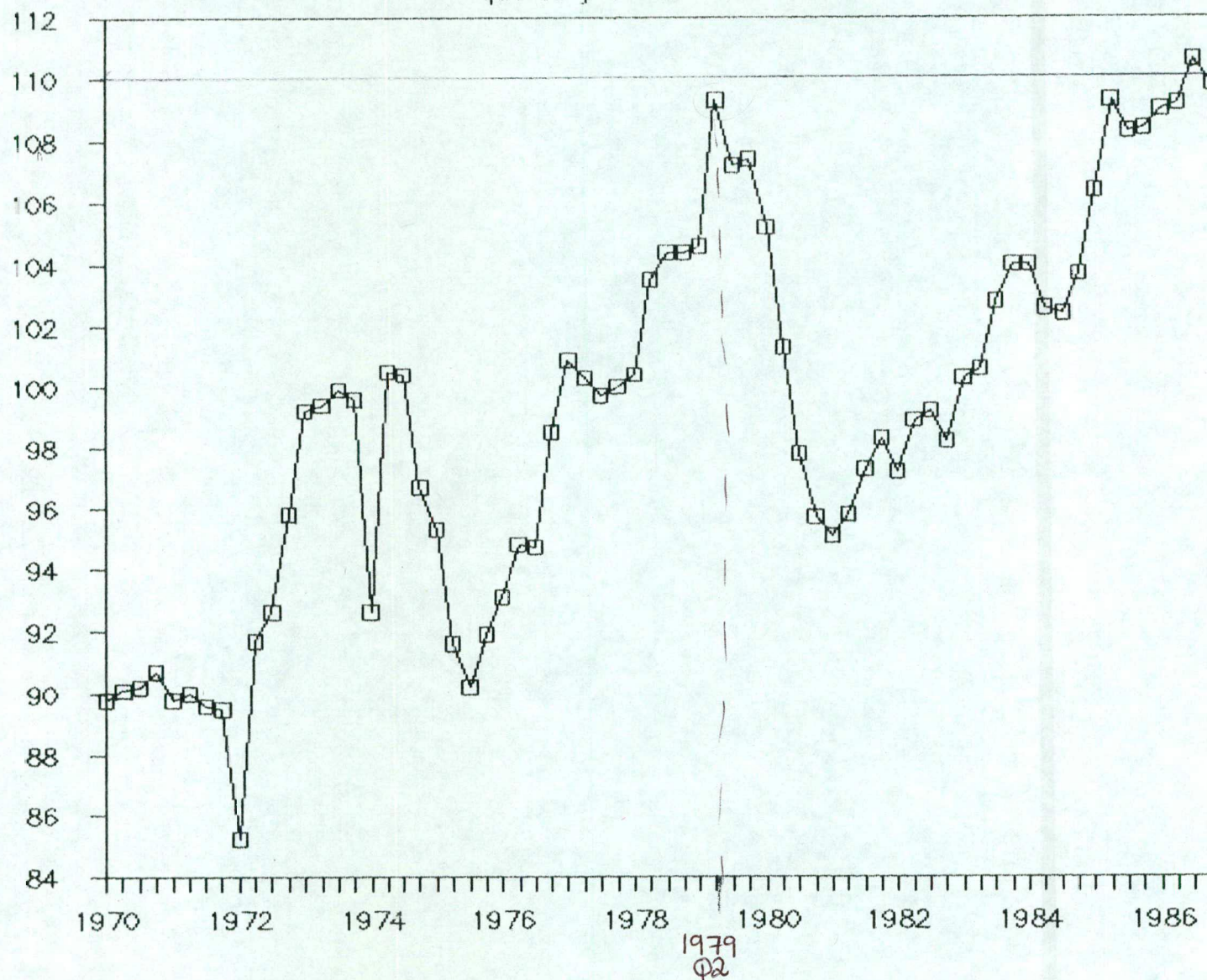
R. Kerley

*The main pt. is
 to see what the ind. prod.
 has (excl. ...)
 done. (16 Mar 1988 = Q4 1986
 higher than Q3 1988 - what was it? - 1979)
 "Industrial production" at all-time high*

R D KERLEY

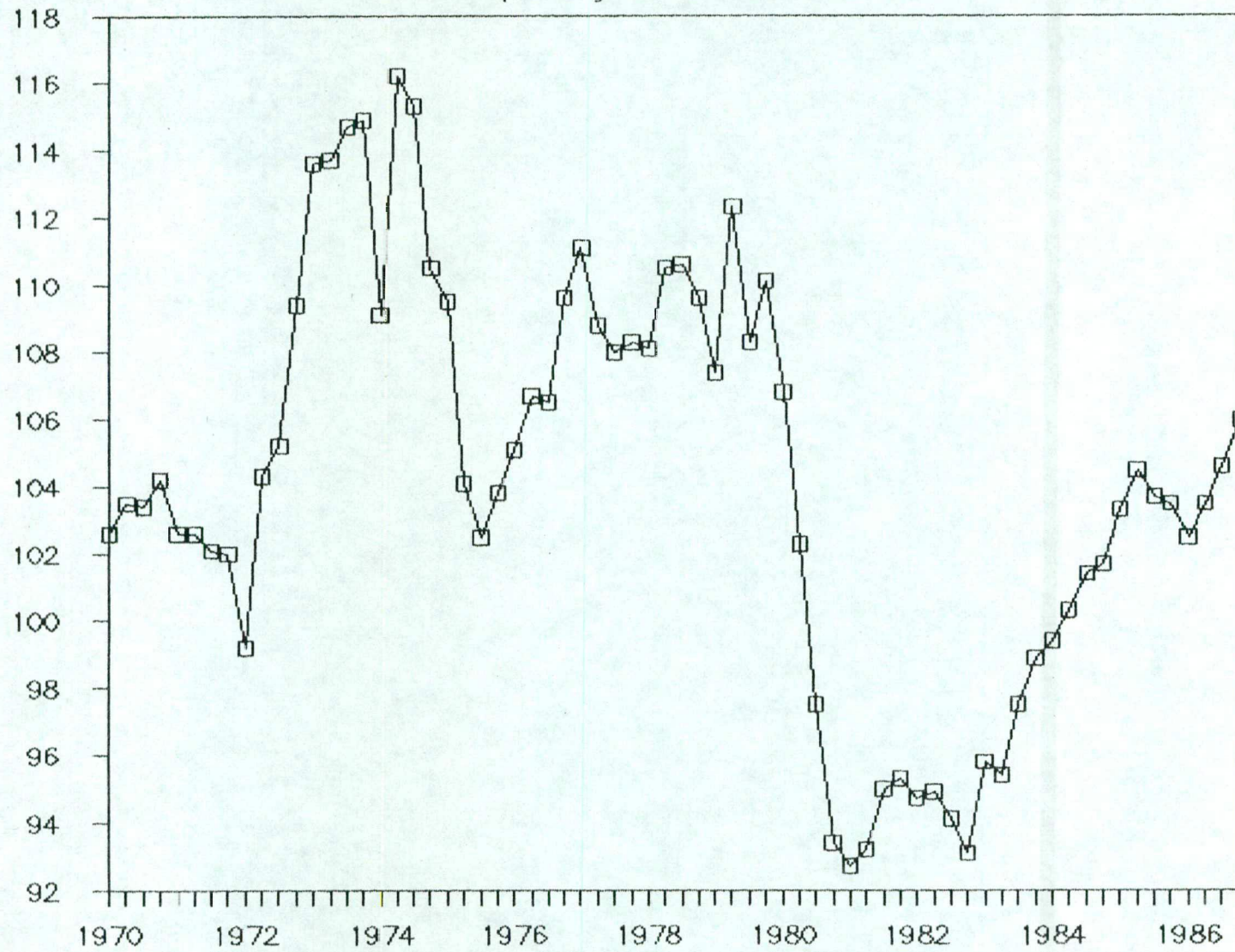
INDUSTRIAL PRODUCTION

quarterly series 1980=100



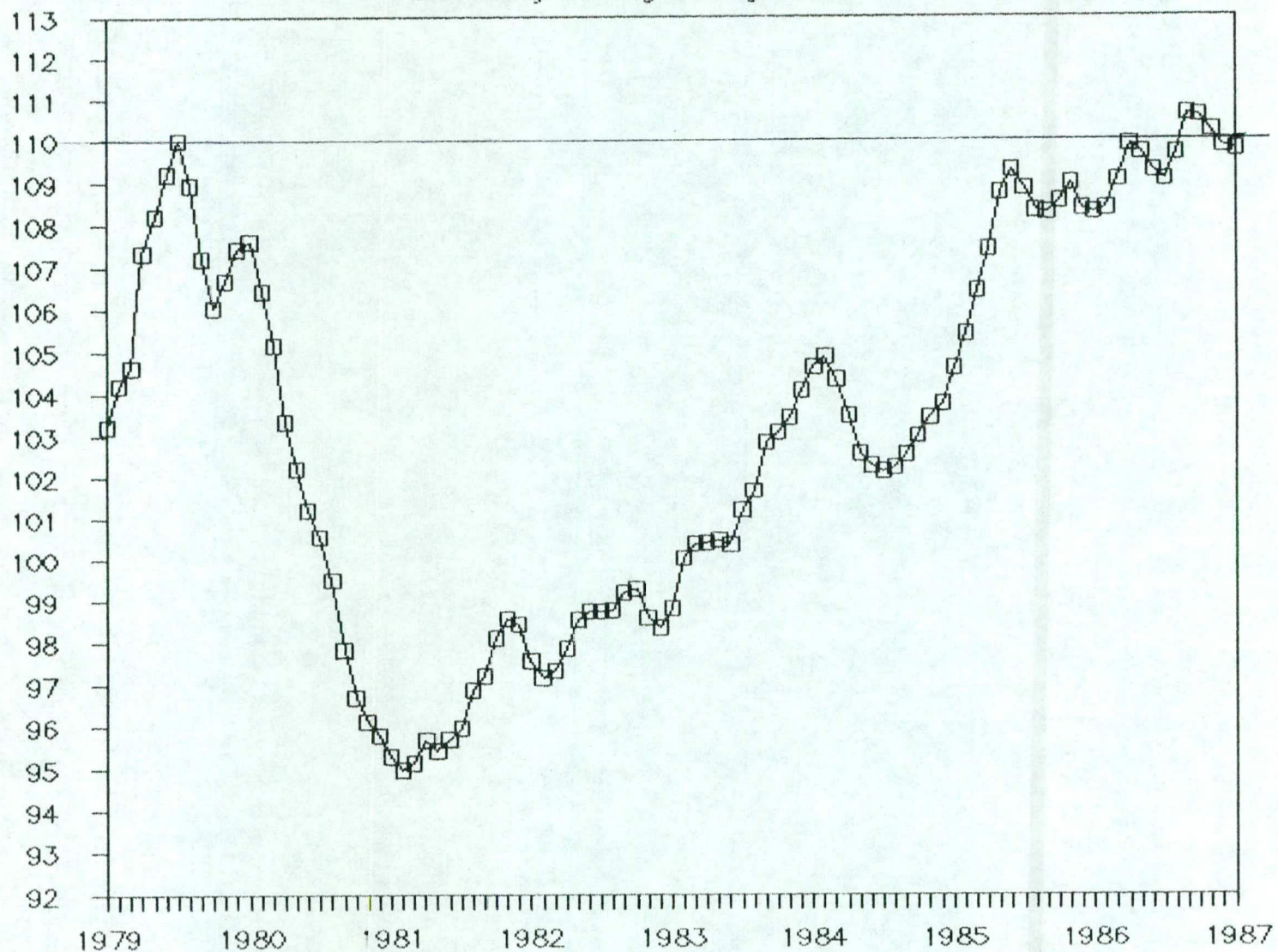
MANUFACTURING OUTPUT

quarterly series 1980=100



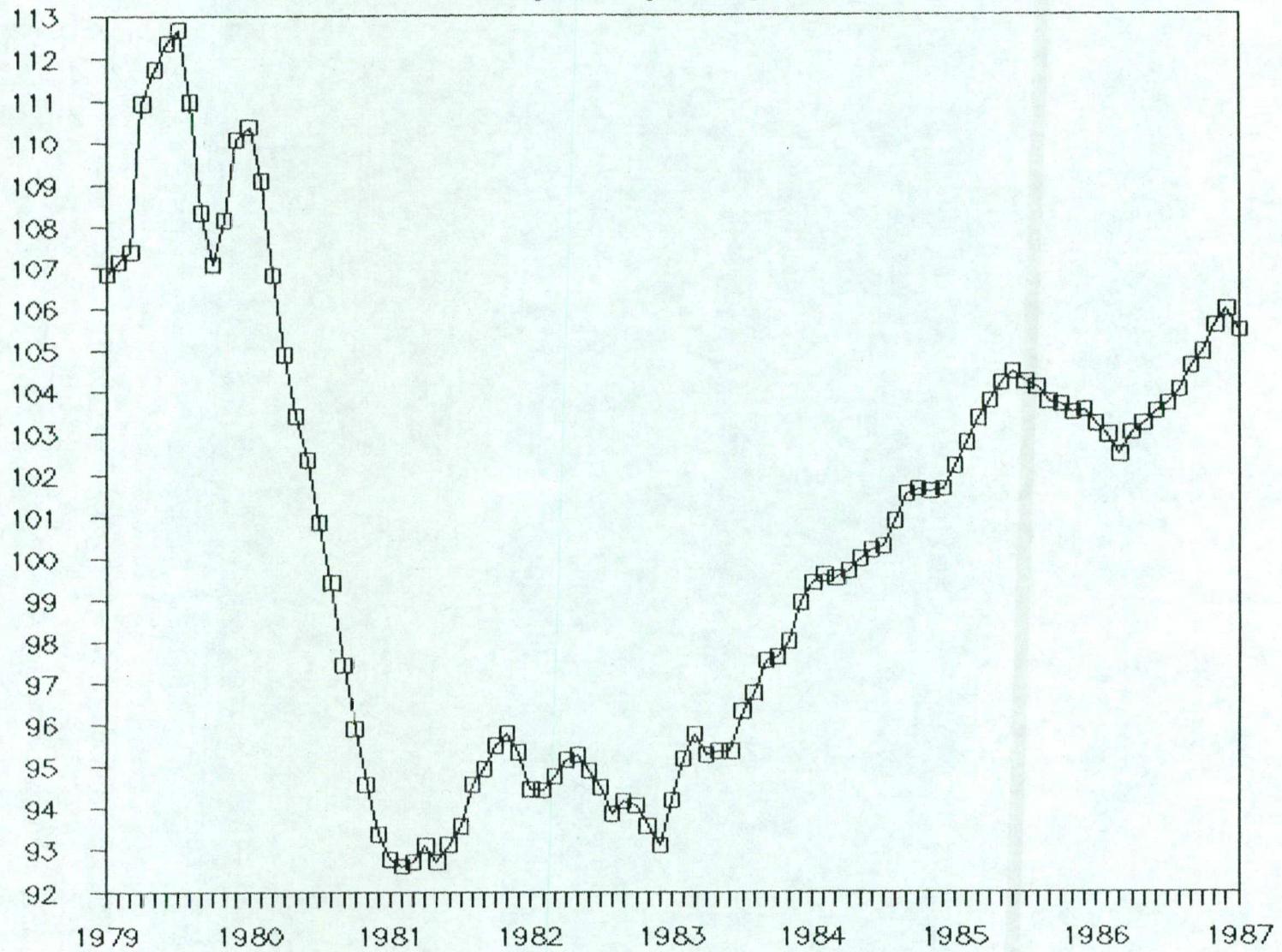
INDEX OF PRODUCTION

3 monthly moving average 1980=100



MANUFACTURING OUTPUT

3 monthly moving average 1980=100



PERSONAL AND CONFIDENTIAL



FROM: CATHY RYDING
DATE: 16 March 1987

MR KERLEY

cc: Miss O'Mara

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

The Chancellor was grateful for your minute of 13 March. He would be grateful to see a graph of this as soon as possible.

CR

CATHY RYDING

PERSONAL AND CONFIDENTIAL



FROM: CATHY RYDING
DATE: 16 March 1987

MR KERLEY

cc: CST
FST
EST
MST
Sir P Middleton
Sir T Burns
Mr Cassell
Mr Monck
Mr Burgner
Mr Scholar
Mr Sedgwick
Mr Gray
Mr Culpin *miss o' mard*
Mr S J Davis
Mr Pickford
Mr Naisbitt
Mr Cropper
Mr Ross Goobey
Mr Tyrie

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

The Chancellor was grateful for the charts attached to your minute of earlier today (copies attached for copy recipients).

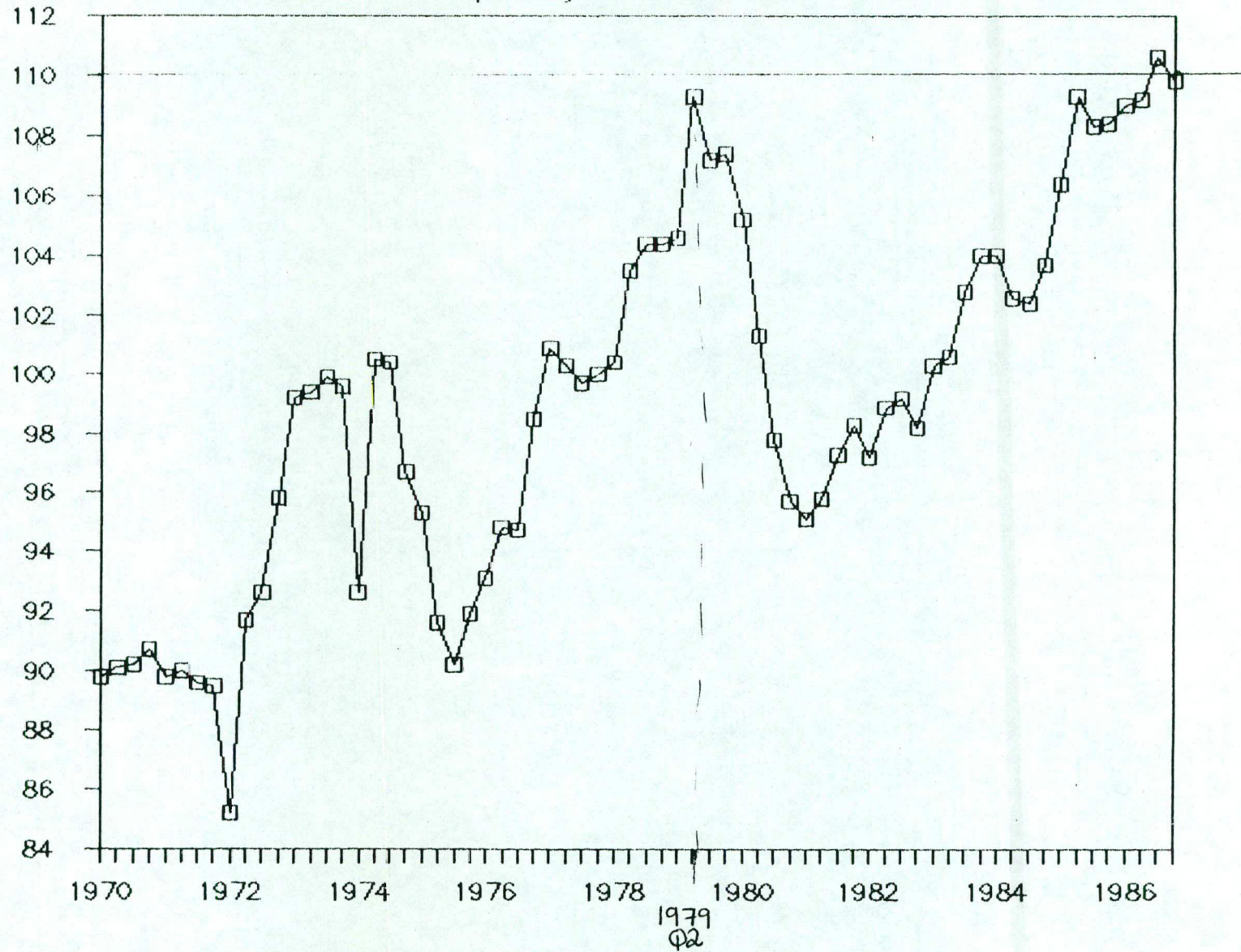
2. The Chancellor has commented that the main point to note is that industrial production has now exceeded its previous peak (ie both 1986Q3 and 1986Q4 are higher than 1979Q2). "Industrial production at all-time record levels".

CR

CATHY RYDING

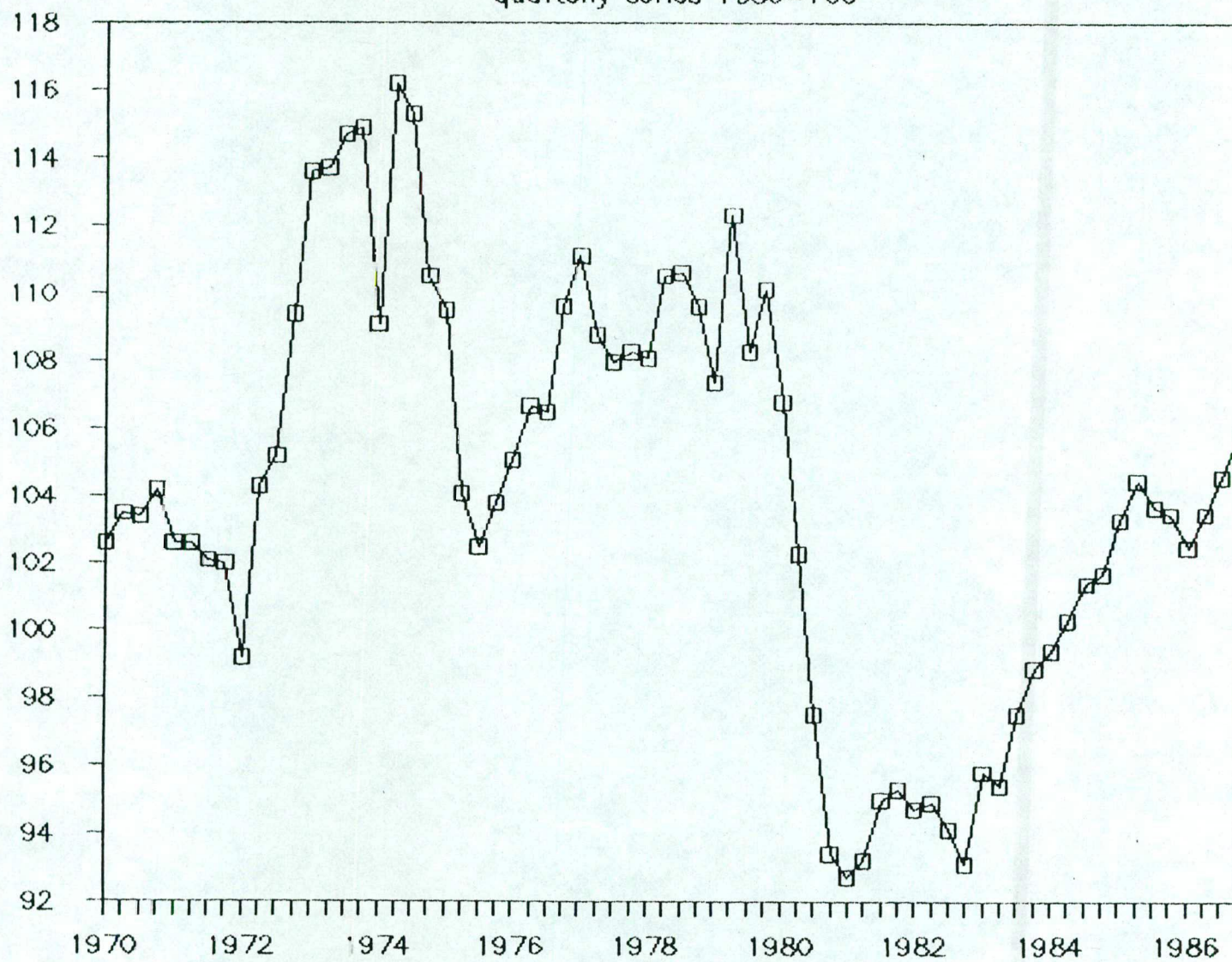
INDUSTRIAL PRODUCTION

quarterly series 1980=100



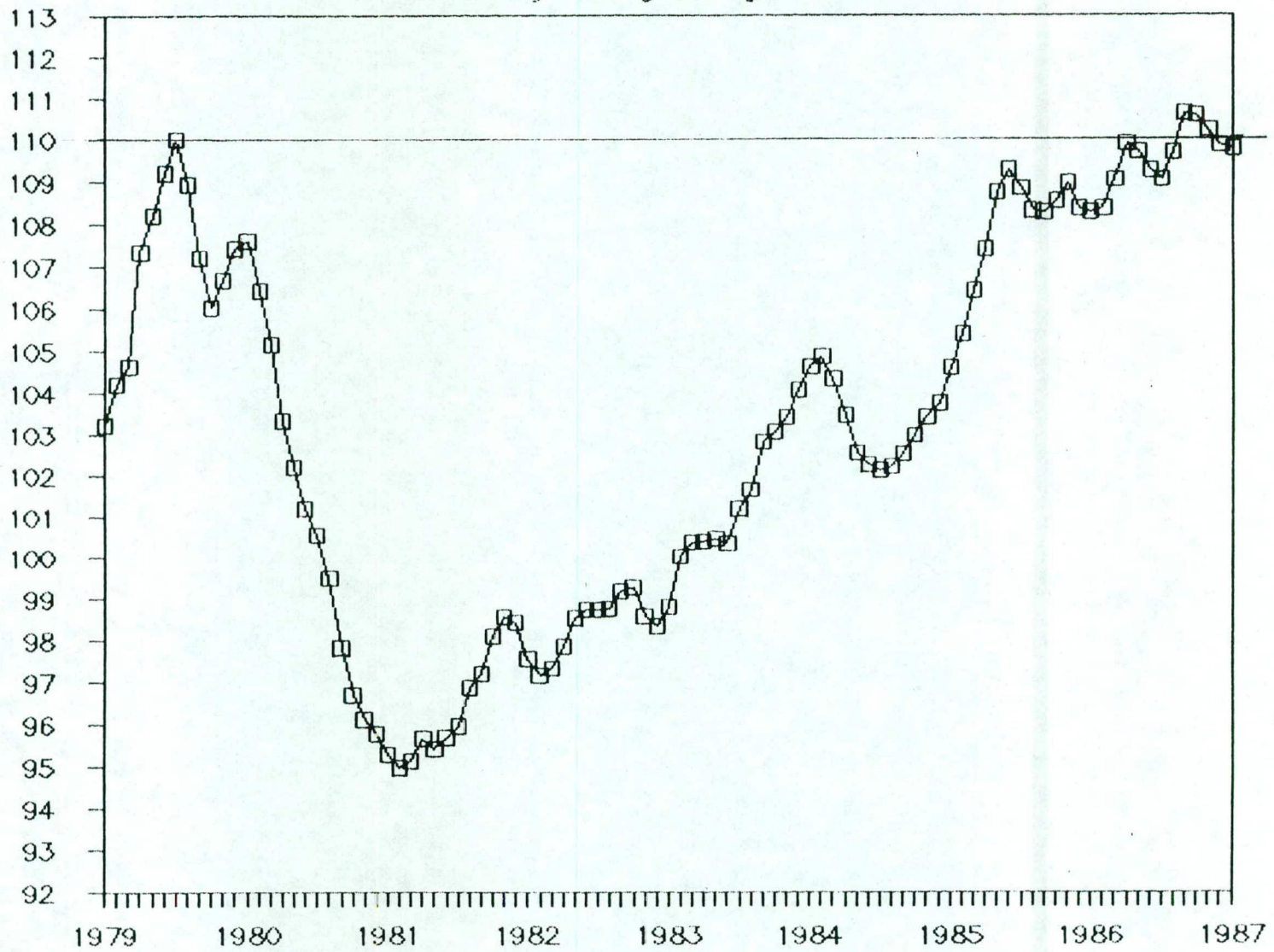
MANUFACTURING OUTPUT

quarterly series 1980=100



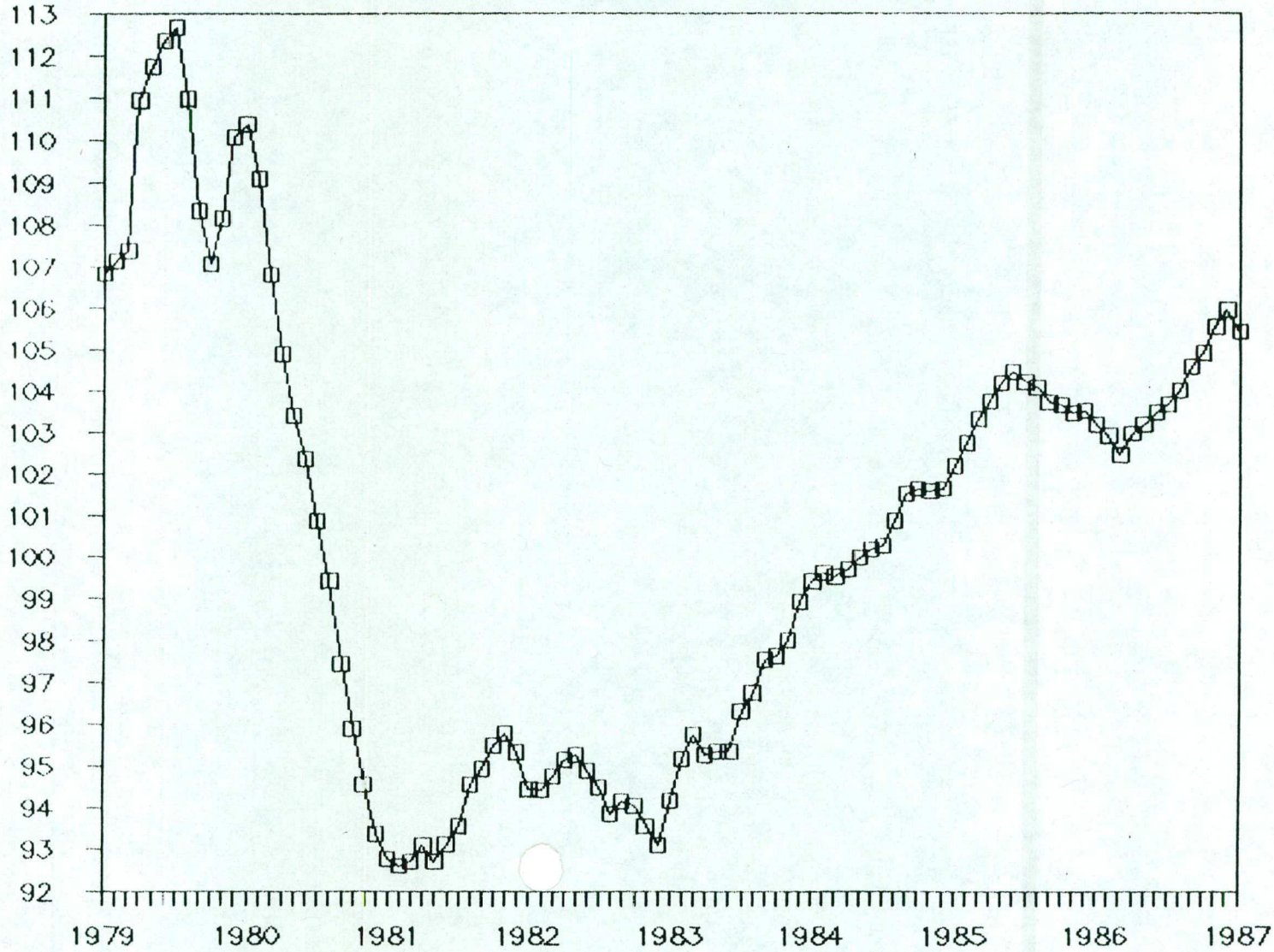
INDEX OF PRODUCTION

3 monthly moving average 1980=100



MANUFACTURING OUTPUT

3 monthly moving average 1980=100



JO505

MR D NORGROVE
Prime Minister's Office

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

The provisional index of the output of the production industries for January 1987 will be published at 11.30 am tomorrow, Tuesday 17 March. A copy of the Press Notice is attached.

Latest figures

The January 1987 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 109.8 (1980=100, seasonally adjusted), an increase of $\frac{1}{2}$ per cent on December. For manufacturing the index was 103.9, a decrease of $2\frac{1}{2}$ per cent on December, with the severe weather thought to be largely responsible for this decline (see also paragraph on bias adjustment below).

In the three months to January 1987 the output of the production industries was $\frac{1}{2}$ per cent lower than in the previous three months, with manufacturing output $\frac{1}{2}$ per cent higher. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined 2 per cent by the first quarter of 1986. However, during the remainder of 1986, output more than recovered this lost ground, and in the fourth quarter was $1\frac{1}{2}$ per cent higher than in the second quarter of 1985 and also $1\frac{1}{2}$ per cent higher than in the third quarter of 1986. The provisional figure for January shows a decline but this is thought to be largely the effect of the severe weather in that month.

Trends in the energy sector are difficult to determine, particularly due to short-term movements in oil extraction caused by seasonal maintenance work and, at the end of last year, by reduced production due to a pipeline leak. However output in recent months has shown some decline. January output was high reflecting the high demand for energy during the severe weather together with the repairing of the oil pipeline.

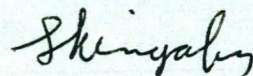
The underlying output of all production industries in the second half of 1985 was 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures declined between the third and fourth quarters of 1986 as a result of a reduction in energy output (mainly lower oil extraction). In January, the increased energy output was broadly offset by lower manufacturing so that the published index for production industries remained the same as that for the fourth quarter.

Bias adjustment for manufacturing output

In line with revised procedures introduced in January last year, figures of manufacturing output for the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Figures for February 1987

Figures for February 1987 are scheduled for publication on Tuesday 14 April.



pp D C K Stirling
16 March 1987

Table A

Copy No.

** PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on March 17 1987 and thereafter unclassified **

Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.8	113.9	94.3	119.0	104.1	101.1	101.7	98.8
1986	109.7	125.2	104.1	110.9	96.5	119.8	102.8	101.6	102.5	103.1
1985 3	108.3	120.9	103.7	115.8	94.0	118.3	103.6	100.5	102.8	100.0
4	108.4	121.8	103.5	112.6	95.8	117.2	103.1	101.8	102.6	99.8
1986 1	109.0	127.2	102.5	110.3	93.6	118.2	101.2	100.7	102.7	100.0
2	109.2	125.3	103.5	110.0	96.8	118.3	102.0	101.2	103.5	102.2
3	110.6	127.5	104.6	107.6	97.2	120.2	103.0	102.4	101.8	104.8
4	109.8	120.6	106.0	115.7	98.3	122.4	104.9	102.0	101.9	105.4
1986 N	110.1	121.4	106.1	117	99	121	105	103	103	106
D	109.4	117.9	106.3	118	99	123	106	101	100	106
1987 J	109.8	126.4	103.9	110	88	117	104	102	100	105

Percentage change latest 3 months on:
previous 3 months

	-0.7	-3.5	+0.5	+5.7	-2.4	-1.2	+1.2	-0.1	-1.1	+0.6
a year earlier	+1.4	-0.4	+2.2	+2.4	-0.3	+1.9	+2.1	+1.2	-1.8	+5.4
1st quarter 1981(a)	+15.4	+19.8	+13.7	+15.6	+6.5	+24.6	+16.6	+2.6	+11.2	+12.6
1st half 1979(b)	+2.7	+23.2	-4.0	-11.9	-11.7	+10.7	-4.6	+2.3	-15.6	-5.2

DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified
1985	67.2	150.3	98.6	105.9	113.9	94.3	120.4	74.2	99.1
1986	79.2	153.0	99.9	111.6	110.9	96.5	121.3	68.4	96.5
1985 3	80.5	145.8	98.1	108.6	115.8	94.0	119.5	76.0	99.9
4	81.2	148.8	98.4	106.6	112.6	95.8	118.5	73.0	98.1
1986 1	80.2	155.1	95.6	115.2	110.3	93.6	119.5	74.5	96.0
2	79.4	151.9	103.1	113.0	110.0	96.8	119.7	69.7	96.7
3	78.3	158.6	101.0	110.8	107.6	97.2	121.8	66.7	96.5
4	79.2	146.3	99.7	107.3	115.7	98.3	124.2	62.9	96.9
1986 N	80	148	99	108	117	99	123	64	96
D	78	140	103	108	118	99	125	60	98
1987 J	75	155	99	115	110	88	118	63	96

Percentage change latest 3 months on:
previous 3 months

	-1.9	-5.7	+1.2	-0.2	+5.7	-2.4	-1.1	-5.6	+0.7
a year earlier	-4.1	-0.3	+2.6	+0.4	+2.4	-0.3	+2.3	-15.6	-0.5
1st quarter 1981(a)	-20.3	+37.2	+4.2	+14.1	+15.6	+6.5	+26.2	-30.6	+9.3
1st half 1979(b)	-18.6	+56.2	-11.3	+5.3	-11.9	-11.7	+13.1	-54.6	-21.3

DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.7	130.8	86.3	94.7	104.0	95.1	98.3	104.7	98.1	99.7
1986	92.2	130.1	82.8	93.9	104.8	94.9	99.0	105.5	102.2	104.1
1985 3	91.6	129.3	89.0	93.4	104.0	93.4	99.4	105.7	98.7	101.4
4	93.9	129.4	81.7	93.0	104.7	95.8	99.6	105.2	99.2	100.6
1986 1	92.8	125.3	80.7	93.7	104.0	94.0	98.7	106.1	99.2	100.8
2	93.0	126.8	82.5	93.0	103.5	96.4	99.7	106.9	101.6	103.0
3	92.0	132.0	81.0	93.9	105.7	95.6	97.5	105.5	102.5	107.4
4	91.1	136.2	87.1	94.9	105.9	93.7	100.2	103.5	105.5	105.1
1986 N	91	137	86	95	107	95	102	104	106	106
D	90	137	90	95	105	93	99	101	106	105
1987 J	90	136	82	94	106	96	100	101	105	104

Percentage change latest 3 months on:
previous 3 months

	-1.5	+2.5	+5.5	+0.4	-0.1	-0.4	+1.9	-3.5	+2.3	-1.2
a year earlier	-3.1	+7.0	+4.2	+1.8	+1.6	+0.3	+1.2	-4.2	+6.2	+4.3
1st quarter 1981(a)	+3.7	+47.6	+12.1	-10.3	+7.3	-6.9	+10.9	+11.4	+11.2	+14.3
1st half 1979(b)	-17.7	+32.2	-30.1	+0.9	+6.3	-6.0	-19.6	-11.8	-1.3	-9.5

(a) Last trough for production industries (b) Last peak for production industries

Personal numbered copies of the minute and attachment to:

Treasury	(Principal Private Secretary (Sir Peter Middleton
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17 March 1987

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INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - JANUARY 1987

Output of the production industries in the three months to January 1987 is provisionally estimated to have fallen by $\frac{1}{2}$ per cent from the level of the previous three months; manufacturing output rose by $\frac{1}{2}$ per cent.

Output of production industries (to January 1987)

The January index of the output of the production industries - energy and manufacturing - is provisionally estimated at 109.8 (1980=100, seasonally adjusted). In the three months to January 1987, production industries' output was $\frac{1}{2}$ per cent lower than in the previous three months but $1\frac{1}{2}$ per cent higher than in the same period a year earlier.

Manufacturing output in the latest three months was $\frac{1}{2}$ per cent higher than in the previous three months and 2 per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the metals industry increased by 6 per cent and that of engineering and allied industries and "other manufacturing" industries by 1 per cent between the two latest three-month periods. The output of chemicals, however, and of textiles and clothing fell by 1 per cent and that of minerals by 2 per cent. There was little change in the output of food, drink and tobacco.

The output of the energy sector in the latest three months was $3\frac{1}{2}$ per cent lower than in the previous three months and $\frac{1}{2}$ per cent lower than in the same period a year earlier.

By market sector, the output of the consumer goods industries increased by $\frac{1}{2}$ per cent between the two latest three-month periods but the output of the intermediate goods industries fell by $1\frac{1}{2}$ per cent; the output of the investment goods industries was little changed.



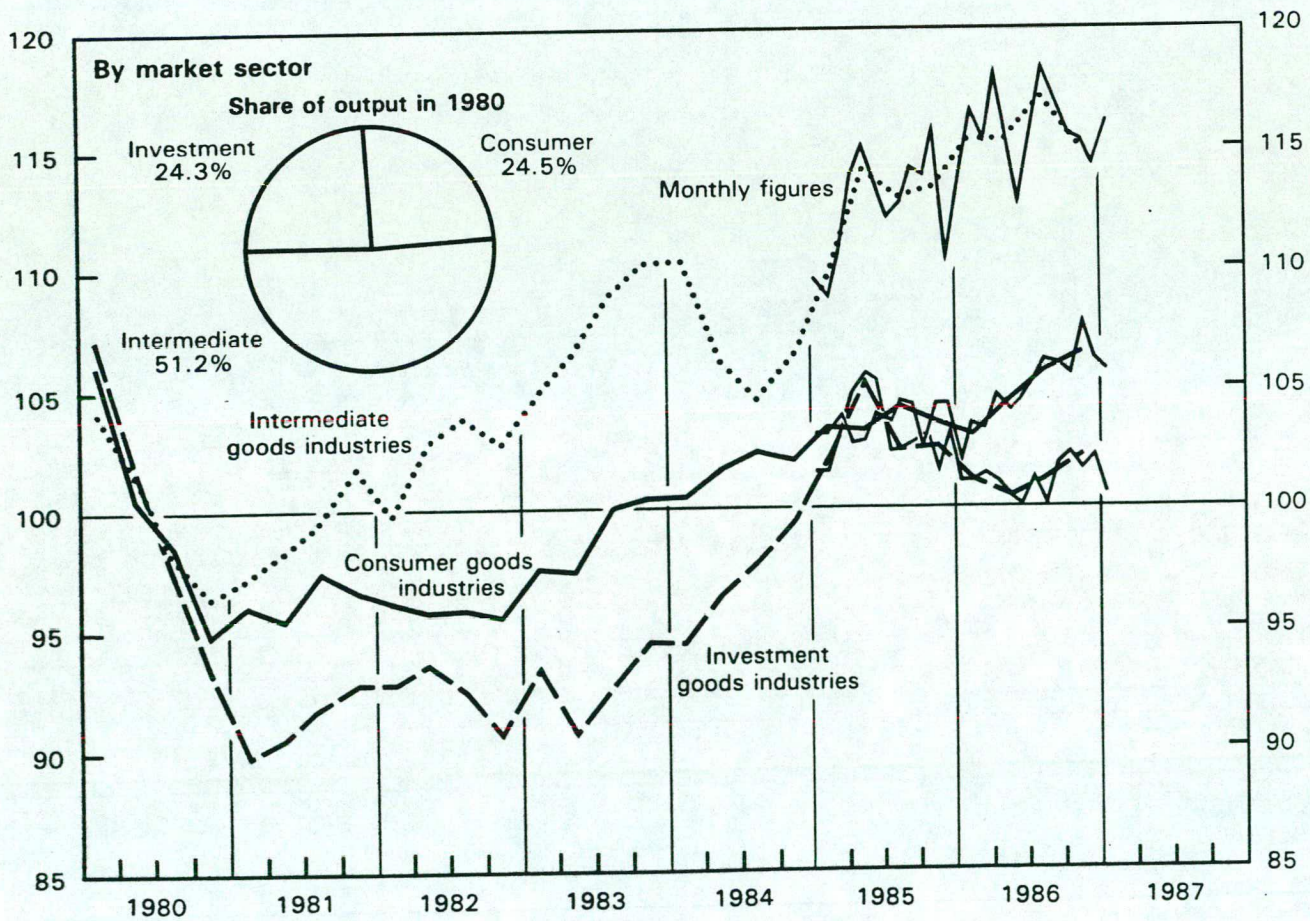
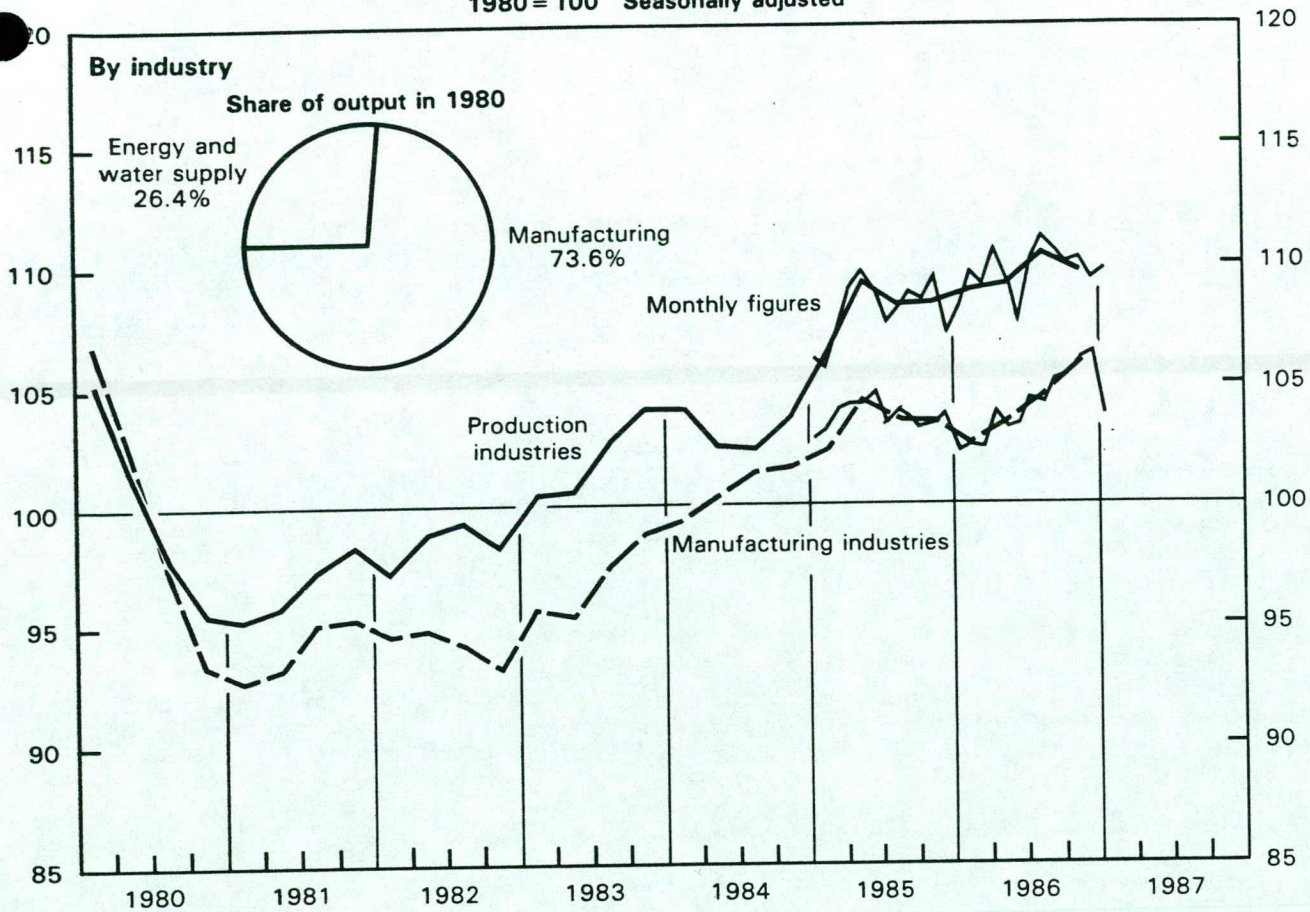
The output of the production industries in the three months to January 1987 was $15\frac{1}{2}$ per cent higher than at its trough in the first quarter of 1981; manufacturing output was $13\frac{1}{2}$ per cent higher.

Output of production and construction industries (to Q4 1986)

Output of the construction industry in the fourth quarter of 1986 is estimated to have been 1 per cent higher than in the previous quarter. Output of the production and construction industries in the fourth quarter was $\frac{1}{2}$ per cent lower than in the previous quarter, but 15 per cent above the trough in the first quarter of 1981.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES

1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
		Division 1-4	Division 1			
	Weights	1000	264	736	245	243
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	98.9	98.8	92.9	107.6
1984	103.2	110.1	100.7	101.6	97.1	106.8
1985	108.1	120.1	103.8	103.6	103.2	112.6
1986	109.7	125.2	104.1	105.0	101.2	115.8
Seasonally adjusted						
1981	95.1	101.8	92.7	96.0	89.9	97.1
1	95.8	103.3	93.2	95.5	90.6	98.4
2	97.3	103.8	95.0	97.4	91.9	99.6
3	98.3	106.5	95.3	96.7	92.9	101.7
4						
1982	97.2	104.1	94.7	96.1	92.9	99.8
1	98.9	110.0	94.9	95.8	93.7	102.9
2	99.2	113.3	94.1	95.9	92.3	103.8
3	98.2	112.5	93.1	95.6	90.7	102.8
4						
1983	100.3	112.8	95.8	97.6	93.5	104.8
1	100.6	115.0	95.4	97.4	90.8	106.7
2	102.8	117.6	97.5	100.0	92.8	109.0
3	104.0	118.0	98.9	100.4	94.5	110.1
4						
1984	104.0	116.8	99.4	100.5	94.3	110.2
1	102.6	109.1	100.3	101.7	96.4	106.1
2	102.4	105.3	101.4	102.4	97.9	104.6
3	103.7	109.4	101.7	102.0	99.6	106.4
4						
1985	106.4	115.0	103.3	103.4	102.1	109.8
1	109.3	122.6	104.5	103.2	105.3	114.1
2	108.3	120.9	103.7	104.2	102.6	113.0
3	108.4	121.8	103.5	103.7	102.7	113.4
4						
1986	109.0	127.2	102.5	103.0	101.2	115.4
1	109.2	125.3	103.5	104.5	100.5	115.4
2	110.6	127.5	104.6	105.8	101.1	117.2
3	109.8	120.6	106.0	106.6	102.1	115.0
4						
1985	106.1	115.0	102.9	103.1	101.6	109.6
J	105.8	113.4	103.1	103.1	101.6	108.9
F	107.4	116.7	104.0	104.0	103.1	110.8
M						
A	109.0	122.2	104.2	102.8	104.9	113.9
M	109.8	124.8	104.4	102.9	105.7	115.1
J	109.0	120.8	104.8	104.0	105.4	113.3
J	107.7	119.3	103.5	103.6	102.4	112.1
A	108.2	120.0	104.0	104.6	102.5	112.8
S	108.9	123.5	103.7	104.3	102.8	114.1
O	108.5	123.0	103.3	102.6	103.2	113.9
N	109.5	126.3	103.4	104.3	101.6	115.9
D	107.1	116.2	103.9	104.3	103.2	110.5
1986	108.2	124.6	102.3	102.1	101.1	114.2
J	109.8	129.7	102.6	103.6	101.1	116.7
F	109.1	127.4	102.5	103.2	101.5	115.3
M						
A	110.8	130.1	103.9	104.8	101.1	118.1
M	109.2	126.0	103.2	104.0	100.4	115.6
J	107.7	119.8	103.4	104.6	100.1	112.6
J	110.2	126.2	104.5	105.4	101.3	116.5
A	111.1	130.2	104.2	106.1	100.1	118.5
S	110.6	126.0	105.1	106.0	101.8	116.7
O	110.0	127.6	105.5	105.7	102.3	115.7
N	110.1	121.4	106.1	107.8	101.7	115.2
D	109.4	117.9	106.3	106.2	102.2	114.2
1987	109.8	126.4	103.9	105.8	100.7	116.0
J						
% 3-month on 3-month change (3)	-0.7	-3.5	+0.5	+0.6	+0.1	-1.6

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply.

(3) Average of November 1986 to January 1987 compared with the average of August to October 1986.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

	Metals	Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing	
	Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49	
Weights	25	41	68	325	99	52	126	
1981	106.0	89.0	99.6	91.8	98.3	92.7	93.2	
1982	103.2	90.9	99.7	92.9	99.8	91.2	90.8	
1983	104.7	93.9	107.4	94.9	100.9	94.6	93.7	
1984	108.2	95.0	113.9	99.3	101.9	97.9	97.7	
1985	113.9	94.3	119.0	104.1	101.1	101.7	98.8	
1986	110.9	96.5	119.8	102.8	101.6	102.5	103.1	
Seasonally adjusted								
1981	99.4	89.3	96.4	89.7	99.5	91.0	93.5	
2	104.3	88.6	98.2	90.8	97.1	92.1	93.1	
3	107.4	89.9	102.4	93.0	98.2	93.2	93.1	
4	113.1	88.4	101.3	93.7	98.3	94.4	92.9	
1982	110.4	90.0	99.8	93.7	99.1	91.8	91.1	
2	108.3	92.0	99.7	93.6	100.3	91.2	91.3	
3	100.4	91.0	99.5	92.6	100.5	91.4	90.7	
4	93.8	90.7	99.7	91.7	99.4	90.5	90.2	
1983	98.8	93.3	104.1	94.6	99.9	92.7	92.7	
2	104.8	91.4	106.8	93.1	98.8	93.3	92.8	
3	105.4	95.3	108.9	95.0	103.1	95.0	93.6	
4	110.0	95.4	109.9	96.8	101.8	97.6	95.6	
1984	112.1	94.6	111.4	97.1	101.9	96.6	97.2	
2	104.8	95.1	112.1	98.6	102.7	97.5	98.3	
3	108.9	95.9	115.8	100.4	102.0	98.5	97.2	
4	107.0	94.5	116.3	101.0	101.2	99.2	98.2	
1985	111.1	93.2	120.1	103.6	101.8	99.9	97.9	
2	116.1	94.3	120.6	105.9	100.2	101.7	97.6	
3	115.8	94.0	118.3	103.6	100.5	102.8	100.0	
4	112.6	95.8	117.2	103.1	101.8	102.6	99.8	
1986	110.3	93.6	118.2	101.2	100.7	102.7	100.0	
2	110.0	96.8	118.3	102.0	101.2	103.5	102.2	
3	107.6	97.2	120.2	103.0	102.4	101.8	104.8	
4	115.7	98.3	122.4	104.9	102.0	101.9	105.4	

1985	J	109	93	120	103	102	99	98
	F	109	92	120	103	102	99	98
	M	115	95	120	104	102	102	98
	A	115	94	122	106	100	101	97
	M	117	95	119	106	100	101	98
	J	116	94	121	106	100	103	98
	J	116	94	119	103	100	103	100
	A	118	93	118	104	101	103	100
	S	113	95	119	104	101	103	100
	O	112	96	117	103	102	101	99
	N	114	96	118	102	101	105	101
	D	112	95	117	104	103	102	100
1986	J	111	95	119	101	99	102	100
	F	110	92	119	101	102	104	100
	M	110	93	116	102	101	102	100
	A	109	97	118	103	101	105	102
	M	111	96	118	102	101	102	102
	J	111	98	119	101	101	104	103
	J	109	96	119	103	102	101	105
	A	107	98	120	102	103	103	104
	S	107	98	121	104	102	102	105
	O	113	97	123	104	102	103	105
	N	117	99	121	105	103	103	106
	D	118	99	123	106	101	100	106
1987	J	110	88	117	104	102	100	105

% 3-month on 3-month change (2)	+5.7	-2.4	-1.2	+1.2	-0.1	-1.1	+0.6	

(1) Mainly building materials

(2) Average of November 1986 to January 1987 compared with the average of August to October 1986.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	100.9	95.3	101.9	115.9	96.9	137.6
1984	102.5	98.6	103.2	110.1	100.7	147.1
1985	106.9	99.8	108.1	120.1	103.8	150.3
1986	108.5	102.0	109.7	125.2	104.1	153.0
Seasonally adjusted						
1981 1	94.7	92.4	95.1	101.8	92.7	107.3
2	94.9	89.5	95.8	103.3	93.2	108.1
3	96.3	90.9	97.3	103.8	95.0	111.4
4	96.6	86.9	98.3	106.5	95.3	114.4
1982 1	96.0	89.1	97.2	104.1	94.7	113.2
2	97.7	90.6	98.9	110.0	94.9	126.7
3	98.2	92.6	99.2	113.3	94.1	131.5
4	97.6	94.3	98.2	112.5	93.1	131.1
1983 1	99.3	93.7	100.3	112.8	95.8	131.2
2	99.3	92.1	100.6	115.0	95.4	132.8
3	102.0	97.7	102.8	117.6	97.5	141.9
4	103.1	97.8	104.0	118.0	98.9	144.5
1984 1	103.0	97.0	104.0	116.8	99.4	147.6
2	101.9	98.1	102.6	109.1	100.3	146.1
3	102.1	100.5	102.4	105.3	101.4	143.7
4	103.0	98.7	103.7	109.4	101.7	151.1
1985 1	105.4	99.5	106.4	115.0	103.3	154.1
2	107.9	100.0	109.3	122.6	104.5	152.5
3	106.9	99.1	108.3	120.9	103.7	145.8
4	107.3	100.8	108.4	121.8	103.5	148.8
1986 1	107.4	98.2	109.0	127.2	102.5	155.1
2	108.1	102.1	109.2	125.3	103.5	151.9
3	109.5	103.4	110.6	127.5	104.6	158.6
4	109.0	104.2	109.8	120.6	106.0	146.3

(1) The long run series in column 3-5 are consistent with Table 1.

(2) Includes water supply.

NOTES TO EDITORS

1. Index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and classified to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries" index of production" is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.

2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).

3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.

4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.

5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics".

6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.

7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.

8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.

9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.

10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments included in the manufacturing figures this month are:

1986		1987			
August	September	October	November	December	January
-	+0.1	+0.1	+0.2	+0.3	+0.6



PERSONAL AND CONFIDENTIAL UNTIL 11.30 AM ON 14 APRIL 1987

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Prime Minister's Office

13/4/87.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

The provisional index of the output of the production industries for February 1987 will be published at 11.30 am tomorrow, Tuesday 14 April. A copy of the Press Notice is attached.

Latest figures

The February 1987 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 112.6 (1980=100, seasonally adjusted), an increase of 1½ per cent on January. For manufacturing the index was 107.6, an increase of 2 per cent on January (see also paragraph on bias adjustment below).

In the three months to February 1987 the output of the production industries was ½ per cent higher than in the previous three months, with manufacturing output also ½ per cent higher. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined 2 per cent by the first quarter of 1986. However, during the remainder of 1986, output more than recovered this lost ground, and in the fourth quarter was nearly 3 per cent higher than in the second quarter of 1985 and also 2½ per cent higher than in the third quarter of 1986. The provisional figure for February 1987 suggests a level of output broadly unchanged from the fourth quarter, following the decline recorded in January, which it is thought, largely reflected the effect of severe weather.

Trends in the energy sector are difficult to determine, due particularly to short-term movements in oil extraction caused by seasonal maintenance work and, at the end of last year, by reduced production due to a pipeline leak. Output in the last quarter of 1986 showed some decline but output was high in both January reflecting the high demand for energy during the severe weather together with the repairing of the oil pipeline, and February.

The underlying output of all production industries in the second half of 1985 was approximately 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures were little changed between the third and fourth quarters of 1986, a reduction in energy output (mainly lower oil extraction) being offset by an increase in manufacturing. In January 1987 this pattern was reversed due to the effect of the severe weather, but the published index for production industries for February recorded a further increase as manufacturing output recovered.

Bias adjustment for manufacturing output

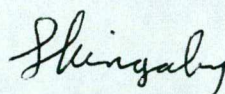
In line with revised procedures introduced in January last year, figures of manufacturing output for the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Revisions

There have been upward revisions to the index of production of about 1 per cent in the fourth quarter of 1986 and in January 1987; for manufacturing industries there have been upward revisions of about $1\frac{1}{2}$ per cent in the same periods.

Figures for March 1987

Figures for March 1987 are scheduled for publication on Tuesday 19 May.



PP D C K Stirling
13 April 1987

Central Statistical Office

Table A

++ PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on April 14 and thereafter unclassified ++

Copy No.

Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.8	113.9	94.3	119.0	104.0	101.1	101.9	98.8
1986	110.0	125.2	104.6	111.0	96.8	120.2	103.2	102.0	103.2	103.6
1985 3	108.2	120.9	103.6	115.8	94.0	118.3	103.3	100.5	102.8	100.0
4	108.4	121.8	103.6	112.6	95.8	117.2	103.2	101.7	103.3	99.9
1986 1	109.1	127.2	102.6	110.3	93.3	118.0	101.5	100.7	102.8	100.0
2	109.3	125.3	103.5	110.0	96.1	118.1	102.1	101.4	103.6	102.2
3	110.8	127.5	104.8	107.6	97.3	120.1	103.3	102.7	101.9	104.9
4	110.9	120.7	107.4	115.9	100.3	124.6	105.7	103.3	104.7	107.3
1986 D	110.5	117.9	107.9	118	101	125	107	103	103	108
1987 J	110.8	126.1	105.3	107	90	123	105	102	104	106
F	112.6	126.4	107.6	112	97	126	106	104	105	109
Percentage change latest 3 months on:										
previous 3 months	+0.3	+0.1	+0.4	-0.1	-3.0	+1.2	+0.8	-0.3	-0.7	+0.9
a year earlier	+2.6	-	+3.8	+1.3	+2.4	+5.4	+3.5	+1.5	+0.8	+7.6
1st quarter 1981(a)	+17.0	+21.3	+15.4	+12.9	+7.8	+29.4	+17.9	+3.2	+13.9	+14.8
1st half 1979(b)	+4.1	+24.8	-2.7	-14.0	-10.7	+14.9	-3.6	+2.8	-13.5	-3.4
DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified	
1985	67.2	150.3	98.6	105.9	113.9	94.3	120.4	74.2	99.2	
1986	79.2	153.0	99.9	111.6	111.0	96.8	121.7	68.2	96.7	
1985 3	80.5	145.8	98.1	108.6	115.8	94.0	119.5	76.0	99.9	
4	81.2	148.8	98.4	106.6	112.6	95.8	118.5	73.0	98.4	
1986 1	80.2	155.1	95.6	115.2	110.3	93.3	119.3	74.2	96.4	
2	79.4	151.9	103.1	113.0	110.0	96.1	119.5	69.5	97.2	
3	78.3	158.6	101.0	110.8	107.6	97.3	121.6	66.4	97.2	
4	79.2	146.5	99.7	107.3	115.9	100.3	126.4	62.9	96.0	
1986 D	78	140	103	108	118	101	127	60	97	
1987 J	75	154	99	115	107	90	125	63	95	
F	76	157	96	112	112	97	128	65	98	
Percentage change latest 3 months on:										
previous 3 months	-3.5	-0.2	+1.0	+1.7	-0.1	-3.0	+1.2	-2.2	+0.6	
a year earlier	-4.8	+0.7	+4.1	-0.3	+1.3	+2.4	+5.7	-13.8	-0.5	
1st quarter 1981(a)	-21.4	+39.9	+3.2	+15.5	+12.9	+7.8	+31.0	-30.1	+9.1	
1st half 1979(b)	-19.7	+59.3	-12.1	+6.6	-14.0	-10.7	+17.5	-54.3	-21.4	
DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.4	130.8	86.3	94.7	103.9	95.1	98.3	105.0	98.1	99.7
1986	92.5	130.9	82.8	93.9	105.2	95.5	99.1	106.8	102.3	105.1
1985 3	90.5	129.3	89.0	93.4	104.0	93.4	99.4	105.7	98.7	101.4
4	94.0	129.4	81.7	93.0	104.5	95.9	99.6	106.4	99.2	100.6
1986 1	93.2	125.5	80.7	93.7	103.8	94.3	98.7	106.5	99.1	101.0
2	93.3	126.6	82.5	93.0	103.8	96.2	99.6	107.0	101.5	103.1
3	92.2	132.5	81.0	93.9	106.1	95.7	97.4	105.7	102.6	107.5
4	91.5	138.9	87.1	95.0	107.0	95.7	100.6	108.2	106.0	108.9
1986 D	91	141	90	95	107	95	100	105	107	109
1987 J	91	139	82	94	106	93	102	105	104	107
F	91	141	84	94	108	94	101	107	107	110
Percentage change latest 3 months on:										
previous 3 months	-1.2	+2.6	+1.2	-0.1	+0.5	-2.4	+1.4	-2.5	+1.5	+0.2
a year earlier	-2.9	+10.6	+4.1	+1.4	+2.5	-0.7	+2.4	-0.5	+7.1	+8.2
1st quarter 1981(a)	+4.1	+51.7	+11.6	-10.4	+8.4	-7.4	+11.7	+15.6	+11.8	+18.4
1st half 1979(b)	-17.4	+35.9	-30.4	+0.7	+7.4	-6.5	-18.9	-8.5	-0.7	-6.2

(a) Last trough for production industries (b) Last peak for production industries

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	(Private Secretary to John Butcher
	(Sir Brian Hayes (Mr H H Liesner (Mr A Whiting (Mr N Harvey (Mr S W Treadgold
Bank of England	(Sir R Leigh-Pemberton

FROM: R D KERLEY

DATE: 13 April 1987

1. MR S J DAVIES *SD* 13/4
2. CHIEF SECRETARY

cc Chancellor
Financial Secretary
Economic Secretary
Minister of State
Sir Peter Middleton
Sir Terence Burns
Mr Cassell
Mr Monck
Mr Burgner
Mr Scholar
Mr Sedgwick
Mr Culpin
Mr Gray

Miss O'Mara o/r
Mr Pickford
Mr Naisbitt
Mr Patterson
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for No 10)
Mr Cropper
Mr Ross Goobey
Mr Tyrie
Mr Stirling -
CSO
Mr Kingaby -
CSO
Mr Lang - CSO
HB/02

*Re X, is the revision
likely to show there's also a
GDP revision?
2. In future, always include a
graph in this whf, wh. further
N pos: & of assumed much
more clearly.*

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

This will be published at 11.30am on Tuesday 14 April.

2. The index of production rose by 0.3 per cent in the three months to February compared with the previous three months, by 2.6 per cent compared with the same period a year earlier and by 1.6 per cent between January and February.

3. Manufacturing output rose by 0.4 per cent in the three months to January compared with the previous three months, by 3.8 per cent compared with the same period a year earlier and by 2.2 per cent between January and February.

4. Recent movements

percentage changes	Latest 3 months on previous 3 months	Latest 3 months on same period year earlier	February on January	Latest 3 months on 1983Q2	Latest 3 months on 1981Q1 trough	Latest 3 months on 1979H1
Index of Production	+0.3	+2.6	+1.6	+10.6	+17.0	+4.1
within which:						
Manufacturing	+0.4	+3.8	+2.2	+12.1	+15.4	-2.7
Energy and Water	+0.1	0.0	+0.2	+7.4	+21.3	+24.8

X 5. Manufacturing output has been revised upwards by 1.4 index points in 1986Q4 and in January 1987, with the result that output grew by 3 per cent between the two halves of 1986 and by 2½ per cent between the third and fourth quarters. Further growth, however, has not yet appeared in the figures for 1987. Although the low January index is thought to have been weather affected, the February index is little changed from the Q4 figure.

6. Energy sector trends are difficult to determine, with short term movements in oil extraction caused by seasonal maintenance work, and reduced production at the end of 1986 due to a pipeline leak. Output in 1986Q4 showed some decline but was high in January, reflecting the high demand for energy during the severe weather together with the repairing of the oil pipeline, and also in February.

7. Since 1985H2 underlying output of all production industries has increased steadily, mainly reflecting the improvement in manufacturing output. The upward revisions to manufacturing output led to a 1.1 upward revision in the index of production, and as a result the published figures were little changed between 1986Q3 and Q4, with a reduction in energy output (mainly lower oil extraction) being offset by an increase in manufacturing. In January this pattern was reversed due to the effect of the severe weather, but the published index for production industries for February recorded a further increase as manufacturing output recovered.

8. The revisions the index of production currently stands, both on a monthly and on a three monthly basis, at its highest ever level. Manufacturing output in February was 2 per cent, and in the three months to February 2.7 per cent, below its 1979H1 level.

R. Kerley

R D KERLEY



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INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

Output of the production industries in the three months to February 1987 is provisionally estimated to have increased by $\frac{1}{2}$ per cent from the level of the previous three months; manufacturing output also rose by $\frac{1}{2}$ per cent.

Output of production industries (to February 1987)

The February index of the output of the production industries - energy and manufacturing - is provisionally estimated at 112.6 (1980=100, seasonally adjusted). In the three months to February 1987, production industries' output was $\frac{1}{2}$ per cent higher than in the previous three months and $2\frac{1}{2}$ per cent higher than in the same period a year earlier.

Manufacturing output in the latest three months was $\frac{1}{2}$ per cent higher than in the previous three months and 4 per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the chemicals industry, of engineering and allied industries and of "other manufacturing" industries all increased by 1 per cent between the two latest three-month periods. The output of textiles and clothing, however, fell by 1 per cent and that of other minerals by 3 per cent. There was little change in the output of the metals and food, drink and tobacco industries.

The output of the energy sector in the latest three months was little changed from that both in the previous three months and in the same period a year earlier.

By market sector, the output of the investment goods industries increased by 1 per cent between the two latest three-month periods and that of the intermediate goods industries by $\frac{1}{2}$ per cent; the output of the consumer goods industries fell by $\frac{1}{2}$ per cent.



The output of the production industries in the three months to February 1987 was 17 per cent higher than at its trough in the first quarter of 1981; manufacturing output was 15½ per cent higher.

Output of production and construction industries (to Q4 1986)

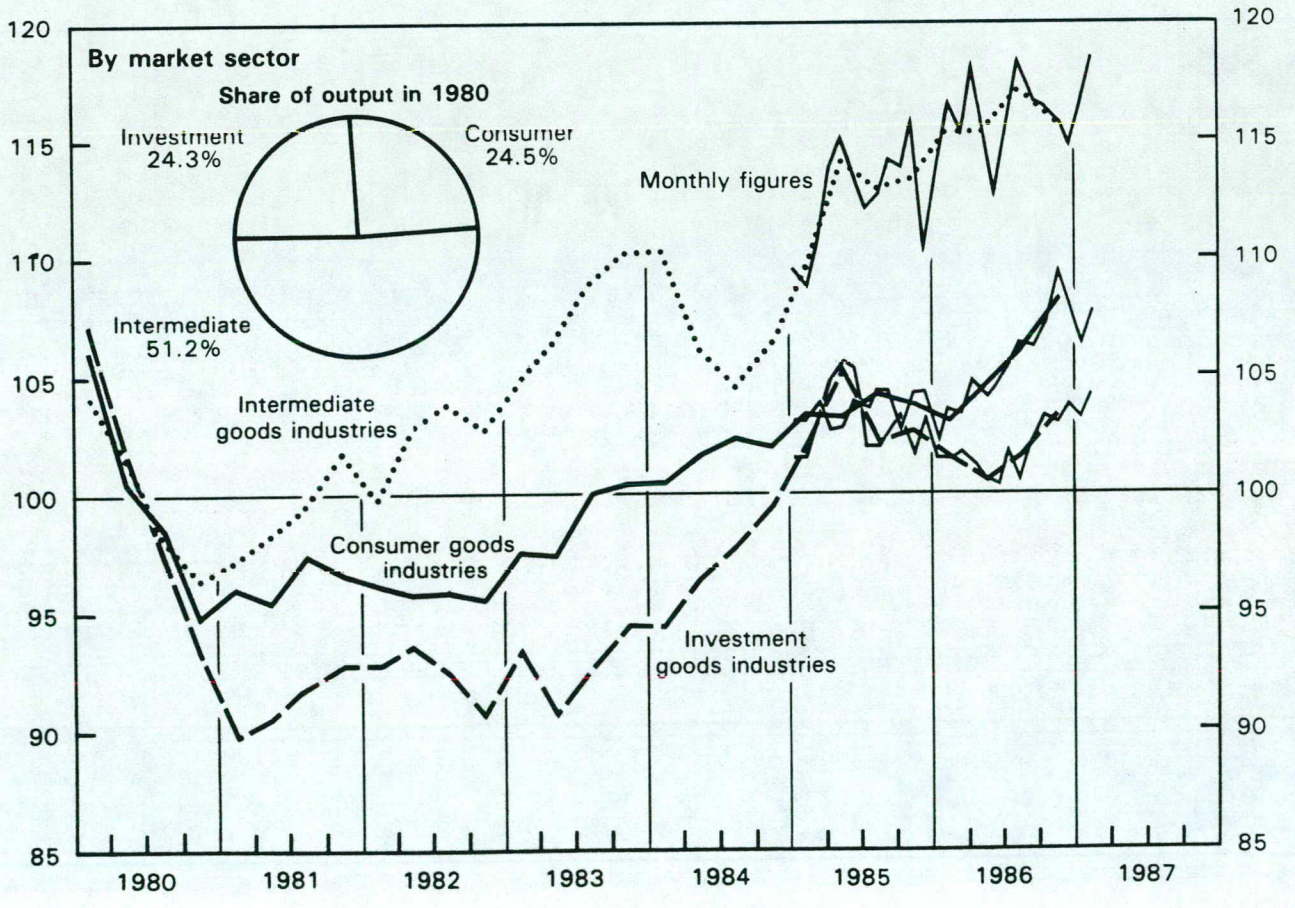
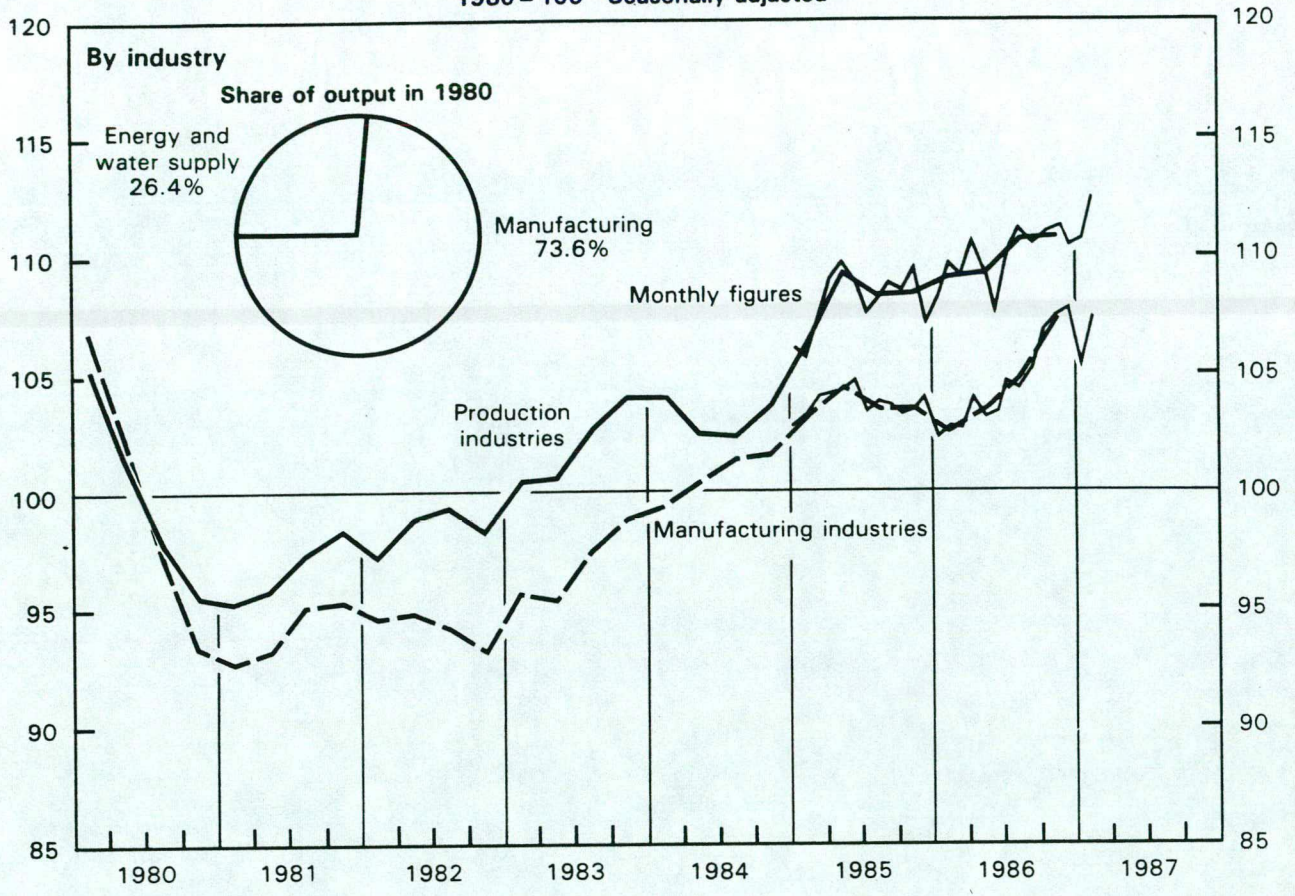
Output of the construction industry in the fourth quarter of 1986 is estimated to have been 1 per cent higher than in the previous quarter. Output of the production and construction industries in the fourth quarter was little changed from that in the previous quarter, but 16 per cent above the trough in the first quarter of 1981.

Revisions

The index of production has been revised upwards by about 1 per cent in the fourth quarter of 1986 and in January 1987; the index of manufacturing output has been revised upwards by about 1½ per cent in the same periods.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES

1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

Weights	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
	1000	264	736	245	243	512
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.8	92.9	107.6
1984	103.2	110.1	100.7	101.6	97.1	106.8
1985	108.1	120.1	103.8	103.6	103.1†	112.6
1986	110.0†	125.2	104.6†	105.5†	101.8	115.9†
Seasonally adjusted						
1981 1	95.1	101.8	92.7	96.0	89.9	97.1
2	95.8	103.3	93.2	95.5	90.6	98.4
3	97.3	103.8	95.0	97.4	91.9	99.6
4	98.3	106.5	95.3	96.7	92.9	101.7
1982 1	97.2	104.1	94.7	96.1	92.9	99.8
2	98.9	110.0	94.9	95.8	93.7	102.9
3	99.2	113.3	94.1	95.9	92.3	103.8
4	98.2	112.5	93.1	95.6	90.7	102.8
1983 1	100.3	112.8	95.8	97.6	93.5	104.8
2	100.6	115.0	95.4	97.4	90.8	106.7
3	102.8	117.6	97.5	100.0	92.8	109.0
4	104.0	118.0	98.9	100.4	94.5	110.1
1984 1	104.0	116.8	99.4	100.5	94.3	110.2
2	102.6	109.1	100.3	101.7	96.4	106.1
3	102.4	105.3	101.4	102.4	97.9	104.6
4	103.7	109.4	101.7	102.0	99.6	106.4
1985 1	106.4	115.0	103.3	103.4	102.1	109.8
2	109.3	122.6	104.5	103.2	105.3	114.1
3	108.2†	120.9	103.6†	104.1†	102.1†	113.0
4	108.4	121.8	103.6	103.8	102.7	113.4
1986 1	109.1	127.2	102.6	103.0	101.6	115.4
2	109.3	125.3	103.5	104.6	100.7	115.3†
3	110.8	127.5	104.8	106.0	101.5	117.2
4	110.9	120.7†	107.4	108.3	103.4	115.7
1985 F	105.8	113.4	103.1	103.1	101.6	108.9
M	107.4	116.7	104.0	104.0	103.1	110.8
A	109.0	122.2	104.2	102.8	104.9	113.9
M	109.8	124.8	104.4	102.9	105.7	115.1
J	109.0	120.8	104.8	104.0	105.4	113.3
J	107.6†	119.3	103.4†	103.6	102.0†	112.1
A	108.1	120.0	103.8	104.4†	102.0	112.8
S	108.9	123.5	103.6	104.3	102.3	114.1
O	108.6	123.0	103.4	102.8	103.2	113.9
N	109.5	126.3	103.5	104.3	101.7	115.9
D	107.2	116.2	104.0	104.4	103.3	110.5
1986 J	108.3	124.6	102.4	102.1	101.5	114.2
F	109.8	129.7	102.7	103.7	101.4	116.7
M	109.2	127.4	102.6	103.3	101.8	115.2†
A	110.9	130.1	104.0	104.9	101.3	118.0
M	109.2	126.0	103.2	104.1	100.6	115.5
J	107.7	119.8	103.4	104.7	100.3	112.5
J	110.4	126.2	104.7	105.5	101.7	116.5
A	111.2	130.2	104.4	106.4	100.5	118.5
S	110.7	126.0	105.2	106.2	102.2	116.7
O	111.0	122.6	106.8	107.4	103.3	116.4
N	111.2	121.6†	107.5	109.6	103.0	115.9
D	110.5	117.9	107.9	108.0	103.8	114.8
1987 J	110.8	126.1	105.3	106.4	103.1	116.6
F	112.6	126.4	107.6	107.9	104.3	118.6
% 3-month on 3-month change (3)	+0.3	+0.1	+0.4	-0.3	+0.9	+0.3

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply.

(3) Average of December 1986 to February 1987 compared with the average of September to November 1986.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

	Metals	Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing
	Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49
	Weights	25	41	68	325	99	52
1981	106.0	89.0	99.6	91.8	98.3	92.7	93.2
1982	103.2	90.9	99.7	92.9	99.8	91.2	90.8
1983	104.7	93.9	107.4	94.9	100.9	94.6	93.7
1984	108.2	95.0	113.9	99.3	101.9	97.9	97.7
1985	113.9	94.3	119.0	104.0†	101.1	101.9†	98.8
1986	111.0†	96.8†	120.2†	103.2	102.0†	103.2	103.6†
Seasonally adjusted							
1981	99.4	89.3	96.4	89.7	99.5	91.0	93.5
2	104.3	88.6	98.2	90.8	97.1	92.1	93.1
3	107.4	89.9	102.4	93.0	98.2	93.2	93.1
4	113.1	88.4	101.3	93.7	98.3	94.4	92.9
1982	110.4	90.0	99.8	93.7	99.1	91.8	91.1
2	108.3	92.0	99.7	93.6	100.3	91.2	91.3
3	100.4	91.0	99.5	92.6	100.5	91.4	90.7
4	93.8	90.7	99.7	91.7	99.4	90.5	90.2
1983	98.8	93.3	104.1	94.6	99.9	92.7	92.7
2	104.8	91.4	106.8	93.1	98.8	93.3	92.8
3	105.4	95.3	108.9	95.0	103.1	95.0	93.6
4	110.0	95.4	109.9	96.8	101.8	97.6	95.6
1984	112.1	94.6	111.4	97.1	101.9	96.6	97.2
2	104.8	95.1	112.1	98.6	102.7	97.5	98.3
3	108.9	95.9	115.8	100.4	102.0	98.5	97.2
4	107.0	94.5	116.3	101.0	101.2	99.2	98.2
1985	111.1	93.2	120.1	103.6	101.8	99.9	97.9
2	116.1	94.3	120.6	105.9	100.2	101.7	97.6
3	115.8	94.0	118.3	103.3†	100.5	102.8	100.0
4	112.6	95.8	117.2	103.2	101.7†	103.3†	99.9†
1986	110.3	93.3†	118.0†	101.5	100.7	102.8	100.0
2	110.0	96.1	118.1	102.1	101.4	103.6	102.2
3	107.6	97.3	120.1	103.3	102.7	101.9	104.9
4	115.9†	100.3	124.6	105.7	103.3	104.7	107.3
1985	F 109	92	120	103	102	99	98
	M 115	95	120	104	102	102	98
	A 115	94	122	106	100	101	97
	M 117	95	119	106	100	101	98
	J 116	94	121	106	100	103	98
	J 116	94	119	103	100	103	100
	A 118	93	118	104	101	103	100
	S 113	95	119	103†	101	103	100
	O 112	96	117	103	102	102†	99
	N 114	96	118	102	101	106	101
	D 112	95	117	104	103	102	100
1986	J 111	95	119	101	99	102	100
	F 110	92	119	101	102	104	100
	M 110	93	116	102	101	102	100
	A 109	96†	118	103	102†	105	102
	M 111	95	118	102	101	102	102
	J 111	97	119	101	101	104	103
	J 109	96	119	103	103	101	105
	A 107	98	120	102	103	103	104
	S 107	98	121	104	102	102	105
	O 113	99	126†	105	103	105	107†
	N 117	101	123	106	104	107	108
	D 118	101	125	107	103	103	108
1987	J 107†	90	123	105	102	104	106
	F 112	97	126	106	104	105	109
% 3-month on 3-month change (2) -0.1 -3.0 +1.2 +0.8 -0.3 -0.7 +0.9							

(1) Mainly building materials

(2) Average of December 1986 to February 1987 compared with the average of September to November 1986.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	100.9	95.3	101.9	115.9	96.9	137.6
1984	102.5	98.6	103.2	110.1	100.7	147.1
1985	106.8†	99.8	108.1	120.1	103.8	150.3
1986	108.8	102.0	110.0†	125.2	104.6†	153.0
Seasonally adjusted						
1981 1	94.7	92.4	95.1	101.8	92.7	107.3
2	94.9	89.5	95.8	103.3	93.2	108.1
3	96.3	90.9	97.3	103.8	95.0	111.4
4	96.6	86.9	98.3	106.5	95.3	114.4
1982 1	96.0	89.1	97.2	104.1	94.7	113.2
2	97.7	90.6	98.9	110.0	94.9	126.7
3	98.2	92.6	99.2	113.3	94.1	131.5
4	97.6	94.3	98.2	112.5	93.1	131.1
1983 1	99.3	93.7	100.3	112.8	95.8	131.2
2	99.3	92.1	100.6	115.0	95.4	132.8
3	102.0	97.7	102.8	117.6	97.5	141.9
4	103.1	97.8	104.0	118.0	98.9	144.5
1984 1	103.0	97.0	104.0	116.8	99.4	147.6
2	101.9	98.1	102.6	109.1	100.3	146.1
3	102.1	100.5	102.4	105.3	101.4	143.7
4	103.0	98.7	103.7	109.4	101.7	151.1
1985 1	105.4	99.5	106.4	115.0	103.3	154.1
2	107.9	100.0	109.3	122.6	104.5	152.5
3	106.8†	99.1	108.2†	120.9	103.6†	145.8
4	107.3	100.8	108.4	121.8	103.6	148.8
1986 1	107.5	98.2	109.1	127.2	102.6	155.1
2	108.2	102.1	109.3	125.3	103.5	151.9
3	109.7	103.4	110.8	127.5	104.8	158.6
4	109.9	104.2	110.9	120.7†	107.4	146.5†

(1) The long run series in column 3-5 are consistent with Table 1.
 (2) Includes water supply.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

NOTES TO EDITORS

1. The index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and classified to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries" index of production is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.
2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).
3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.
4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.
5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics".
6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.
7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.
8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.
9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.
10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments, which are additive, included in the manufacturing figures this month are:

1986				1987	
September	October	November	December	January	February
-	+0.1	+0.2	+0.4	+0.4	+0.8

6F 26.4.



FROM: A P HUDSON

DATE: 15 April 1987

MR KERLEY

cc Chief Secretary
 Financial Secretary
 Economic Secretary
 Minister of State
 Sir P Middleton
 Sir T Burns
 Mr Cassell
 Mr Monck
 Mr Burgner
 Mr Scholar
 Mr Sedgwick
 Mr Culpin
 Mr Gray
 Miss O'Mara
 Mr S J Davies
 Mr Pickford
 Mr Naisbitt
 Mr Patterson
 Mr Dyer
 Mr Cropper
 Mr Ross Goobey
 Mr Tyrie
 Mr Stirling - CSO
 Mr Kingaby - CSO
 Mr Lang - CSO

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

The Chancellor has seen your 13 April minute.

2. He has asked whether the revision to manufacturing output which you mention in paragraph 5 is likely to feed through to a GDP revision.
3. In future, he would like a graph always to be included in this note, since it enables the position to be assessed much more clearly.
4. Has there been any change in the estimate of when manufacturing output will get back to its level when the Government took office?

A handwritten signature in black ink, appearing to be 'A P HUDSON'.

A P HUDSON

✓ Papers
12000

FROM: S J DAVIES
DATE: 16 April 1987

CHANCELLOR

cc Chief Secretary
Financial Secretary
Economic Secretary
Minister of State
Sir P Middleton
Sir T Burns
Mr Cassell
Mr Monck
Mr Burgner
Mr Scholar
Mr Sedgwick
Mr Culpin
Mr Gray
Miss O'Mara
Mr Pickford
Mr Naisbitt
Mr Patterson
Mr Kerley
Mr Dyer
Mr Cropper
Mr Ross Goobey
Mr Tyrie
Mr Sterling)
Mr Kingaby) CSO
Mr Lang)

Niger

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

You asked two questions following Mr Kerley's minute of 15 April.

2. On the first question, the CSO have raised their estimate for 1986 Q4 GDP by 0.3% on the output measure, and 0.1% on the average measure. For 1986 as a whole GDP growth is now 2.9% (previously 2.8%) on the output measure and remains at 2.6% on the average measure. Over the year to 1986 Q4 GDP rose by 3.5% on the output measure, and 3.4% on the average measure. The revised GDP figures will appear in the article on the National Accounts that is due to appear in the April issue of Economic Trends, and are for public use now.

3. On the second question, when manufacturing output is likely to get back to its level when the Government took office, I feel very uncertain. The various measures taken by the CSO and BSO to correct the problem of bias in the monthly manufacturing output series have been found wanting the first time they have been tested by a period of sharply rising output. Given the

nature of the revisions seen in the last two months there must be a significant chance of some further upward revision to the fourth quarter figures, and to the figures for the first two months of this year. If there are no such revisions to the recent past it seems likely that manufacturing output will reach its 1979 H1 average level during the second half of this year. But it is more probable that the current level of output is higher than the published figures suggest, and in that case the 1979 H1 average could well be reached by the end of the first half of this year. There is of course, quite a bit further to go to reach the strike-distorted 1979 Q2 level, which was 2¼% higher than the 1979 H1 average.



S J DAVIES



A handwritten signature in the top right corner of the page.

FROM: N G FRAY

DATE: 22 April 1987

MR S J DAVIES

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - FEBRUARY 1987

The Chancellor has seen and was grateful for your minute of 16 April.

A handwritten signature of Nigel Fray.

N G FRAY

FROM: R D KERLEY
 DATE: 18 May 1987

1. MISS O'MARA
 2. CHANCELLOR

MOM
 KSF

Nigel

cc Chief Secretary Mr Pickford
 Financial Secretary Mr Naisbitt
 Economic Secretary Mr Dyer (+1
 Minister of State for No 10)
 Sir Peter Middleton Mr Tyrie
 Sir Terence Burns Mr Stirling -
 Mr Cassell CSO
 Mr Monck Mr Kingaby -
 Mr Burgner CSO
 Mr Scholar Mr Lang - CSO
 Mr Sedgwick HB/02
 Mr Culpin
 Mr S J Davies
 Mr Gray

**INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MARCH AND
 FIRST QUARTER 1987**

This will be published at 11.30am on Tuesday 19 May.

2. The index of production rose by 1.4 per cent in 1987Q1 compared with the previous quarter, by 2.8 per cent compared with the same period a year earlier and by 0.4 per cent between February and March.

3. Manufacturing output fell by 0.1 per cent in 1987Q1 compared with the previous quarter, but rose 4.3 per cent compared with the same period a year earlier and by 0.3 per cent between February and March.

4. Recent movements

percentage changes	Latest 3 months on previous 3 months	Latest 3 months on same period year earlier	March on February
Index of Production	+1.4	+2.8	+0.4
within which:			
Manufacturing	-0.1	+4.3	+0.3
Energy and Water	+5.0	-0.3	+0.6

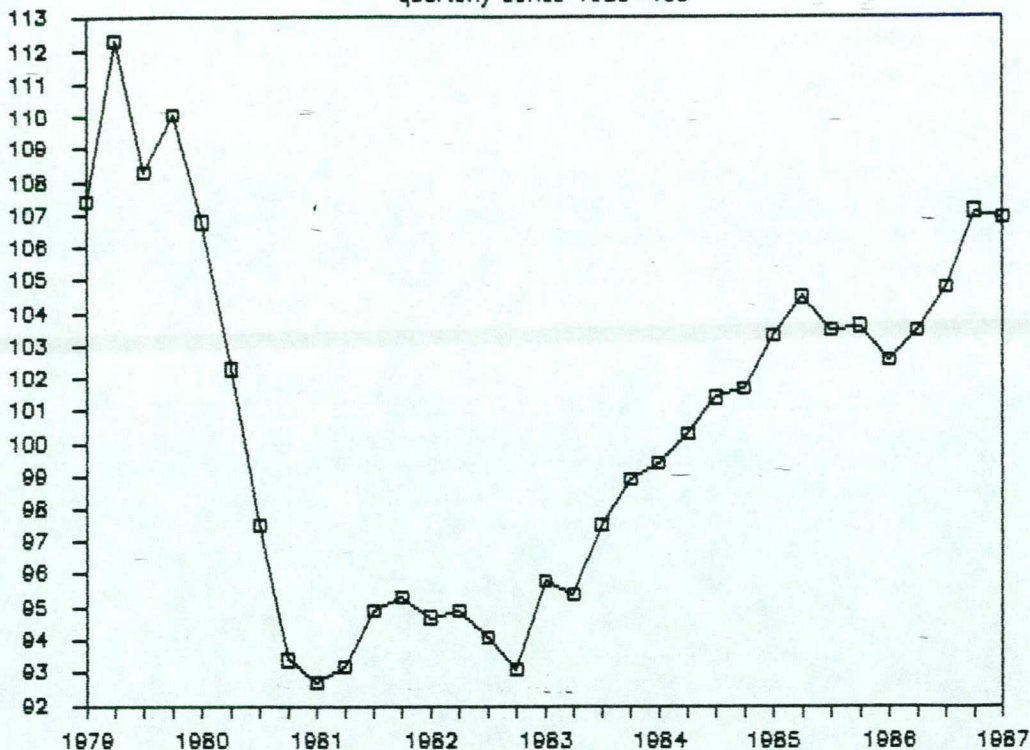
5. Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined 2 per cent by the first quarter of 1986. However, output had recovered this lost ground by the third quarter of 1986 and then showed further significant growth into the fourth quarter, rising by a further 2 per cent. Although the first quarter of 1987 was marginally lower, this largely reflects the severe weather in January and the provisional figures for February and March suggest continued growth.
6. Energy sector output in 1986Q4 showed a decline of over 5 per cent from the third quarter, due particularly to reduced oil extraction after a pipeline leak, but recovered in 1987Q1 to the average level for 1986Q1-Q3.
7. Since 1985H2 underlying output of all production industries has increased steadily, mainly reflecting the improvement in manufacturing output. Published figures were little changed between 1986Q3 and Q4, with a reduction in energy output (mainly lower oil extraction) being offset by an increase in manufacturing. In 1987Q1 output increased again reflecting the recovery in the energy sector.
8. New figures for manufacturing productivity and unit wage costs will be released by DE to coincide with the publication of the index of production. In the first quarter of 1987 output per head in manufacturing was 6.6 per cent higher, and unit wage costs were 1.2 per cent higher, than in 1986Q1.
9. The CSO have specifically asked us to point out that during the election period they will not normally meet requests from the public or press for advice or analysis of statistics, although factual answers to specific questions may be given.

R. Kerley

R D KERLEY

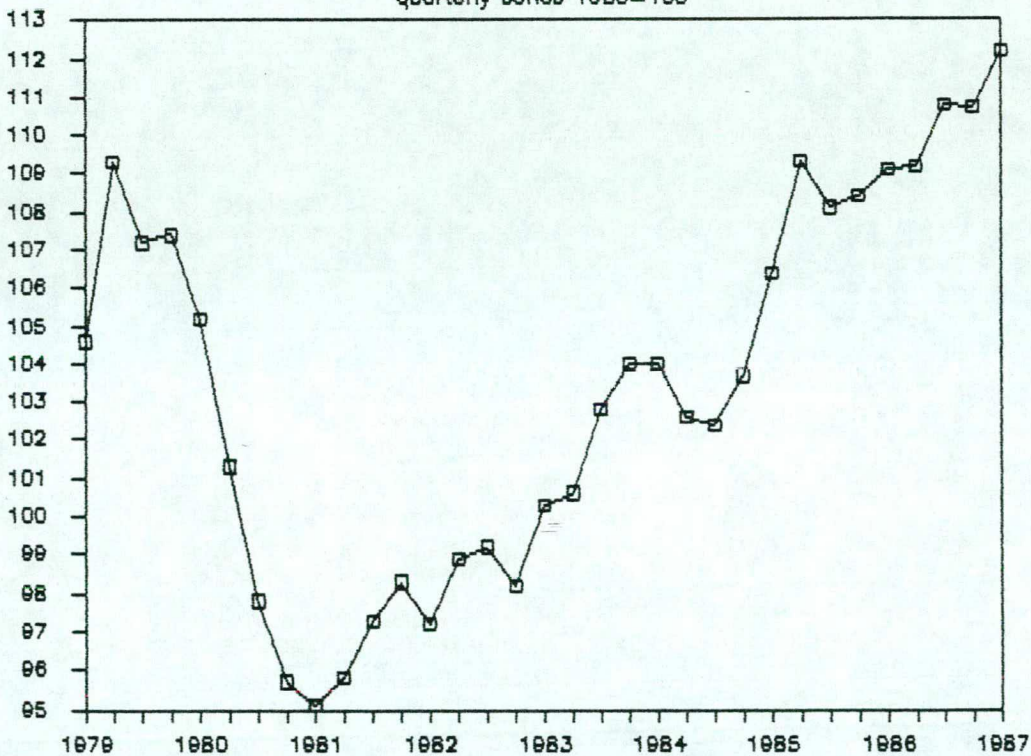
MANUFACTURING OUTPUT

quarterly series 1980=100



INDUSTRIAL PRODUCTION

quarterly series 1980=100



COPY NO 2

JO584

MR D NORRGROVE
Prime Minister's Office

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MARCH 1987

The provisional index of the output of the production industries for March 1987 will be published at 11.30 am tomorrow, Tuesday 19 May. A copy of the Press Notice is attached.

Latest figures

The March 1987 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 113.1 (1980=100, seasonally adjusted), an increase of $\frac{1}{2}$ per cent on February. For manufacturing the index was 107.9, an increase of $\frac{1}{2}$ per cent on February (see also paragraph on bias adjustment below).

In the first quarter of 1987 the output of the production industries was $1\frac{1}{2}$ per cent higher than in the previous quarter, with manufacturing output little changed. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined 2 per cent by the first quarter of 1986. However, output had recovered this lost ground, by the third quarter of 1986 and then showed further significant growth into the fourth quarter. In the fourth quarter output was 2 per cent higher than in the third quarter and $2\frac{1}{2}$ per cent higher than in the second quarter of 1985. Although the first quarter of 1987 was marginally lower, this largely reflects the severe weather in January and the provisional figures for February and March suggest continued growth.

Trends in the energy sector are more difficult to determine. Output in the last quarter of 1986 showed a decline due, particularly, to reduced oil extraction after a pipeline leak but fully recovered in the first quarter of 1987.

The underlying output of all production industries in the second half of 1985 was approximately 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures were little changed between the third and fourth quarters of 1986, a reduction in energy output (mainly lower oil extraction) being offset by an increase in manufacturing. In the first quarter of 1987 output increased again reflecting the recovery in the energy sector.

Bias adjustment for manufacturing output

In line with revised procedures introduced in January last year, figures for manufacturing output in the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Figures for April 1987

Figures for April 1987 are scheduled for publication on Thursday 18 June.



D C K Stirling
18 May 1987

Central Statistical Office

Table A

Copy No.

** PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on May 19 1987 and thereafter unclassified **

Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.7	113.9	94.3	119.0	104.0	101.1	101.9	98.8
1986	110.0	125.2	104.5	111.0	96.9	120.3	102.9	102.1	103.1	103.6
1985 4	108.4	121.8	103.6	112.6	95.8	117.2	103.2	101.7	103.4	99.9
1986 1	109.1	127.3	102.6	110.4	93.7	118.0	101.4	100.7	102.8	100.0
2	109.2	125.3	103.5	110.1	96.4	118.2	102.0	101.3	103.5	102.2
3	110.8	127.6	104.8	107.8	97.6	121.0	103.2	102.9	102.3	104.8
4	110.7	120.8	107.1	115.8	100.0	124.2	105.2	103.7	104.0	107.4
1987 1	112.2	126.8	106.9	117.3	96.8	124.6	104.9	103.7	104.3	107.4
1987 J	110.9	126.4	105.3	108	92	124	104	102	104	106
F	112.6	126.7	107.6	125	98	126	105	104	104	108
M	113.1	127.4	107.9	120	101	125	106	105	105	108
Percentage change latest 3 months on: previous 3 months										
	+1.4	+5.0	-0.1	+1.3	-3.2	+0.3	-0.3	-	+0.3	-
a year earlier										
	+2.8	-0.3	+4.3	+6.3	+3.3	+5.6	+3.5	+3.0	+1.5	+7.4
1st quarter 1981(a)										
	+18.0	+24.6	+15.4	+18.0	+8.4	+29.3	+16.9	+4.2	+14.6	+14.8
1st half 1979(b)										
	+4.9	+28.2	-2.7	-10.1	-10.2	+14.8	-4.4	+3.8	-12.9	-3.4

DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified	
1985	67.2	150.3	98.6	105.9	113.9	94.3	120.4	74.2	99.2	
1986	79.2	153.0	99.9	111.8	111.0	96.9	121.8	67.9	97.1	
1985 4	81.2	148.8	98.4	106.6	112.6	95.8	118.5	73.0	98.4	
1986 1	80.2	155.1	95.6	115.4	110.4	93.7	119.3	74.2	96.5	
2	79.4	151.9	103.1	113.1	110.1	96.4	119.6	69.5	97.2	
3	78.3	158.6	101.0	111.1	107.8	97.6	122.6	66.4	97.3	
4	79.2	146.5	99.7	107.6	115.8	100.0	126.0	61.6	97.5	
1987 1	75.9	154.8	95.2	116.5	117.3	96.8	126.5	59.1	99.0	
1987 J	75	154	98	116	108	92	125	62	97	
F	76	157	96	113	125	98	128	64	100	
M	76	153	92	121	120	101	127	52	100	
Percentage change latest 3 months on: previous 3 months										
	-4.1	+5.7	-4.5	+8.3	+1.3	-3.2	+0.4	-4.0	+1.5	
a year earlier										
	-5.3	-0.2	-0.4	+1.0	+6.3	+3.3	+6.1	-20.3	+2.6	
1st quarter 1981(a)										
	-22.1	+44.2	-1.0	+20.4	+18.0	+8.4	+31.0	-34.2	+11.9	
1st half 1979(b)										
	-20.5	+64.1	-15.7	+11.1	-10.1	-10.2	+17.4	-57.0	-19.5	

DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.0	130.8	86.3	94.7	103.9	95.1	98.3	105.0	98.1	99.7
1986	92.4	130.4	82.7	93.3	105.1	95.9	98.9	106.8	102.4	105.0
1985 4	94.0	129.4	81.7	93.0	104.5	95.9	99.6	106.5	99.2	100.6
1986 1	93.1	125.5	80.7	93.1	103.8	94.3	98.7	106.3	99.1	101.0
2	93.1	126.6	82.5	92.6	103.8	96.0	99.6	106.9	101.5	103.0
3	92.1	132.5	80.8	93.3	106.0	96.5	97.4	106.4	102.6	107.3
4	91.2	137.0	86.7	94.2	106.9	97.0	99.8	107.7	106.3	108.5
1987 1	92.2	135.7	82.5	95.4	107.5	95.8	101.6	106.7	105.7	109.3
1987 J	92	135	81	95	106	94	102	106	104	108
F	92	136	82	95	109	96	100	107	107	111
M	93	137	84	96	108	99	103	107	107	109
Percentage change latest 3 months on: previous 3 months										
	+1.1	-0.9	-4.8	+1.3	+0.6	-1.2	+1.8	-0.9	-0.6	+0.7
a year earlier										
	-0.9	+8.2	+2.2	+2.4	+3.6	+1.7	+2.9	+0.3	+6.7	+8.2
1st quarter 1981(a)										
	+5.6	+46.7	+7.6	-9.6	+8.9	-5.4	+12.2	+16.6	+11.4	+19.0
1st half 1979(b)										
	-16.3	+31.4	-32.9	+1.6	+7.8	-4.4	-18.6	-7.7	-1.1	-5.7

(a) Last trough for production industries (b) Last peak for production industries

Personal numbered copies of the minute and attachment to:

Treasury	(Principal Private Secretary (Sir Peter Middleton
Cabinet Office	(Mr Jack Hibbert
Department of Trade and Industry	(Private Secretary Secretary of State's Office
	(Private Secretary to Geoffrey Pattie
	(Private Secretary to Giles Shaw
	(Private Secretary to John Butcher
	(Sir Brian Hayes (Mr H H Liesner (Mr A Whiting (Mr N Harvey (Mr S W Treadgold
Bank of England	(Mr R Leigh-Pemberton

ps7/25L

UNCLASSIFIED



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FROM: N G FRAY

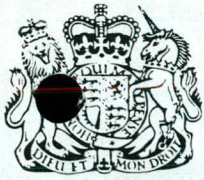
DATE: 19 May 1987

MR R D KERLEY

**INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MARCH AND FIRST
QUARTER 1987**

The Chancellor has seen and was grateful for your minute of 18 May.

Nigel Fray
N G FRAY



**PRESS
AND
INFORMATION SERVICE**

CSO

CENTRAL STATISTICAL OFFICE

GREAT GEORGE STREET
LONDON
SW1P 3AQ

PRESS CALLS ONLY 01-270 6357
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OTHER ENQUIRIES 01-270 6363/6364

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**PERSONAL AND CONFIDENTIAL until release
of Press Notice at 1.30 p.m. on 19/5/87
and thereafter unclassified**

CSO(87)43
19 May 1987

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MARCH 1987

Output of the production industries in the first quarter of 1987 is provisionally estimated to have increased by $1\frac{1}{2}$ per cent from the level of the previous quarter; manufacturing output was little changed.

Output of production industries (to March 1987)

The March index of the output of the production industries - energy and manufacturing - is provisionally estimated at 113.1 (1980=100, seasonally adjusted). In the first quarter of 1987, production industries' output was $1\frac{1}{2}$ per cent higher than in the previous quarter and 3 per cent higher than in the same period a year earlier.

Manufacturing output in the latest quarter was little changed from the previous quarter but $4\frac{1}{2}$ per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the metals industry increased by 1 per cent between the latest two quarters. The output of other minerals fell by 3 per cent. There was little change in the output of the other broad industry groups.

The output of the energy sector in the latest quarter was 5 per cent higher than in the previous quarter but $\frac{1}{2}$ per cent lower than in the same period a year earlier.

By market sector, the output of the intermediate goods industries increased by $2\frac{1}{2}$ per cent between the latest two quarters and that of the investment goods industries by $\frac{1}{2}$ per cent; the output of the consumer goods industries fell by 1 per cent.



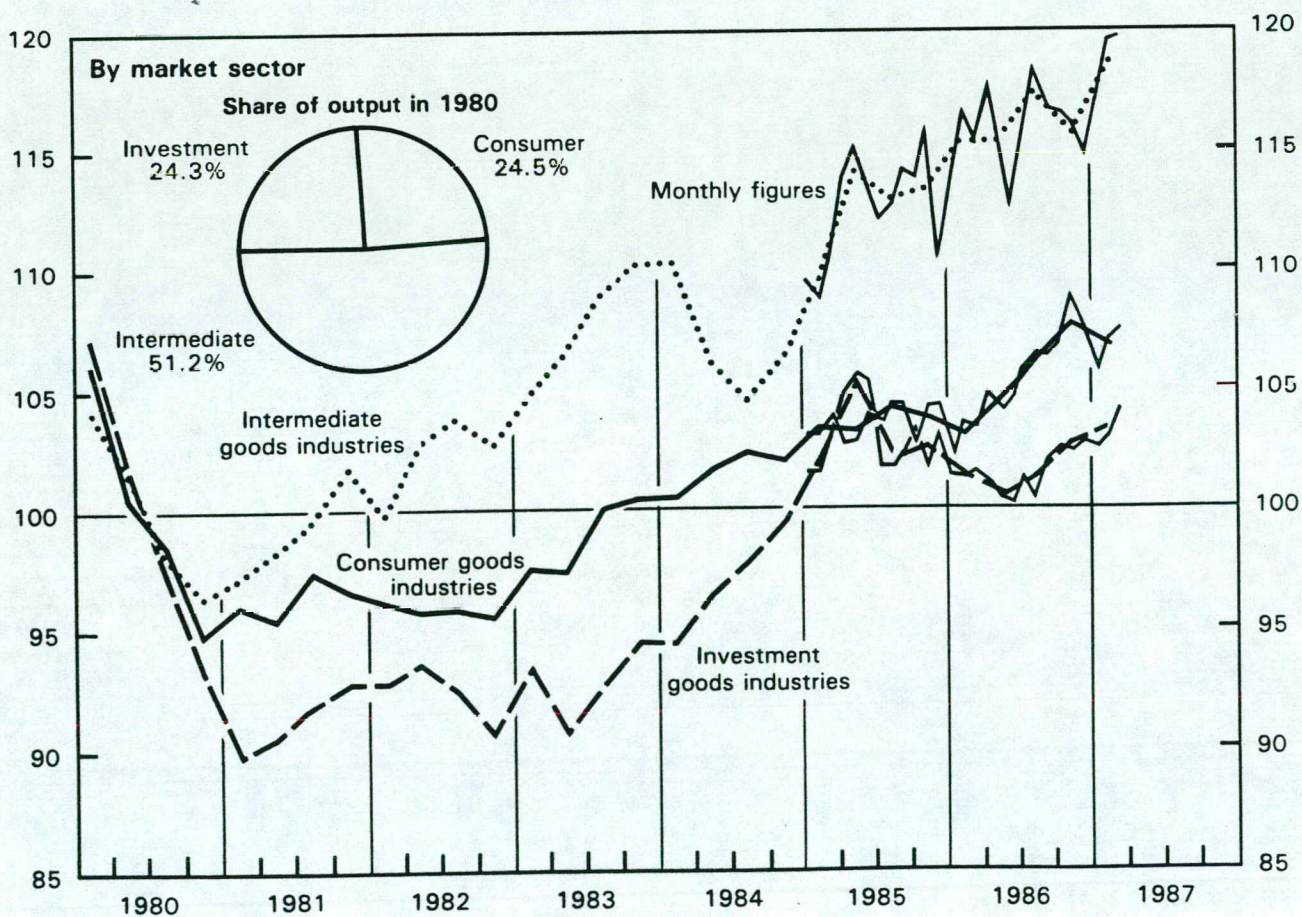
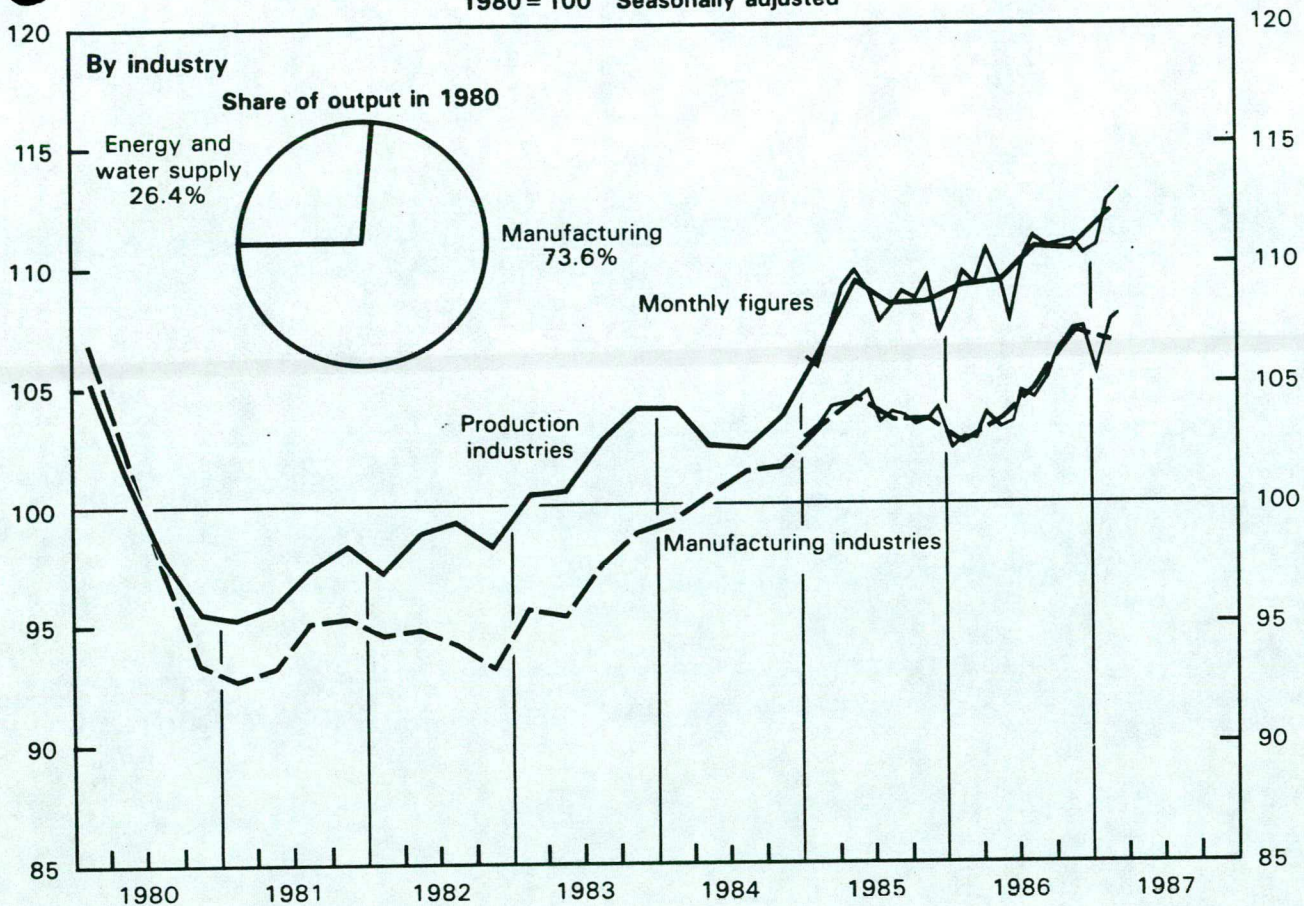
The output of the production industries in the first quarter of 1987 was 18 per cent higher than at its trough in the first quarter of 1981; manufacturing output was $15\frac{1}{2}$ per cent higher.

Output of production and construction industries (to Q4 1986)

Output of the construction industry in the fourth quarter of 1986 is estimated to have been 1 per cent higher than in the previous quarter. Output of the production and construction industries in the fourth quarter was unchanged from that in the previous quarter, but 2 per cent higher than in the same period a year earlier and 16 per cent above the trough in the first quarter of 1981.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES

1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
Weights	1000	264	736	245	243	512
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.8	92.9	107.6
1984	103.2	110.1	100.7	101.6	97.1	106.8
1985	108.1	120.1	103.7†	103.6	103.0†	112.6
1986	110.0	125.2	104.5	105.4†	101.5	116.0†
Seasonally adjusted						
1981						
2	95.8	103.3	93.2	95.5	90.6	98.4
3	97.3	103.8	95.0	97.4	91.9	99.6
4	98.3	106.5	95.3	96.7	92.9	101.7
1982						
1	97.2	104.1	94.7	96.1	92.9	99.8
2	98.9	110.0	94.9	95.8	93.7	102.9
3	99.2	113.3	94.1	95.9	92.3	103.8
4	98.2	112.5	93.1	95.6	90.7	102.8
1983						
1	100.3	112.8	95.8	97.6	93.5	104.8
2	100.6	115.0	95.4	97.4	90.8	106.7
3	102.8	117.6	97.5	100.0	92.8	109.0
4	104.0	118.0	98.9	100.4	94.5	110.1
1984						
1	104.0	116.8	99.4	100.5	94.3	110.2
2	102.6	109.1	100.3	101.7	96.4	106.1
3	102.4	105.3	101.4	102.4	97.9	104.6
4	103.7	109.4	101.7	102.0	99.6	106.4
1985						
1	106.4	115.0	103.3	103.4	102.1	109.8
2	109.3	122.6	104.5	103.2	105.3	114.1
3	108.1†	120.9	103.5†	104.1	101.9†	113.0
4	108.4	121.8	103.6	103.9†	102.7	113.5†
1986						
1	109.1	127.3†	102.6	103.0	101.4	115.4
2	109.2	125.3	103.5	104.5	100.5	115.4
3	110.8	127.6	104.8	106.3	101.3	117.4
4	110.7	120.8	107.1	107.8	102.7	115.8
1987						
1	112.2	126.8	106.9	106.8	103.2	118.8
1985						
M	107.4	116.7	104.0	104.0	103.1	110.8
A	109.0	122.2	104.2	102.8	104.9	113.9
M	109.8	124.8	104.4	102.9	105.7	115.1
J	109.0	120.8	104.8	104.0	105.4	113.3
J	107.5†	119.3	103.3†	103.6	101.8†	112.1
A	108.1	120.0	103.8	104.4	101.8	112.8
S	108.8	123.5	103.5	104.3	102.2	114.1
O	108.6	123.0	103.4	102.8	103.2	113.9
N	109.5	126.3	103.5	104.4†	101.6	115.9
D	107.2	116.2	104.0	104.4	103.3	110.6†
1986						
J	108.3	124.6	102.4	102.1	101.4	114.2
F	109.9	129.8†	102.7	103.7	101.3	116.7
M	109.2	127.4	102.6	103.3	101.6	115.3
A	110.8	130.1	103.9	104.9	101.1	118.1
M	109.2	126.1	103.1	104.1	100.4	115.6
J	107.7	119.8	103.4	104.6	100.1	112.6
J	110.5	126.3	104.8	105.9	101.5	116.7
A	111.2	130.3	104.4	106.5	100.4	118.6
S	110.8	126.1	105.3	106.4	102.1	116.8
O	110.9	122.7	106.6	106.8	102.7	116.6
N	111.0	121.7	107.2	109.0	102.4	116.1
D	110.2	118.0	107.4	107.6	102.9	114.8
1987						
J	110.9	126.4	105.3	105.8	102.5	117.1
F	112.6	126.7	107.6	107.1	103.1	119.6
M	113.1	127.4	107.9	107.5	104.1	119.8
% 3-month on 3-month change (3)						
	+1.4	+5.0	-0.1	-0.9	+0.6	+2.6

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply.

(3) Average of January to March 1987 compared with the average of October to December 1986.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

	Metals	Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing
	Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49
	25	41	68	325	99	52	126
Weights	25	41	68	325	99	52	126
1981	106.0	89.0	99.6	91.8	98.3	92.7	93.2
1982	103.2	90.9	99.7	92.9	99.8	91.2	90.8
1983	104.7	93.9	107.4	94.9	100.9	94.6	93.7
1984	108.2	95.0	113.9	99.3	101.9	97.9	97.7
1985	113.9	94.3	119.0	104.0	101.1	101.9	98.8
1986	111.0	96.9†	120.3†	102.9†	102.1†	103.1†	103.6
Seasonally adjusted							
1981							
2	104.3	88.6	98.2	90.8	97.1	92.1	93.1
3	107.4	89.9	102.4	93.0	98.2	93.2	93.1
4	113.1	88.4	101.3	93.7	98.3	94.4	92.9
1982							
1	110.4	90.0	99.8	93.7	99.1	91.8	91.1
2	108.3	92.0	99.7	93.6	100.3	91.2	91.3
3	100.4	91.0	99.5	92.6	100.5	91.4	90.7
4	93.8	90.7	99.7	91.7	99.4	90.5	90.2
1983							
1	98.8	93.3	104.1	94.6	99.9	92.7	92.7
2	104.8	91.4	106.8	93.1	98.8	93.3	92.8
3	105.4	95.3	108.9	95.0	103.1	95.0	93.6
4	110.0	95.4	109.9	96.8	101.8	97.6	95.6
1984							
1	112.1	94.6	111.4	97.1	101.9	96.6	97.2
2	104.8	95.1	112.1	98.6	102.7	97.5	98.3
3	108.9	95.9	115.8	100.4	102.0	98.5	97.2
4	107.0	94.5	116.3	101.0	101.2	99.2	98.2
1985							
1	111.1	93.2	120.1	103.6	101.8	99.9	97.9
2	116.1	94.3	120.6	105.9	100.2	101.7	97.6
3	115.9†	94.0	118.3	103.1†	100.5	102.7†	100.0
4	112.6	95.8	117.2	103.2	101.7	103.4	99.9
1986							
1	110.4	93.7†	118.0	101.4	100.7	102.8	100.0
2	110.1	96.4	118.2†	102.0	101.3†	103.5	102.2
3	107.8	97.6	121.0	103.2	102.9	102.3	104.8†
4	115.8	100.0	124.2	105.2	103.7	104.0	107.4
1987							
1	117.3	96.8	124.6	104.9	103.7	104.3	107.4
1985							
M	115	95	120	104	102	102	98
A	115	94	122	106	100	101	97
M	117	95	119	106	100	101	98
J	116	94	121	106	100	103	98
J	116	94	119	103	100	103	100
A	118	93	118	104	101	102†	100
S	113	95	119	103	101	103	100
O	112	96	117	103	102	102	99
N	114	96	118	102	101	106	101
D	112	95	117	104	103	102	100
1986							
J	111	95	119	101	99	102	100
F	110	93†	119	101	102	104	100
M	110	94	116	102	101	102	100
A	109	96	118	103	102	104	102
M	111	96	118	102	101	102	102
J	111	97	119	101	101	104	103
J	109	97	120†	103	103	102	105
A	107	98	121	102	104†	103	104
S	108†	98	122	104	103	102	105
O	113	99	125	105	103	104	107
N	117	100	122	105†	104	106	108
D	118	101	125	106	104	102	108
1987							
J	108	92	124	104	102	104	106
F	125	98	126	105	104	104	108†
M	120	101	125	106	105	105	108
% 3-month on 3-month change (2)	+1.3	-3.2	+0.3	-0.3	-	+0.3	-

(1) Mainly building materials

(2) Average of January to March 1987 compared with the average of October to December 1986.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	100.9	95.3	101.9	115.9	96.9	137.6
1984	102.5	98.6	103.2	110.1	100.7	147.1
1985	106.8	99.8	108.1	120.1	103.7†	150.3
1986	108.7†	102.0	110.0	125.2	104.5	153.0
Seasonally adjusted						
1981 2	94.9	89.5	95.8	103.3	93.2	108.1
3	96.3	90.9	97.3	103.8	95.0	111.4
4	96.6	86.9	98.3	106.5	95.3	114.4
1982 1	96.0	89.1	97.2	104.1	94.7	113.2
2	97.7	90.6	98.9	110.0	94.9	126.7
3	98.2	92.6	99.2	113.3	94.1	131.5
4	97.6	94.3	98.2	112.5	93.1	131.1
1983 1	99.3	93.7	100.3	112.8	95.8	131.2
2	99.3	92.1	100.6	115.0	95.4	132.8
3	102.0	97.7	102.8	117.6	97.5	141.9
4	103.1	97.8	104.0	118.0	98.9	144.5
1984 1	103.0	97.0	104.0	116.8	99.4	147.6
2	101.9	98.1	102.6	109.1	100.3	146.1
3	102.1	100.5	102.4	105.3	101.4	143.7
4	103.0	98.7	103.7	109.4	101.7	151.1
1985 1	105.4	99.5	106.4	115.0	103.3	154.1
2	107.9	100.0	109.3	122.6	104.5	152.5
3	106.8	99.1	108.1†	120.9	103.5†	145.8
4	107.3	100.8	108.4	121.8	103.6	148.8
1986 1	107.5	98.2	109.1	127.3†	102.6	155.1
2	108.1†	102.1	109.2	125.3	103.5	151.9
3	109.7	103.4	110.8	127.6	104.8	158.6
4	109.7	104.2	110.7	120.8	107.1	146.5
1987 1	-	-	112.2	126.8	106.9	154.8†

(1) The long run series in column 3-5 are consistent with Table 1.

(2) Includes water supply.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

NOTES TO EDITORS

1. The index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and classified to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries' index of production" is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.
2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).
3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.
4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.
5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics". The data in this Press Notice can be obtained in computer readable form via the CSO Databank service which provides macro-economic time series on magnetic tape. Details of the service offered and the Schedule of Charges may be obtained from the Database Manager, CSO Branch 9, Room 52/4, Government Offices, Great George Street, London SW1P 3AQ (telephone: 01-270-6386). CSO does not offer direct on-line access for these data, but a list of host bureaux offering such a facility is available on request from CSO.
6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.
7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.
8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.
9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.
10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments, which are additive, included in the manufacturing figures this month are:

1986			1987		
October	November	December	January	February	March
+0.1	+0.1	+0.3	+0.6	+0.8	+1.5

JO636

MR D NORGROVE
Prime Minister's Office

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - APRIL 1987

The provisional index of the output of the production industries for April 1987 will be published at 11.30 am tomorrow, Thursday 18 June. A copy of the Press Notice is attached.

Latest figures

The April 1987 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 112.6 (1980=100, seasonally adjusted), an increase of $\frac{1}{2}$ per cent on March. For manufacturing the index was 108.1, an increase of $\frac{1}{2}$ per cent on March (see also paragraph on bias adjustment below).

In the three months to April 1987 the output of the production industries was $1\frac{1}{2}$ per cent higher than in the previous three months, with manufacturing output 1 per cent higher. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined 2 per cent by the first quarter of 1986. However, output had recovered this lost ground by the third quarter of 1986 and in the fourth quarter the level of output was $2\frac{1}{2}$ per cent higher than in the second quarter of 1985. Although the first quarter of 1987 was marginally lower, this largely reflects the severe weather in January, and the provisional figures for the latest three months (February to April) are $\frac{1}{2}$ per cent higher than in the fourth quarter of 1986.

Trends in the energy sector are more difficult to determine. Output in the last quarter of 1986 showed a decline due, particularly, to reduced oil extraction after a pipeline leak but fully recovered in the first four months of 1987.

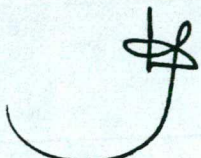
The underlying output of all production industries in the second half of 1985 was approximately 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures showed a small decline between the third and fourth quarters of 1986 a reduction in energy output (mainly lower oil extraction) being almost offset by an increase in manufacturing. In the first four months of 1987 output increased again reflecting the recovery in the energy sector and continued growth in manufacturing.

Bias adjustment for manufacturing output

In line with revised procedures introduced in January last year, figures for manufacturing output in the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Figures for May 1987

Figures for May 1987 are scheduled for publication on Tuesday 14 July.


D C K Stirling
17 June 1987

Central Statistical Office

++ PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on June 18 1987 and thereafter unclassified ++

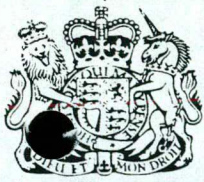
Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.8	113.9	94.3	119.0	104.0	101.1	101.9	98.8
1986	110.1	125.2	104.6	111.0	97.0	120.3	103.1	102.3	103.1	103.7
1985 4	108.5	121.8	103.7	112.6	95.8	117.2	103.3	101.7	103.4	99.9
1986 1	109.1	127.3	102.6	110.4	93.6	118.0	101.5	100.6	102.8	100.1
2	109.3	125.3	103.6	110.1	96.5	118.2	102.1	101.2	103.5	102.3
3	111.0	127.6	105.0	107.8	97.8	121.0	103.4	102.9	102.3	104.9
4	110.8	120.8	107.3	115.7	100.2	124.2	105.3	104.3	103.9	107.6
1987 1	112.1	126.3	107.0	116.0	98.0	124.8	105.5	103.4	102.8	106.9
1987 F	112.9	126.7	107.9	124	100	126	106	104	103	108
M	112.3	125.7	107.5	116	101	125	106	103	103	107
A	112.6	125.1	108.1	117	101	125	107	104	104	108
Percentage change latest 3 months on: previous 3 months										
	+1.5	+3.1	+0.9	+4.6	+2.4	+1.3	+1.0	-0.2	-0.7	+0.4
a year earlier										
	+2.4	-2.5	+4.6	+8.9	+7.0	+6.5	+4.1	+2.4	-0.5	+6.6
1st quarter 1981(a)										
	+18.4	+23.6	+16.3	+19.9	+12.7	+29.9	+18.5	+4.3	+13.2	+15.1
1st half 1979(b)										
	+5.3	+27.2	-1.9	-8.6	-6.7	+15.4	-3.1	+3.9	-14.0	-3.2
DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified	
1985	67.2	150.3	98.6	105.9	113.9	94.3	120.4	74.2	99.2	
1986	79.2	153.0	99.9	111.8	111.0	97.0	121.9	67.9	97.1	
1985 4	81.2	148.8	98.4	106.6	112.6	95.8	118.5	73.0	98.4	
1986 1	80.2	155.1	95.6	115.4	110.4	93.6	119.3	74.2	96.5	
2	79.4	151.9	103.1	113.1	110.1	96.5	119.6	69.5	97.2	
3	78.3	158.6	101.0	111.1	107.8	97.8	122.6	66.4	97.2	
4	79.2	146.5	99.7	107.6	115.7	100.2	126.0	61.6	97.4	
1987 1	76.0	154.3	95.1	115.5	116.0	98.0	126.7	59.1	99.7	
1987 F	76	157	96	113	124	100	128	64	101	
M	76	152	92	118	116	101	127	52	101	
A	73	158	98	108	117	101	127	70	103	
Percentage change latest 3 months on: previous 3 months										
	-3.3	+5.5	-4.9	+1.9	+4.6	+2.4	+1.3	+1.0	+3.9	
a year earlier										
	-5.8	-1.0	-3.3	-4.4	+8.9	+7.0	+6.8	-14.5	+3.7	
1st quarter 1981(a)										
	-22.9	+44.8	-1.2	+16.6	+19.9	+12.7	+31.6	-31.2	+14.7	
1st half 1979(b)										
	-21.3	+64.9	-15.8	+7.7	-8.6	-6.7	+18.0	-55.0	-17.4	
DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.5	130.8	86.3	94.7	103.9	95.1	98.3	105.0	90.1	99.7
1986	92.6	130.6	82.7	93.3	105.2	96.1	98.8	106.8	102.2	105.4
1985 4	94.2	129.4	81.7	93.0	104.5	95.9	99.6	106.5	99.2	100.6
1986 1	93.3	125.6	80.7	93.1	103.7	94.3	98.7	106.3	98.9	101.4
2	93.3	126.7	82.5	92.6	103.8	96.0	99.6	106.9	101.4	103.4
3	92.3	132.7	80.8	93.3	106.0	96.5	97.4	106.4	102.5	107.8
4	91.4	137.3	86.7	94.3	107.5	97.7	99.6	107.6	106.1	109.2
1987 1	91.9	137.5	83.5	94.7	107.2	95.5	100.5	104.8	104.7	109.3
1987 F	92	137	83	95	109	96	100	105	106	111
M	92	139	86	95	107	96	101	104	105	109
A	93	138	86	96	107	96	100	107	106	110
Percentage change latest 3 months on: previous 3 months										
	+1.1	+0.4	-0.2	+0.7	+0.2	-1.2	-0.3	-1.1	+0.2	+0.6
a year earlier										
	-1.7	+9.3	+5.4	+2.1	+3.4	-	+0.6	-1.5	+5.8	+7.5
1st quarter 1981(a)										
	+5.7	+49.2	+11.0	-10.0	+9.0	-5.4	+10.8	+15.1	+11.3	+19.5
1st half 1979(b)										
	-16.2	+33.7	-30.8	+1.2	+7.9	-4.4	-19.6	-8.9	-1.1	-5.3

(a) Last trough for production industries (b) Last peak for production industries

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	(Private Secretary Minister of State for Industry and Information Technology
	(Private Secretary Minister of State for Industry
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of Press Notice at 12.30 p.m. on 18th JUNE 1987
and thereafter unclassified**

CSO(87)54
18 June 1987

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - APRIL 1987

Output of the production industries in the three months to April 1987 is provisionally estimated to have increased by $1\frac{1}{2}$ per cent from the level of the previous three months; manufacturing output rose by 1 per cent.

Output of the production industries (to April 1987)

The April index of the output of the production industries - energy and manufacturing - is provisionally estimated at 112.6 (1980=100, seasonally adjusted). In the three months to April 1987, production industries' output was $1\frac{1}{2}$ per cent higher than in the previous three months and $2\frac{1}{2}$ per cent higher than in the same period a year earlier.

Manufacturing output in the latest three months was 1 per cent higher than in the previous three months and $4\frac{1}{2}$ per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the metals industry increased by 5 per cent, that of other minerals by 2 per cent and that of the chemicals and engineering and allied industries by 1 per cent between the two latest three-month periods. The output of textiles and clothing, however, fell by 1 per cent. There was little change in the output of the food, drink and tobacco and 'other manufacturing' industries.

The output of the energy sector in the latest three months was 3 per cent higher than in the previous three months but $2\frac{1}{2}$ per cent lower than in the same period a year earlier.

By market sector, the output of the intermediate goods industries increased by $2\frac{1}{2}$ per cent between the two latest three-month periods and that of the investment goods industries by $1\frac{1}{2}$ per cent; the output of the consumer goods industries fell by 1 per cent.



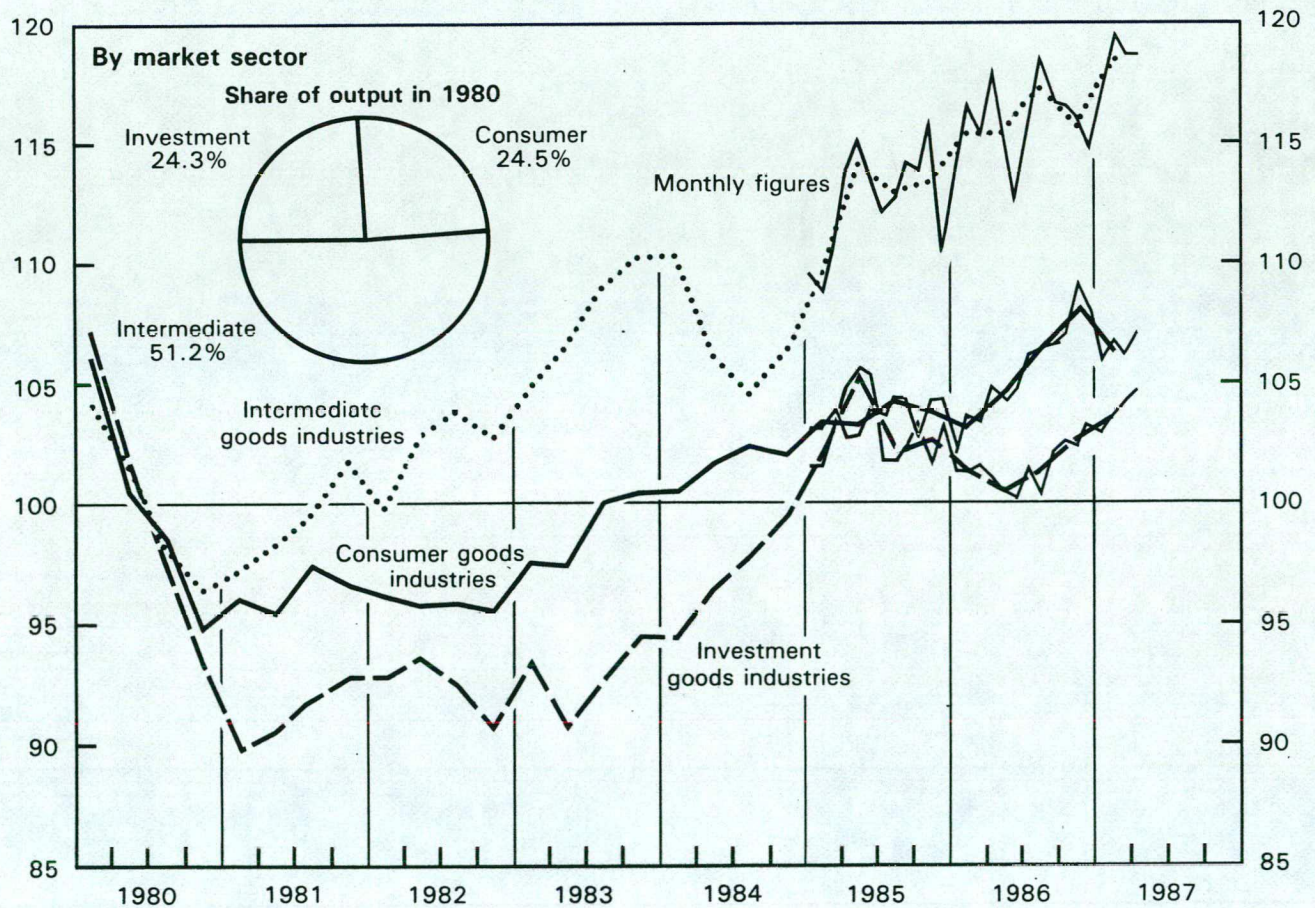
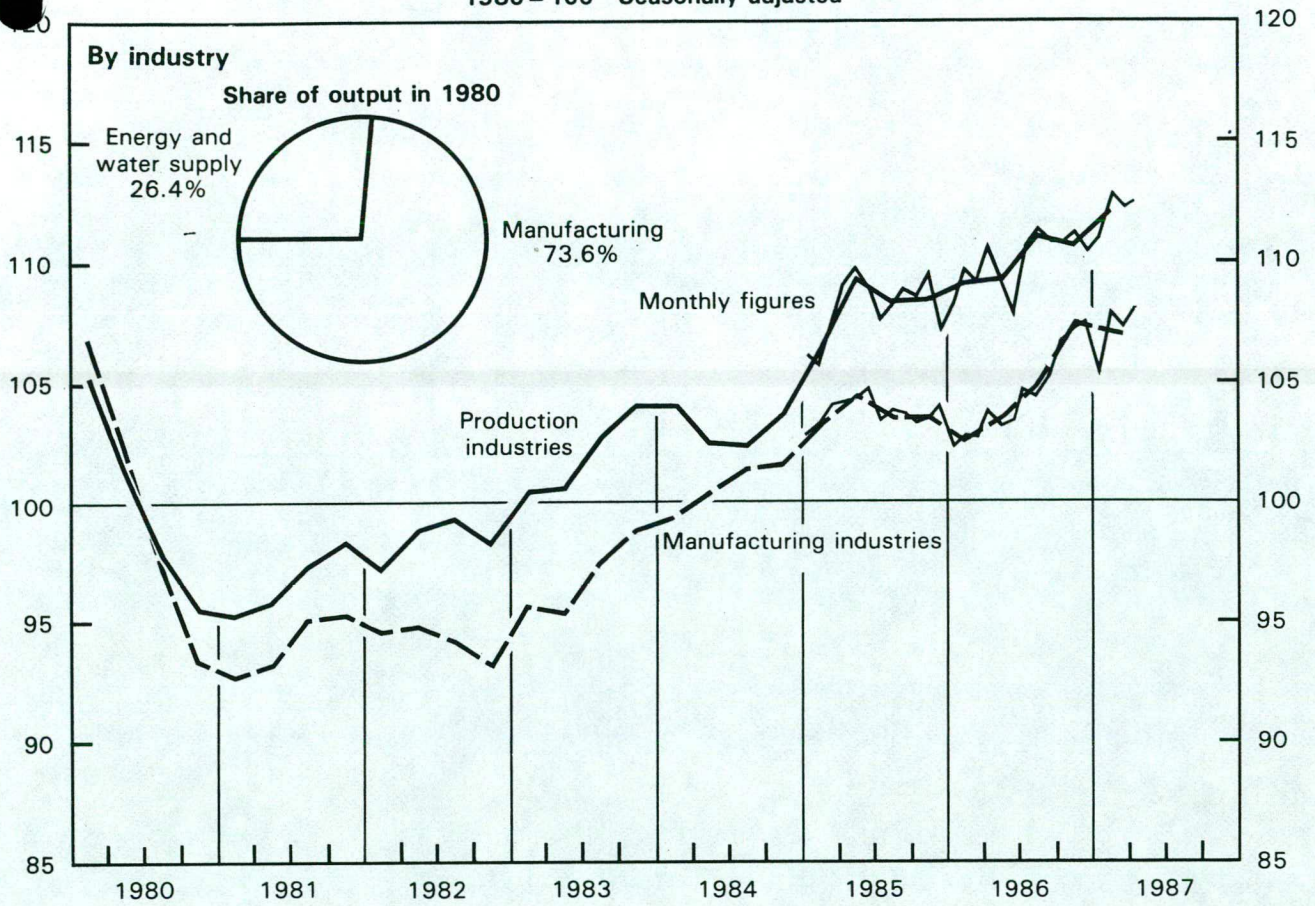
The output of the production industries in the three months to April 1987 was $18\frac{1}{2}$ per cent higher than at its trough in the first quarter of 1981; manufacturing output was $16\frac{1}{2}$ per cent higher.

Output of the production and construction industries (to first quarter of 1987)

Output of the construction industry in the first quarter of 1987 is estimated to have been 5 per cent higher than in the previous quarter. Output of the production and construction industries in the first quarter was $1\frac{1}{2}$ per cent higher than in the previous quarter, 4 per cent higher than in the same period a year earlier and 18 per cent above the trough in the first quarter of 1981.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES

1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
Weights	1000	264	736	245	243	512
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.8	92.9	107.6
1984	103.2	110.1	100.7	101.6	97.1	106.8
1985	108.1	120.1	103.8†	103.6	103.1†	112.6
1986	110.1†	125.2	104.6	105.6†	101.6	116.0
Seasonally adjusted						
1981 2	95.8	103.3	93.2	95.5	90.6	98.4
3	97.3	103.8	95.0	97.4	91.9	99.6
4	98.3	106.5	95.3	96.7	92.9	101.7
1982 1	97.2	104.1	94.7	96.1	92.9	99.8
2	98.9	110.0	94.9	95.8	93.7	102.9
3	99.2	113.3	94.1	95.9	92.3	103.8
4	98.2	112.5	93.1	95.6	90.7	102.8
1983 1	100.3	112.8	95.8	97.6	93.5	104.8
2	100.6	115.0	95.4	97.4	90.8	106.7
3	102.8	117.6	97.5	100.0	92.8	109.0
4	104.0	118.0	98.9	100.4	94.5	110.1
1984 1	104.0	116.8	99.4	100.5	94.3	110.2
2	102.6	109.1	100.3	101.7	96.4	106.1
3	102.4	105.3	101.4	102.4	97.9	104.6
4	103.7	109.4	101.7	102.0	99.6	106.4
1985 1	106.4	115.0	103.3	103.4	102.2†	109.8
2	109.3	122.6	104.5	103.2	105.4	114.1
3	108.2†	120.9	103.6†	104.1	102.0	113.0
4	108.5	121.8	103.7	103.9	102.8	113.5
1986 1	109.1	127.3	102.6	103.2†	101.5	115.4
2	109.3	125.3	103.6	104.7	100.6	115.4
3	111.0	127.6	105.0	106.5	101.4	117.4
4	110.8	120.8	107.3	108.1	102.8	115.9†
1987 1	112.1	126.3†	107.0	106.4	103.7	118.6
1985 A	109.0	122.2	104.2	102.8	105.0†	113.9
M	109.8	124.8	104.4	102.9	105.8	115.1
J	109.1†	120.8	104.9†	104.0	105.5	113.3
J	107.5	119.3	103.3	103.6	101.9	112.1
A	108.1	120.0	103.8	104.4	101.9	112.8
S	108.9	123.5	103.6	104.3	102.3	114.1
O	108.6	123.0	103.4	102.8	103.3	113.9
N	109.5	126.3	103.5	104.4	101.7	115.9
D	107.3	116.2	104.1	104.4	103.4	110.6
1986 J	108.3	124.6	102.4	102.2†	101.5	114.2
F	109.9	129.8	102.8	103.8	101.4	116.7
M	109.2	127.4	102.6	103.5	101.7	115.3
A	110.9	130.1	104.0	105.0	101.1	118.1
M	109.3	126.1	103.2	104.3	100.5	115.6
J	107.8	119.8	103.5	104.8	100.2	112.6
J	110.6	126.3	104.9	106.1	101.6	116.7
A	111.4	130.3	104.6	106.6	100.5	118.6
S	110.9	126.1	105.4	106.7	102.1	116.8
O	110.9	122.7	106.7	107.0	102.7	116.6
N	111.2	121.7	107.4	109.3	102.5	116.2†
D	110.4	118.0	107.7	108.1	103.2	114.8
1987 J	111.1	126.4	105.6	106.0	103.0	117.2
F	112.9	126.7	107.9	106.9	103.7	119.8
M	112.3	125.7†	107.5	106.2	104.3	118.8
A	112.6	125.1	108.1	107.1	104.9	118.8
% 3-month on 3-month change (3)	+1.5	+3.1	+0.9	-1.0	+1.4	+2.6

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply.

(3) Average of February to April 1987 compared with the average of November 1986 to January 1987

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

	Metals		Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing
	Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49	
	25	41	68	325	99	52	126	
Weights								
1981	106.0	89.0	99.6	91.8	98.3	92.7	93.2	
1982	103.2	90.9	99.7	92.9	99.8	91.2	90.8	
1983	104.7	93.9	107.4	94.9	100.9	94.6	93.7	
1984	108.2	95.0	113.9	99.3	101.9	97.9	97.7	
1985	113.9	94.3	119.0	104.0	101.1	101.9	98.8	
1986	111.0	97.0†	120.3	103.1†	102.3†	103.1	103.7†	
Seasonally adjusted								
1981 2	104.3	88.6	98.2	90.8	97.1	92.1	93.1	
3	107.4	89.9	102.4	93.0	98.2	93.2	93.1	
4	113.1	88.4	101.3	93.7	98.3	94.4	92.9	
1982 1	110.4	90.0	99.8	93.7	99.1	91.8	91.1	
2	108.3	92.0	99.7	93.6	100.3	91.2	91.3	
3	100.4	91.0	99.5	92.6	100.5	91.4	90.7	
4	93.8	90.7	99.7	91.7	98.4	90.5	90.2	
1983 1	98.8	93.3	104.1	94.6	99.9	92.7	92.7	
2	104.8	91.4	106.8	93.1	98.8	93.3	92.8	
3	105.4	95.3	108.9	95.0	103.1	95.0	93.6	
4	110.0	95.4	109.9	96.8	101.8	97.6	95.6	
1984 1	112.1	94.6	111.4	97.1	101.9	96.6	97.2	
2	104.8	95.1	112.1	98.6	102.7	97.5	98.3	
3	108.9	95.9	115.8	100.4	102.0	98.5	97.2	
4	107.0	94.5	116.3	101.0	101.2	99.2	98.2	
1985 1	111.1	93.2	120.1	103.6	101.8	99.9	97.9	
2	116.1	94.3	120.6	106.0†	100.2	101.7	97.6	
3	115.9	94.0	118.3	103.2	100.5	102.7	100.0	
4	112.6	95.8	117.2	103.3	101.7	103.4	99.9	
1986 1	110.4	93.6†	118.0	101.5	100.6†	102.8	100.1†	
2	110.1	96.5	118.2	102.1	101.2	103.5	102.3	
3	107.8	97.8	121.0	103.4	102.9	102.3	104.9	
4	115.7†	100.2	124.2	105.3	104.3	103.9†	107.6	
1987 1	116.0	98.0	124.8†	105.5	103.4	102.8	106.9	
1985 A	115	94	122	106	100	101	97	
M	117	95	119	106	100	101	98	
J	116	94	121	106	100	103	98	
J	116	94	119	103	100	103	100	
A	118	93	118	104	101	102	100	
S	113	95	119	103	101	103	100	
O	112	96	117	103	102	102	99	
N	114	96	118	102	101	106	101	
D	112	95	117	104	103	102	100	
1986 J	111	95	119	101	99	102	100	
F	110	92†	119	101	102	104	100	
M	110	93	116	102	101	102	101†	
A	109	96	118	103	101†	104	102	
M	111	96	118	102	101	102	102	
J	111	98	119	101	101	104	103	
J	109	97	120	103	103	102	105	
A	107	98	121	103†	104	103	104	
S	108	98	122	104	103	102	105	
O	112†	99	125	105	104	104	107	
N	117	101	122	105	104	106	108	
D	118	101	125	106	105	102	108	
1987 J	107	93	124	105	103	103†	106	
F	124	100	126	106	104	103	108	
M	116	101	125	106	103	103	107	
A	117	101	125†	107	104	104	108	
% 3-month on 3-month change (2)	+4.6	+2.4	+1.3	+1.0	-0.2	-0.7	+0.4	

(1) Mainly building materials

(3) Average of February to April 1987 compared with the average of November 1986 to January 1987

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	100.9	95.3	101.9	115.9	96.9	137.6
1984	102.5	98.5†	103.2	110.1	100.7	147.1
1985	106.9†	99.8	108.1	120.1	103.8†	150.3
1986	108.9	102.1	110.1†	125.2	104.6	153.0
Seasonally adjusted						
1981 2	94.9	89.5	95.8	103.3	93.2	108.1
3	96.3	90.9	97.3	103.8	95.0	111.4
4	96.6	86.9	98.3	106.5	95.3	114.4
1982 1	96.0	89.1	97.2	104.1	94.7	113.2
2	97.7	90.6	98.9	110.0	94.9	126.7
3	98.2	92.6	99.2	113.3	94.1	131.5
4	97.6	94.3	98.2	112.5	93.1	131.1
1983 1	99.3	93.7	100.3	112.8	95.8	131.2
2	99.3	92.1	100.6	115.0	95.4	132.8
3	102.0	97.7	102.8	117.6	97.5	141.9
4	103.1	97.8	104.0	118.0	98.9	144.5
1984 1	103.1†	97.8†	104.0	116.8	99.4	147.6
2	102.0	98.3	102.6	109.1	100.3	146.1
3	102.0	99.6	102.4	105.3	101.4	143.7
4	102.9	98.2	103.7	109.4	101.7	151.1
1985 1	105.5	100.3	106.4	115.0	103.3	154.1
2	107.9	99.6	109.3	122.6	104.5	152.5
3	106.8	98.7	108.2†	120.9	103.6†	145.8
4	107.4	100.8	108.5	121.8	103.7	148.8
1986 1	107.6	99.0	109.1	127.3	102.6	155.1
2	108.2	101.8	109.3	125.3	103.6	151.9
3	109.8	102.7	111.0	127.6	105.0	158.6
4	110.0	105.1	110.8	120.8	107.3	146.5
1987 1	111.9	110.4	112.1	126.3†	107.0	154.3†

(1) The long run series in column 3-5 are consistent with Table 1.

(2) Includes water supply.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

NOTES TO EDITORS

1. The index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and classified to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries" index of production" is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.
2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).
3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.
4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.
5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics". The data in this Press Notice can be obtained in computer readable form via the CSO Databank service which provides macro-economic time series on magnetic tape. Details of the service offered and the Schedule of Charges may be obtained from the Database Manager, CSO Branch 9, Room 52/4, Government Offices, Great George Street, London SW1P 3AQ (telephone: 01-270-6386). CSO does not offer direct on-line access for these data, but a list of host bureaux offering such a facility is available on request from CSO.
6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.
7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.
8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.
9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.
10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments, which are additive, included in the manufacturing figures this month are:

1986		1987			
November	December	January	February	March	April
+0.1	+0.2	+0.5	+0.5	+0.7	+1.3

pay

FROM: R D KERLEY
 DATE: 17 June 1987

1. MISS O'MARA
 2. CHANCELLOR

mom
17/6

Ch
Looks pretty good
AA *1/2/87*

cc Chief Secretary Mr Pickford
 Financial Secretary Mr Hudson
 Paymaster General Mr Naisbitt
 Economic Secretary Mr Patterson o/r
 Sir Peter Middleton Mr Dyer (+1
 Sir Terence Burns for No 10)
 Mr Cassell Mr Cropper
 Mr Monck Mr Tyrie
 Mr Burgner Mr Stirling -
 Mr Scholar CSO
 Mr Sedgwick Mr Kingaby -
 Mr Culpin CSO
 Mr S J Davies Mr Lang - CSO
 Mr Gray HB/02

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - APRIL 1987

This will be published at 11.30am on Thursday 18 June.

2. The index of production rose by 1.5 per cent in the three months to April compared with the previous three months, by 2.4 per cent compared with the same period a year earlier and by 0.3 per cent between March and April.

3. Manufacturing output rose by 0.9 per cent in in the three months to April compared with the previous three months, by 4.6 per cent compared with the same period a year earlier and by 0.6 per cent between March and April.

4. Recent movements

percentage changes	Latest 3 months on previous 3 months	Latest 3 months on same period year earlier	April on March	Latest 3 months on 1979H1
Index of Production within which:	+1.5	+2.4	+0.3	+5.3
Manufacturing	+0.9	+4.6	+0.6	-1.9
Energy and Water	+3.1	-2.5	-0.5	+27.2

5. After falling back from the 1985Q2 temporary peak, manufacturing output grew strongly during 1986 to a level in Q4 4½ per cent above Q1. Although the first quarter of 1987 was marginally lower, this largely reflected the severe weather in January and the provisional figures for the three months to April are over ½ per cent higher than the fourth quarter of 1986.

6. Energy sector output in 1986Q4 showed a decline of over 5 per cent from the third quarter, due particularly to reduced oil extraction after a pipeline leak, but recovered in 1987Q1 to the average level for 1986Q1-Q3. The fall in April reflected a rise in oil extraction more than offset by low coal and electricity output.

7. After the small decline in industrial production between 1986Q3 and Q4, output has increased again in the first four months of 1987 reflecting the recovery in the energy sector and continued growth in manufacturing.

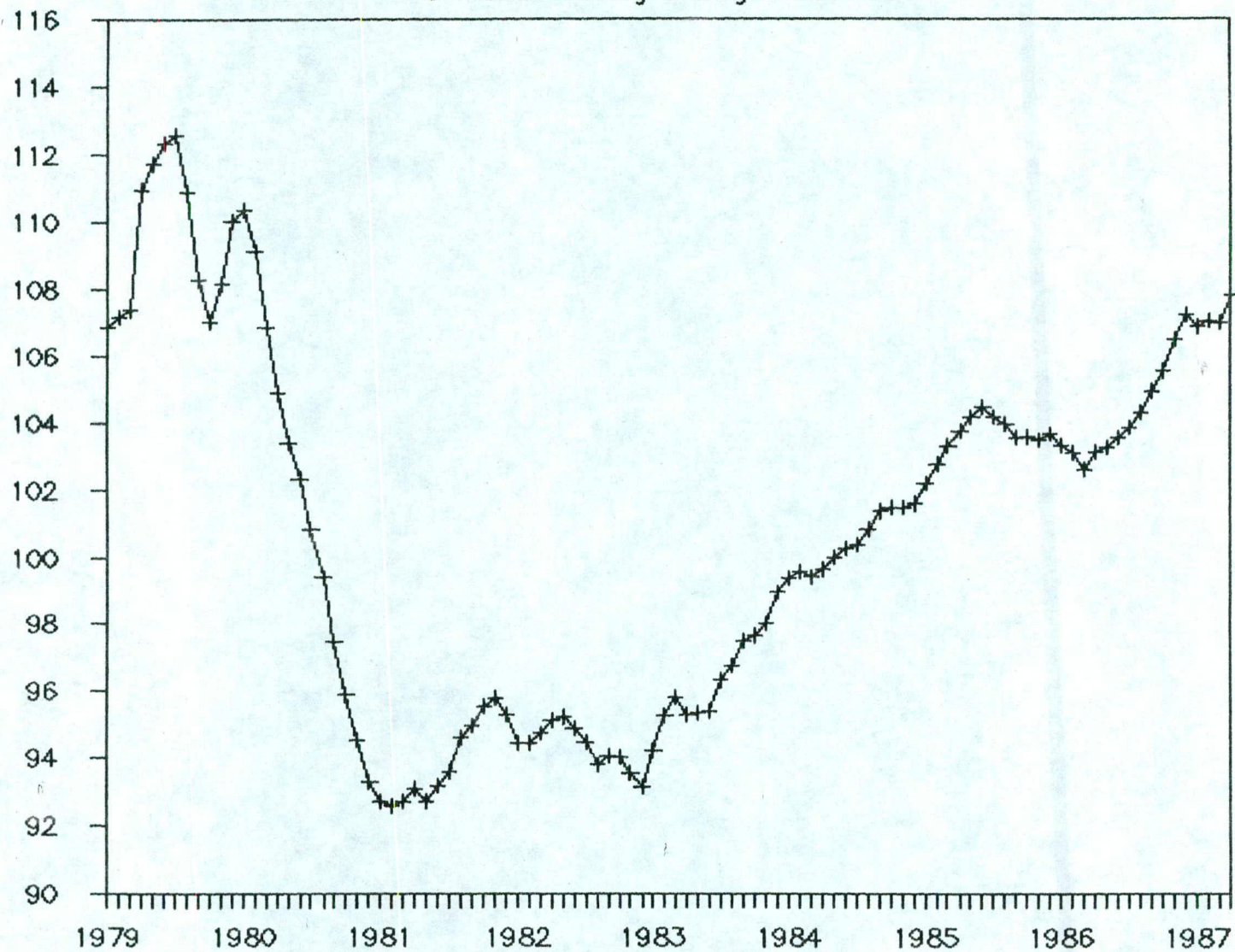
8. Figures for 1987Q1 UK construction output will be published along with the index of production. These figures are largely a reflection of the GB construction figures published by the Department of the Environment on 12 June. Construction output in 1987Q1 is estimated to have risen by 5 per cent compared with 1986Q4, and by 11½ per cent compared with the same period a year earlier. [NOT FOR USE: In view of the severe weather in January this is a very surprising figure. Construction output figures are often subject to revision and industrial action and computer problems at DoE resulted in the figure being based on a smaller sample than usual. Thus significant revisions to this figure may well occur in due course.]

R D Kerley

R D KERLEY

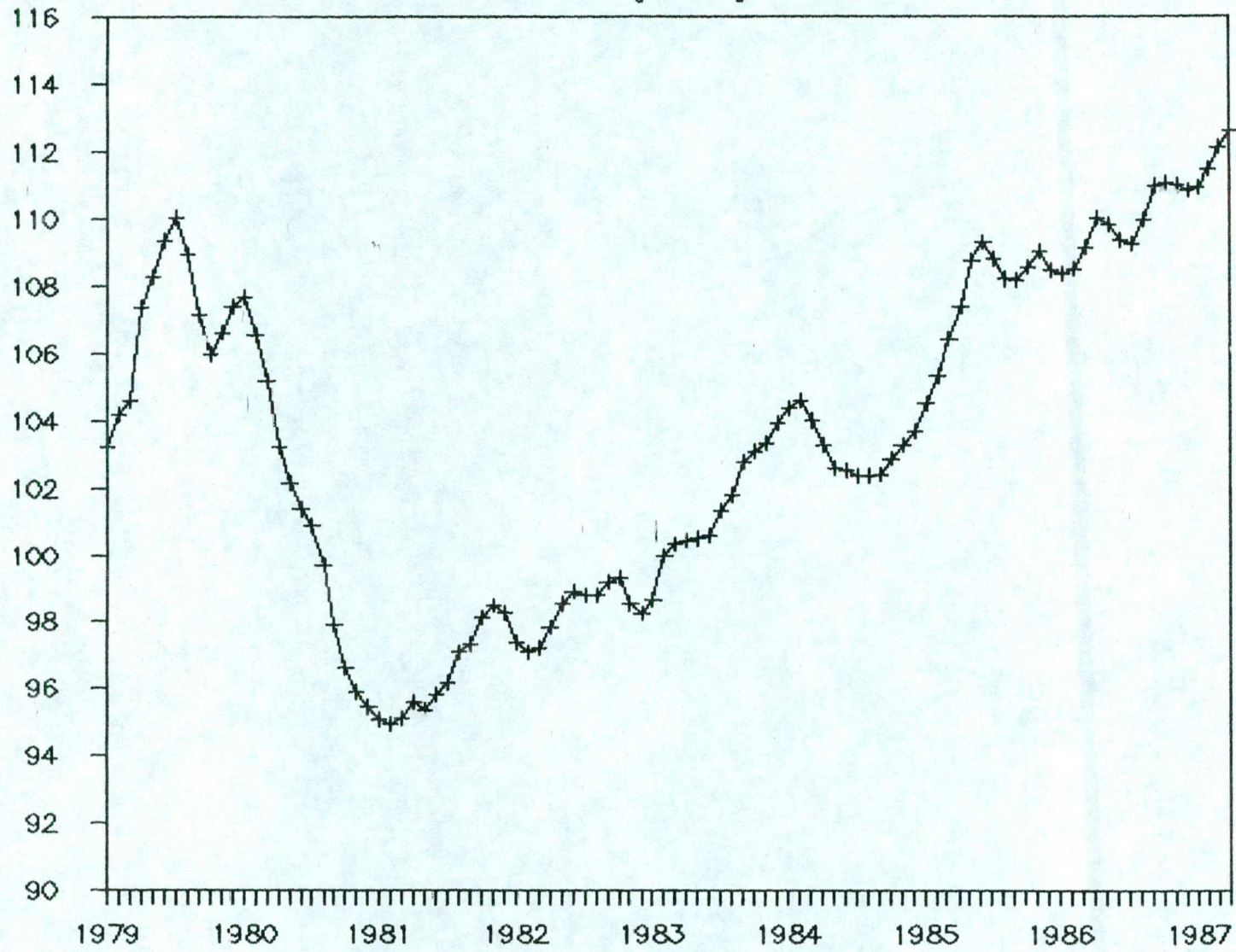
MANUFACTURING OUTPUT

3 month moving average 1980=100



INDUSTRIAL PRODUCTION

3 month moving average 1980=100



FROM: R D KERLEY
DATE: 13 July 1987

1. MISS O'MARA
2. CHANCELLOR

cc Chief Secretary Mr Pickford
Financial Secretary Mr Hudson
Paymaster General Mr Naisbitt
Economic Secretary Mr Dyer (+1
Sir Peter Middleton for No 10)
Sir Terence Burns Mr Tyrie
Mr Cassell Mr Stirling -
Mr Monck CSO
Mr Burgner Mr Kingaby -
Mr Scholar CSO
Mr Sedgwick Mr Lang - CSO
Mr Culpin HB/002
Mr S J Davies -
Mr Gray -

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MAY 1987

This will be published at 11.30am on Tuesday 14 July.

2. The index of production rose by 1.2 per cent in the three months to May compared with the previous three months, by 2.6 per cent compared with the same period a year earlier and by 1.2 per cent between April and May.

3. Manufacturing output rose by 1.0 per cent in in the three months to May compared with the previous three months, by 4.6 per cent compared with the same period a year earlier and by 1.0 per cent between April and May.

4. Recent movements

percentage changes	Latest 3 months on previous 3 months	Latest 3 months on same period year earlier	May on April	Latest 3 months on 1979H1
Index of Production within which:	+1.2	+2.6	+1.2	+5.4
Manufacturing	+1.0	+4.6	+1.0	-1.4
Energy and Water	+1.5	-1.8	+1.5	+26.1

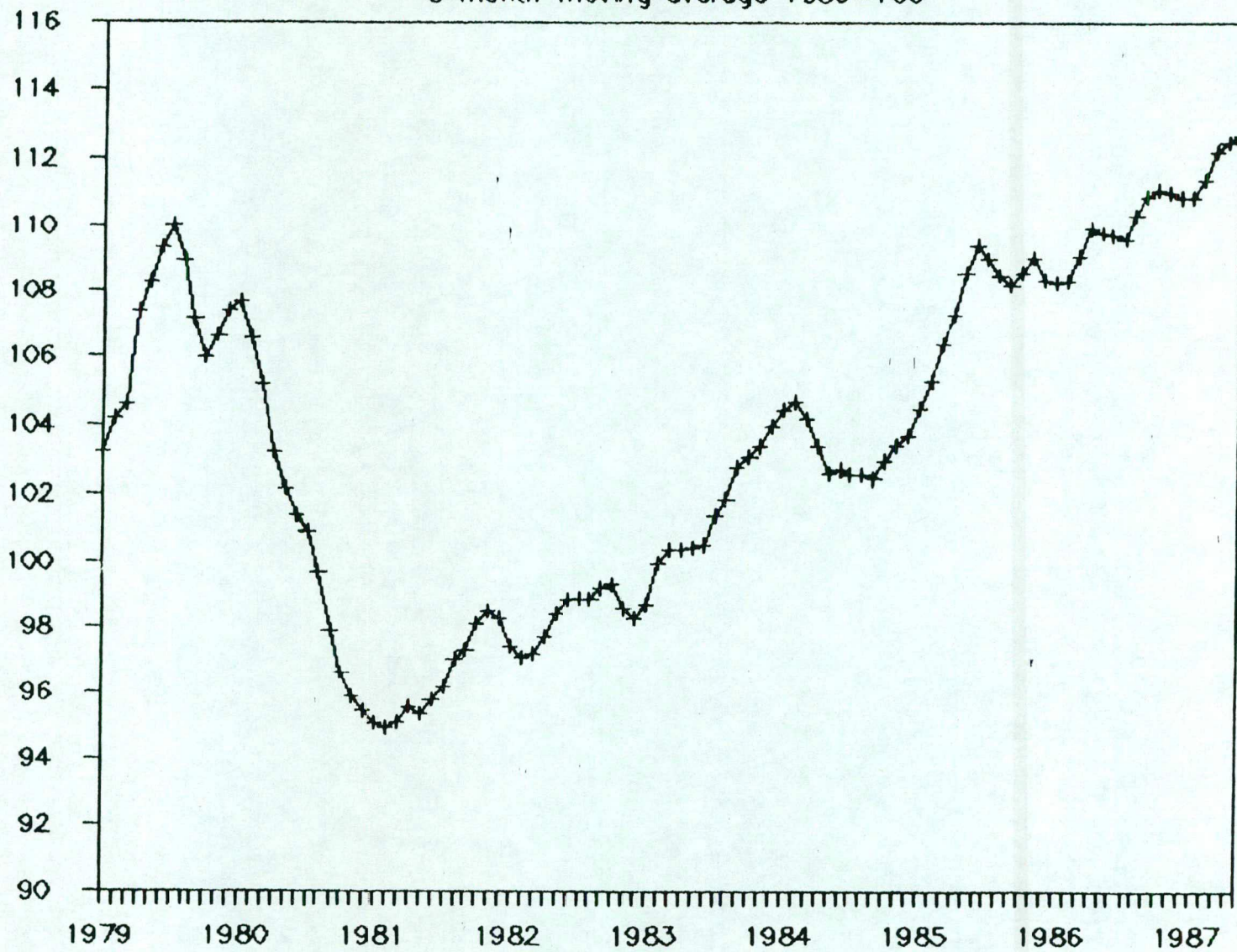
5. The series have been revised this month to take account of long-run revisions to data and the twice-yearly updating of seasonal factors.
6. After falling back from the 1985Q2 temporary peak, manufacturing output grew strongly during 1986. After falling back in January 1987, thought to be largely a reflection of the severe weather in that month, output has continued to grow. The May index is the highest since December 1979.
7. Energy sector output in 1986Q4 showed a decline of 4½ per cent from the third quarter, due particularly to reduced oil extraction after a pipeline leak. Output has recovered again in 1987, although it has still not reached the levels experienced in the first three quarters of 1986.
8. After the flatness in industrial production between the third and fourth quarters, of 1986, output has increased again in the first five months of 1987, reflecting the recovery in the energy sector and the continued growth in manufacturing.

R D Kerley

R D KERLEY

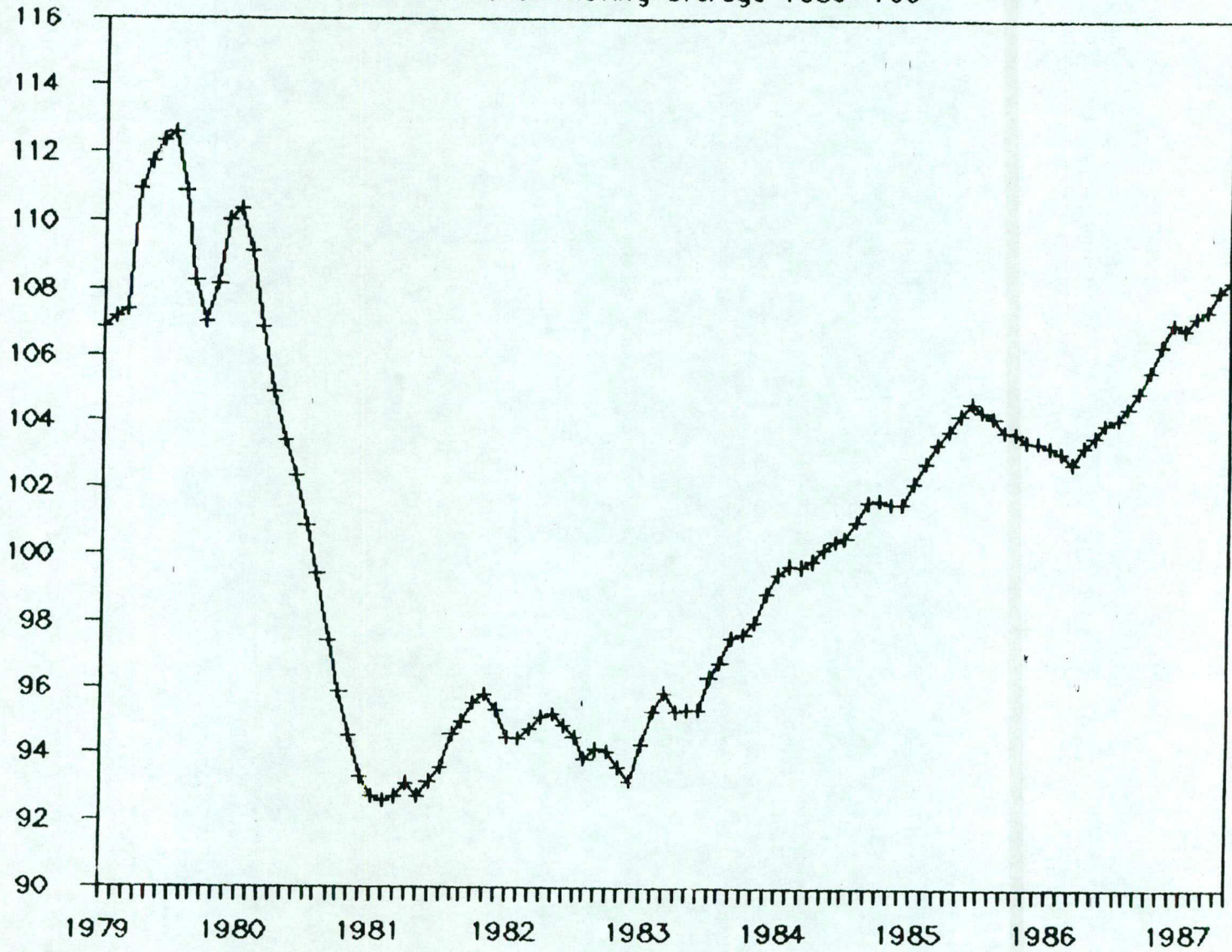
INDUSTRIAL PRODUCTION

3 month moving average 1980=100



MANUFACTURING OUTPUT

3 month moving average 1980=100



OUTPUT OF THE PRODUCTION INDUSTRIES (1)

1980=100

TABLE

Weights	Broad industry groups			Market sectors		
	Production industries	Energy 2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
	100	264	136	243	243	512
1981	95.6	103.9	94.0	95.4	91.3	99.2
1982	98.4	110.0	94.1	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.9	93.0	107.6
1984	103.3	110.2	100.8	101.7	97.4	106.6
1985	106.1	120.7	103.6	103.6	103.2	112.0
1986	110.2	125.4	104.7	106.0	101.6	116.1
Seasonally adjusted						
1981	95.6	103.3	93.1	95.4	90.7	98.4
2	97.3	103.6	95.0	97.4	92.0	99.6
3	98.3	106.6	95.3	98.7	92.7	101.7
4						
1982	97.2	104.1	94.7	96.1	92.9	99.7
2	98.6	110.0	94.9	98.7	93.7	102.9
3	99.2	113.3	94.7	98.6	92.4	103.7
4	98.3	112.6	93.7	98.6	90.6	103.0
1983	100.4	112.9	95.9	97.7	93.6	104.7
2	100.6	114.9	95.4	97.4	90.9	106.6
3	102.6	117.4	97.6	98.6	93.0	108.6
4	104.0	116.3	96.6	100.4	94.4	110.2
1984	104.1	116.8	99.7	100.7	95.0	110.2
2	102.7	109.7	100.4	101.6	96.6	106.1
3	102.5	104.9	101.6	102.4	98.3	104.6
4	103.7	106.8	101.6	101.6	99.6	106.6
1985	106.4	114.9	103.4	103.6	102.2	109.5
2	106.4	121.7	104.6	103.4	105.6	114.2
3	108.2	120.6	103.7	104.0	102.2	113.0
4	108.4	122.2	103.4	103.4	102.7	113.6
1986	109.1	125.6	102.8	103.6	101.4	115.0
2	109.8	125.9	104.0	105.6	101.0	115.6
3	110.6	127.3	105.0	106.6	101.0	117.6
4	110.9	127.4	107.7	108.7	102.4	116.7
1987	112.2	125.6	107.4	107.6	101.7	116.4
1985	M 109.5	123.3	104.5	103.0	105.8	114.4
	109.6	123.2	106.7	104.0	106.9	114.6
	107.6	119.7	103.6	103.6	102.0	112.7
	108.0	119.4	103.6	103.0	102.2	112.7
	109.0	123.4	103.6	104.4	102.3	114.3
	108.7	123.8	103.3	102.7	103.2	114.2
	109.4	125.6	103.2	103.6	101.8	115.6
	107.0	116.3	103.7	103.9	103.0	110.5
1986	J 108.4	123.9	102.9	103.0	101.6	114.0
	109.6	123.8	102.7	104.3	101.2	115.6
	109.3	127.7	102.7	104.3	101.5	115.2
	111.0	129.7	104.5	106.8	101.7	117.7
	109.7	124.6	103.6	104.6	100.8	114.9
	109.2	124.0	103.6	106.4	100.6	115.0
	110.6	125.5	104.9	106.2	101.3	117.0
	111.3	129.5	104.7	106.6	100.5	116.4
	110.6	125.0	105.4	106.6	101.2	117.7
	111.2	123.4	106.8	107.6	102.4	117.1
	111.7	122.4	107.0	108.6	102.3	116.3
	110.3	118.5	107.4	106.2	102.4	114.9
1987	J 111.2	125.2	106.2	107.7	102.9	117.1
	112.7	125.3	106.2	108.0	103.9	119.0
	112.8	126.4	107.9	107.4	104.4	119.2
	112.0	123.2	108.0	107.6	104.3	117.6
	113.3	125.0	109.7	109.0	104.6	119.2

± 3-month or 3-month change (3)

+1.2

+1.5

+1.0

+0.3

+1.4

+1.4

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).
 (2) Includes water supply.
 (3) Average of March to May 1987 compared with the average of December 1986 to February, 1987.

An asterisk in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

JO689

MR D NORRGROVE
Prime Minister's Office

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MAY 1987

The provisional index of the output of the production industries for May 1987 will be published at 11.30 am tomorrow, Tuesday 14 July. A copy of the Press Notice is attached.

Latest figures

The May 1987 index of the output of the production industries - energy and manufacturing - is provisionally estimated at 113.3 (1980=100, seasonally adjusted), an increase of 1 per cent on April. For manufacturing the index was 109.1, an increase of 1 per cent on April (see also paragraph on bias adjustment below).

In the three months to May 1987 the output of the production industries was 1 per cent higher than in the previous three months; manufacturing output was also 1 per cent higher. Some industry detail is given in the attached Table A.

Assessment

Manufacturing output reached a temporary peak in the second quarter of 1985 and then declined by over 1½ per cent by the first quarter of 1986. However, output had recovered this lost ground by the third quarter of 1986 and in the fourth quarter the level of output was 2½ per cent higher than in the second quarter of 1985. The provisional estimates for the three months to May suggest continuing growth in output, after the decline in January, which is thought to have been largely a reflection of the severe weather in that month.

Trends in the energy sector are more difficult to determine. Output in the last quarter of 1986 showed a decline due, particularly, to reduced oil extraction after a pipeline leak. In the first five months of 1987, output has recovered again though not quite to the level of the first half of 1986.

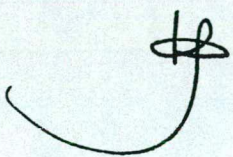
The underlying output of all production industries in the second half of 1985 was approximately 1 per cent below the level reached in the first half, but since then underlying output has increased steadily - mainly reflecting the improvement in manufacturing output. Published figures showed no change between the third and fourth quarters of 1986, a reduction in energy output (mainly lower oil extraction) being offset by an increase in manufacturing. In the first five months of 1987 output increased again reflecting the recovery in the energy sector and continued growth in manufacturing.

Bias adjustment for manufacturing output

In line with revised procedures introduced in January last year, figures for manufacturing output in the latest six months include adjustments to try to allow for underestimation in the provisional estimates (see also Note 10 of Notes to Editors of Press Notice).

Figures for June 1987

Figures for June 1987 are scheduled for publication on Thursday 13 August.


D C K Stirling
13 July 1987

Central Statistical Office

Table A

Copy No.

** PERSONAL AND CONFIDENTIAL until release of Press Notice at 11.30 am on July 14 1987 and thereafter unclassified **

Index of output of the production industries 1980=100

SUMMARY	Total production industries	Energy and water supply	Total manufacturing industries	Metals	Other minerals and mineral products	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, footwear, clothing and leather	Other manufacturing
1985	108.1	120.1	103.8	113.4	94.5	118.9	104.0	101.0	101.9	99.0
1986	110.2	125.4	104.7	110.9	96.9	120.8	102.9	102.5	103.7	104.0
1985 4	108.4	122.2	103.4	112.2	95.6	116.8	103.0	101.3	102.9	99.8
1986 1	109.1	126.8	102.8	109.3	93.6	118.4	101.5	100.9	103.1	100.5
2	109.8	125.9	104.0	110.0	96.9	118.9	102.5	101.9	104.1	102.6
3	110.9	127.3	105.0	109.0	97.9	120.9	103.1	102.9	103.1	105.3
4	110.9	121.4	107.1	115.4	99.4	124.9	104.6	104.4	104.5	107.6
1987 1	112.2	125.6	107.4	115.1	98.2	125.8	105.7	103.8	104.8	107.4
1987 M	112.8	126.4	107.9	117	101	126	106	104	104	108
A	112.0	123.2	108.0	117	101	127	106	104	105	108
M	113.3	125.0	109.1	125	102	127	107	105	105	109

Percentage change latest 3 months on:
previous 3 months

a year earlier	+1.2	+1.5	+1.0	+3.4	+3.3	+0.4	+1.3	+0.2	+0.1	+0.6
1st quarter 1981(a)	+2.6	-1.8	+4.6	+8.9	+6.3	+7.2	+4.1	+2.3	+1.0	+6.0
1st half 1979(b)	+18.5	+22.8	+16.9	+20.3	+13.5	+31.2	+18.8	+4.6	+14.8	+15.5
	+5.4	+26.1	-1.4	-8.3	-6.2	+16.4	-2.9	+4.3	-12.7	-2.7

DETAILED ANALYSIS	Coal and coke	Extraction of mineral oil and natural gas	Mineral oil processing	Other energy and water supply	Metals	Other minerals and mineral products	Chemicals	Man-made fibres	Metal goods not elsewhere specified
1985	67.2	150.3	98.6	105.9	113.4	94.5	120.2	74.0	99.4
1986	79.3	153.0	99.9	112.2	110.9	96.9	122.3	67.9	97.2
1985 4	81.1	149.7	97.9	106.8	112.2	95.6	118.1	73.5	98.7
1986 1	80.1	154.3	96.3	114.9	109.3	93.6	119.7	74.6	96.1
2	79.6	152.8	103.1	113.4	110.0	96.9	120.4	68.9	97.5
3	78.3	157.8	101.0	111.6	109.0	97.9	122.5	65.8	97.5
4	79.1	147.1	99.0	108.7	115.4	99.4	126.7	62.4	97.9
1987 1	75.9	153.0	95.8	115.3	115.1	98.2	127.8	59.4	100.9
1987 M	76	154	93	117	117	101	128	53	102
A	73	153	98	109	117	101	128	69	101
M	75	156	100	110	125	102	128	64	102

Percentage change latest 3 months on:
previous 3 months

a year earlier	-2.7	+3.6	-1.4	-0.7	+3.4	+3.3	+0.4	-0.1	+1.3
1st quarter 1981(a)	-6.2	-0.4	-5.9	-2.4	+8.9	+6.3	+7.6	-13.3	+3.9
1st half 1979(b)	-23.4	+43.6	+0.9	+15.6	+20.3	+13.5	+32.9	-31.4	+14.5
	-21.9	+63.2	-14.1	+6.7	-8.3	-6.2	+19.1	-55.0	-17.6

DETAILED ANALYSIS continued	Mechanical engineering	Electrical and instrument engineering	Motor vehicles and parts	Other transport equipment	Food	Drink and tobacco	Textiles	Clothing, footwear and leather	Paper, printing and publishing	All other manufacturing
1985	92.0	131.0	87.4	94.4	103.9	95.0	98.3	105.0	98.3	99.8
1986	92.7	129.9	82.6	93.6	105.5	96.4	98.8	108.0	102.6	105.6
1985 4	93.6	128.8	82.2	92.9	104.3	95.2	99.5	105.8	99.1	100.6
1986 1	92.9	126.0	81.4	93.6	103.7	95.1	98.5	107.2	99.4	101.7
2	94.6	126.7	82.1	92.5	104.6	96.3	99.1	108.4	101.6	103.8
3	92.0	131.5	81.3	94.0	106.0	96.6	97.5	108.0	103.2	107.8
4	91.2	135.5	85.6	94.3	107.6	97.7	100.1	108.3	106.3	109.1
1987 1	91.5	138.0	84.2	94.9	106.4	98.3	101.8	107.4	105.3	109.7
1987 M	92	139	86	95	106	99	102	106	106	109
A	92	139	86	95	107	97	102	107	106	110
M	93	139	86	95	109	97	101	108	107	111

Percentage change latest 3 months on:
previous 3 months

a year earlier	+1.1	+1.5	+1.2	+0.5	+0.2	-	+0.3	-0.1	+0.6	+0.5
1st quarter 1981(a)	-2.6	+9.8	+5.4	+2.4	+2.6	+1.5	+3.0	-0.6	+5.4	+6.7
1st half 1979(b)	+5.6	+50.2	+11.6	-10.0	+8.7	-3.7	+12.2	+17.1	+12.0	+19.7
	-16.2	+34.7	-30.4	+1.2	+7.8	-2.6	-18.6	-7.2	-0.4	-5.2

(a) Last trough for production industries (b) Last peak for production industries

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Department of Trade and Industry	(Private Secretary Secretary of State's Office
	(Private Secretary Chancellor of the Duchy of Lancaster and Minister of Industry and Trade
	(Private Secretary to Robert Atkins
	(Private Secretary to John Butcher
	(Sir Brian Hayes (Mr H H Liesner (Mr A Whiting (Mr N Harvey (Mr S W Treadgold
Bank of England	(Mr R Leigh-Pemberton



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CSO(87)66
14 July 1987

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES - MAY 1987

Output of the production industries in the three months to May 1987 is provisionally estimated to have increased by 1 per cent from the level of the previous three months; manufacturing output also rose by 1 per cent.

Output of the production industries (to May 1987)

The May index of the output of the production industries - energy and manufacturing - is provisionally estimated at 113.3 (1980=100, seasonally adjusted). In the three months to May 1987, production industries' output was 1 per cent higher than in the previous three months and $2\frac{1}{2}$ per cent higher than in the same period a year earlier.

Manufacturing output in the latest three months was 1 per cent higher than in the previous three months and $4\frac{1}{2}$ per cent higher than in the same period a year earlier (see also note 10 of Notes to Editors). Within manufacturing, the output of the metals industry and of other minerals increased by 3 per cent and that of engineering and allied and 'other manufacturing' industries by 1 per cent between the two latest three-month periods. There was little change in the output of the other broad industry groups.

The output of the energy sector in the latest three months was $1\frac{1}{2}$ per cent higher than in the previous three months but 2 per cent lower than in the same period a year earlier.

By market sector, the output of both the intermediate and investment goods industries increased by $1\frac{1}{2}$ per cent between the two latest three-month periods; the output of the consumer goods industries increased by $\frac{1}{2}$ per cent.

Output of the production and construction industries (to first quarter of 1987)

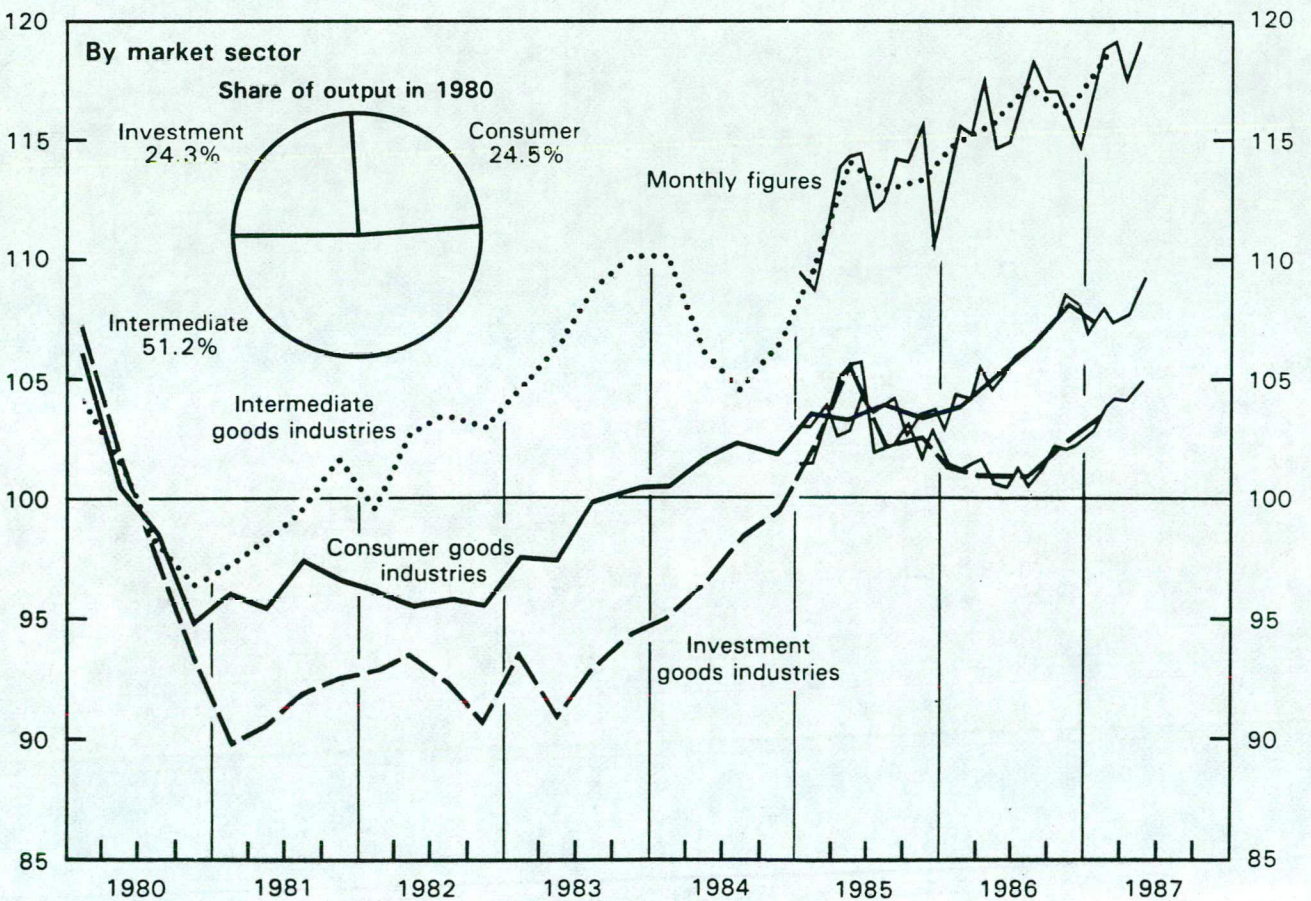
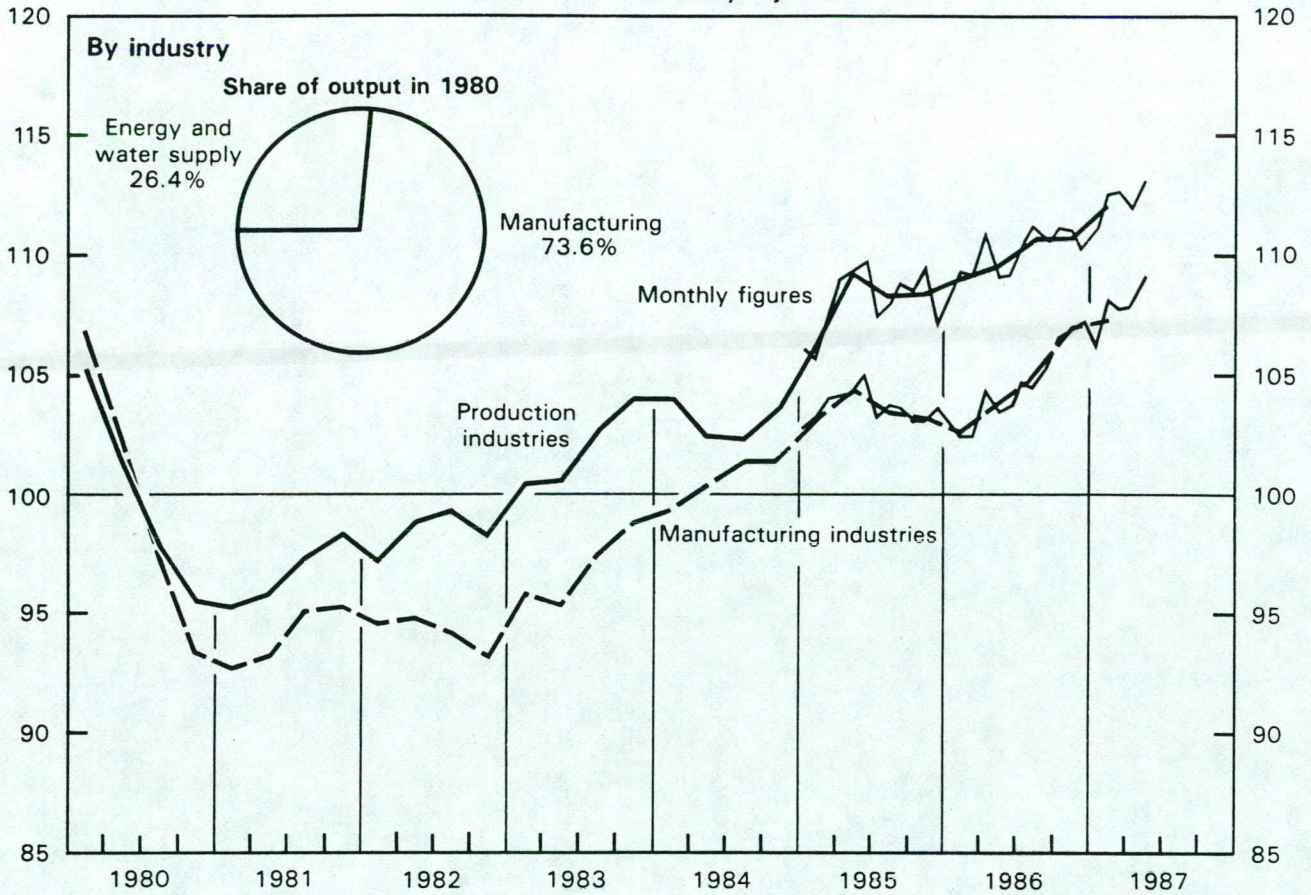
Output of the construction industry in the first quarter of 1987 is estimated to have been 5 per cent higher than in the previous quarter; output of the production and construction industries was $1\frac{1}{2}$ per cent higher.

Revisions

The estimates have been revised to take account of long-run revisions to data and the twice-yearly updating of seasonal factors.

INDEX OF OUTPUT OF THE PRODUCTION INDUSTRIES

1980 = 100 Seasonally adjusted



OUTPUT OF THE PRODUCTION INDUSTRIES(1)

(1980=100)

TABLE 1

	Broad industry groups			Market sectors		
	Production industries	Energy(2)	Manufacturing	Consumer goods	Investment goods	Intermediate goods
	Division 1-4	Division 1	Division 2-4			
Weights	1000	264	736	245	243	512
1981	96.6	103.8	94.0	96.4	91.3	99.2
1982	98.4	110.0	94.2	95.8	92.4	102.3
1983	101.9	115.9	96.9	98.8	93.0†	107.6
1984	103.3†	110.2†	100.8†	101.7†	97.4	106.8
1985	108.1	120.1	103.8	103.6	103.2	112.6
1986	110.2	125.4	104.7	106.0	101.5	116.1†
Seasonally adjusted						
1981 2	95.8	103.3	93.1†	95.4†	90.7†	98.4
3	97.3	103.8	95.0	97.4	92.0	99.6
4	98.3	106.6†	95.3	96.7	92.7	101.7
1982 1	97.2	104.1	94.7	96.1	92.9	99.7†
2	98.8†	110.0	94.9	95.7	93.7	102.9
3	99.2	113.2	94.1	95.9	92.4	103.7
4	98.3	112.8	93.1	95.6	90.6	103.0
1983 1	100.4	112.8	95.9	97.7	93.6	104.7
2	100.5	114.9	95.4	97.4	90.9	106.6
3	102.8	117.4	97.6	99.9	93.0	108.9
4	104.0	118.3	98.9	100.4	94.4	110.2
1984 1	104.2	116.8	99.7	100.7	95.0	110.2
2	102.7	109.1	100.4	101.8	96.6	106.1
3	102.5	104.9	101.6	102.4	98.3	104.5
4	103.7	109.8	101.6	101.9	99.6	106.6
1985 1	106.4	114.9	103.4	103.6	102.2	109.5
2	109.4	122.7	104.6	103.4	105.6	114.2
3	108.2	120.6	103.7	104.0	102.2	113.0
4	108.4	122.2	103.4	103.4	102.7	113.5
1986 1	109.1	126.8	102.8	103.9	101.4	115.0
2	109.8	125.9	104.0	105.3	101.0	115.9
3	110.9	127.3	105.0	106.5	101.0	117.5
4	110.9	121.4	107.1	108.2	102.4	116.1
1987 1	112.2	125.6	107.4	107.5	103.7	118.4
1985 M	109.5†	123.3†	104.5†	103.0†	105.8	114.4†
J	109.9	123.2	105.1	104.2	105.9†	114.6
J	107.6	119.1	103.5	103.6	102.0	112.1
A	108.0	119.4	103.9	104.1	102.2	112.7
S	109.0	123.4	103.8	104.4	102.3	114.3
O	108.7	123.8	103.3	102.7	103.2	114.2
N	109.4	126.6	103.2	103.6	101.8	115.8
D	107.0	116.3	103.7	103.9	103.0	110.5
1986 J	108.4	123.9	102.9	103.0	101.6	114.0
F	109.6	128.8	102.7	104.5	101.2	115.8
M	109.3	127.7	102.7	104.3	101.5	115.2
A	111.0	129.1	104.5	105.8	101.7	117.7
M	109.1	124.6	103.6	104.8	100.8	114.9
J	109.2	124.0	103.9	105.4	100.6	115.0
J	110.6	126.5	104.9	106.2	101.3	117.0
A	111.3	129.5	104.7	106.5	100.5	118.4
S	110.8	126.0	105.4	106.9	101.2	117.1
O	111.2	123.4	106.8	107.6	102.4	117.1
N	111.1	122.4	107.0	108.8	102.3	116.3
D	110.3	118.5	107.4	108.2	102.4	114.9
1987 J	111.2	125.2	106.2	107.1	102.9	117.1
F	112.7	125.3	108.2	108.0	103.9	119.0
M	112.8	126.4	107.9	107.4	104.4	119.2
A	112.0	123.2	108.0	107.8	104.3	117.6
M	113.3	125.0	109.1	109.0	104.9	119.2
% 3-month on 3-month change (3)	+1.2	+1.5	+1.0	+0.3	+1.4	+1.4

(1) Output index numbers include adjustments, as necessary, to compensate for the use of sales indicators (see Notes to Editors).

(2) Includes water supply.

(3) Average of March to May 1987 compared with the average of December 1986 to February 1987

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF MANUFACTURING INDUSTRIES

(1980=100)

TABLE 2

		Metals	Other minerals and mineral products(1)	Chemicals and man-made fibres	Engineering and allied industries	Food, drink and tobacco	Textiles, clothing footwear and leather	Other manufacturing
		Class 21-22	Class 23-24	Class 25-26	Class 31-37	Class 41-42	Class 43-45	Class 46-49
		25	41	68	325	99	52	126
Weights								
1981		106.0	89.0	99.5†	91.8	98.3	92.7	93.2
1982		103.2	90.9	99.6	92.9	99.8	91.3†	90.8
1983		104.7	93.9	107.1	94.9	100.9	94.7	93.8†
1984		107.9†	95.1†	113.9	99.5†	101.9	98.1	97.8
1985		113.4	94.5	118.9	104.0	101.0†	101.9	99.0
1986		110.9	96.9	120.8	102.9	102.5	103.7	104.0
Seasonally adjusted								
1981	2	104.1†	88.5†	98.1†	90.8	96.9†	92.2†	93.1
	3	107.4	90.0	102.3	93.1†	98.1	93.4	93.1
	4	113.3	88.6	101.4	93.6	98.5	94.3	92.9
1982	1	110.3	89.8	99.7	93.7	99.1	91.9	91.0†
	2	108.1	91.8	99.5	93.6	100.2	91.3	91.2
	3	100.4	91.3	99.2	92.7	100.4	91.6	90.8
	4	93.9	90.8	99.8	91.6	99.6	90.3	90.2
1983	1	98.6	93.0	103.8	94.8	99.9	92.7	92.9
	2	104.8	91.4	106.5	93.1	98.7	93.4	92.8
	3	105.6	95.6	108.5	95.1	103.0	95.2	93.7
	4	109.9	95.4	109.8	96.7	101.9	97.4	95.7
1984	1	111.5	94.3	111.3	97.7	101.8	96.8	97.3
	2	104.5	95.4	112.1	98.8	102.8	97.7	98.4
	3	109.0	96.5	115.6	100.8	101.8	99.0	97.5
	4	106.8	94.3	116.4	100.9	101.2	99.1	98.1
1985	1	110.1	93.0	120.0	103.8	101.8	100.0	98.1
	2	115.5	94.9	120.5	106.1	100.4	101.7	97.8
	3	115.7	94.6	118.3	103.4	100.4	103.0	100.3
	4	112.2	95.6	116.8	103.0	101.3	102.9	99.8
1986	1	109.3	93.6	118.4	101.5	100.9	103.1	100.5
	2	110.0	96.9	118.9	102.5	101.9	104.1	102.6
	3	109.0	97.9	120.9	103.1	102.9	103.1	105.3
	4	115.4	99.4	124.9	104.6	104.4	104.5	107.6
1987	1	115.1	98.2	125.8	105.7	103.8	104.8	107.4
1985	M	117	95	119	106	101†	101	98
	J	115†	95†	121	106	101	103	98
	J	116	95	119	103	100	103	100
	A	118	94	118	104	100	102	101†
	S	114	95	119	103	101	103	100
	O	112	96	117	103	102	102	99
	N	113	96	118	102	100	105†	100
	D	112	95	117	104	102	103	100
1986	J	111	96	121†	102†	99	102	100
	F	108	92	118	101	102	104	100
	M	110	93	116	102	102	103	101
	A	109	97	119	104	102	105	103
	M	111	96	118	102	102	103	102
	J	110	98	120	102	102	104	103
	J	110	97	120	103	103	102	106
	A	108	98	121	103	103	104	105
	S	109	98	122	104	103	103	105
	O	113	99	126	104	104	105	107
	N	116	100	123	105	104	105	108
	D	118	100	126	105	105	103	108
1987	J	107	94	126	105	102	105	106
	F	122	100	126	106	105	105	108
	M	117	101	126	106	104	104	108
	A	117	101	127	106	104	105	108
	M	125	102	127	107	105	105	109
% 3-month on 3-month change (2)		+3.4	+3.3	+0.4	+1.3	+0.2	+0.1	+0.6

(1) Mainly building materials

(2) Average of March to May 1987 compared with the average of December 1986 to February 1987

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

OUTPUT OF PRODUCTION AND CONSTRUCTION INDUSTRIES (1)

(1980=100)

TABLE 3

Weights (parts per thousand of GDP(0))	Production and construction Division 1-5	Construction Division 5	Production industries Division 1-4	Energy(2) Division 1	Manufacturing Division 2-4	Oil and gas extraction Class 13
	424	63	361	95	266	44
1981	95.6	89.9	96.6	103.8	94.0	110.3
1982	97.4	91.6	98.4	110.0	94.2	125.6
1983	101.0†	95.3	101.9	115.9	96.9	137.6
1984	102.6	98.5	103.3†	110.2†	100.8†	147.1
1985	106.9	99.8	108.1	120.1	103.8	150.3
1986	109.0	102.1	110.2	125.4	104.7	153.0
Seasonally adjusted						
1981 2	94.9	89.5	95.8	103.3	93.1†	108.1
3	96.4†	90.9	97.3	103.8	95.0	111.4
4	96.6	86.9	98.3	106.6†	95.3	114.5†
1982 1	96.0	89.1	97.2	104.1	94.7	113.1
2	97.6	90.6	98.8†	110.0	94.9	126.6
3	98.2	92.6	99.2	113.2	94.1	131.2
4	97.7	94.3	98.3	112.8	93.1	131.6
1983 1	99.4	93.7	100.4	112.8	95.9	131.3
2	99.3	92.1	100.5	114.9	95.4	132.6
3	102.1	97.7	102.8	117.4	97.6	141.5
4	103.1	97.8	104.0	118.3	98.9	145.2
1984 1	103.3	97.8	104.2	116.8	99.7	147.7
2	102.1	98.3	102.7	109.1	100.4	146.1
3	102.1	99.6	102.5	104.9	101.6	142.8
4	102.9	98.2	103.7	109.8	101.6	151.8
1985 1	105.5	100.3	106.4	114.9	103.4	153.9
2	108.0	99.6	109.4	122.7	104.6	152.6
3	106.8	98.7	108.2	120.6	103.7	145.0
4	107.3	100.8	108.4	122.2	103.4	149.7
1986 1	107.6	99.0	109.1	126.8	102.8	154.3
2	108.6	101.8	109.8	125.9	104.0	152.8
3	109.7	102.7	110.9	127.3	105.0	157.8
4	110.1	105.1	110.9	121.4	107.1	147.1
1987 1	112.0	110.4	112.2	125.6	107.4	153.0

(1) The long run series in column 3-5 are consistent with Table 1.

(2) Includes water supply.

An obelus in the table indicates that the data are new or have been revised. The period marked is the earliest in the table to have been revised.

NOTES TO EDITORS

1. The index numbers of output of the production and construction industries in this Press Notice are on the base 1980 = 100 and classified to the 1980 revision to the Standard Industrial Classification (SIC). These industries account for 42 per cent of gross domestic product; production industries alone accounts for 36 per cent. The index numbers were first published in this form in September 1983. The monthly index for the production industries covers only the energy (and water supply) Division 1 of the SIC, and manufacturing industries, Divisions 2 to 4 of the SIC. An index of production and construction broadly equivalent to the previously published "all industries" index of production" is available only quarterly. These changes were described in advance in March 1983 Economic Trends. A further article describing the effects of rebasing appeared in October 1983 Economic Trends.

2. The purpose of the index numbers is to measure changes in net output or value added (that is total outputs less total inputs) at constant (1980) prices. Conceptually, this should be estimated as the difference between outputs and inputs, each valued at the appropriate prices of the base year. However, this approach, known as double deflation, is difficult to apply reliably since it requires a great deal of information. In practice, movements in net output at constant prices are generally estimated by movements in gross output at constant prices. This yields satisfactory estimates, provided the ratio of gross to net output remains largely unchanged, as will generally be the case in the short-term. Further discussion of the concepts of measurement may be found in "Sources and Methods, Studies in Official Statistics No 37" (HMSO, 1985).

3. The index of production is a weighted average of 330 separate indicators, each of which describes the activity of a small sector of industry. These indicators are obtained monthly where possible but for a number of sectors, representing 17 1/2 per cent of activity, only quarterly data are available. Two Occasional Papers, one describing the weights and indicators and the other the sources used in compiling the index, are available.

4. Many of the basic series used to construct the index of production measure either final production or deliveries. Neither type of series takes account of changes in work in progress and series based on deliveries do not take account of changes in stocks of finished goods. All of the index numbers in this Press Notice have been adjusted where necessary, for estimated changes in stocks. An Occasional Paper describing these calculations is available.

5. More detailed tables on the index of production are published regularly in "British Business" and the "Monthly Digest of Statistics". The data in this Press Notice can be obtained in computer readable form via the CSO Databank service which provides macro-economic time series on magnetic tape. Details of the service offered and the Schedule of Charges may be obtained from the Database Manager, CSO Branch 9, Room 52/4, Government Offices, Great George Street, London SW1P 3AQ (telephone: 01-270-6386). CSO does not offer direct on-line access for these data, but a list of host bureaux offering such a facility is available on request from CSO.

6. Estimates of the output of the construction industry are compatible with those published by the Department of the Environment which are available only quarterly, one month in arrears of the corresponding quarters' estimates for the output of production industries. The aggregate index numbers no longer make use of preliminary estimates for the construction industry based, in advance of receipt of regular returns from the industry, on broad indicators of activity; they are thus delayed by one month but are better founded.

7. The index numbers in this Press Notice are all seasonally adjusted, to remove annually recurring month-to-month variations owing for example, to the incidence of holidays and other regular seasonal patterns of behaviour. The adjustments can only be derived from analysis of past data and may not be completely appropriate when holiday patterns change sharply. Unadjusted data may be obtained from CSO.

8. Estimates for the latest few months are always based on partial information and should be regarded as provisional and subject to revision as more complete data become available. During the lifetime of the 1975-based index, the average revision (regardless of sign) to the all-industries index for the latest month was one half of 1 per cent. It is recommended that, to obtain an assessment of short-term change, attention should be directed to the three-month-on-three month changes. The average revision to this latter measure was one quarter of a percentage point over the same period. An Occasional Paper is available from CSO describing the effects of revisions.

9. Occasional Papers (price £2.50 each) and off-prints of Economic Trends articles (price £1.50 each) are available from the Central Statistical Office.

10. Bias adjustments for the index of manufacturing output

In an attempt to allow for understatement in the provisional figures, an improved system of adjustments to manufacturing output was introduced in January last year. Some detail was included in note 12 of Notes to Editors in the January 1986 Press Notice and a fuller note on the methodology of the adjustment procedure is available on request from the CSO. The adjustment procedure makes use of smoothed monthly CBI figures on expectations of growth in output. The bias adjustments, which are additive, included in the manufacturing figures this month are:

1986	1987				
December	January	February	March	April	May
+0.1	+0.4	+0.5	+0.6	+0.7	+1.3