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INTERNATIONAL ECONOMIC INDICATORS

(includes data up to 21 September 1993)

INTRODUCTION

The series presented here are taken from the Organisation of Economic Co-operation and Development's (OECD) Main Economic Indicators, except for the United Kingdom where several of the series are those most recently published. The series shown are for each of the G7 economies (United Kingdom, Germany, France, Italy, United States, Japan and Canada) and for the European Communities (EC) and OECD countries in aggregate.

2. The length and periodicity of the series have been chosen to show their movement over a number of years as well as the recent past. There is no attempt here to make cross country comparisons across cycles. Further, because the length and timing of these cycles varies across countries, comparisons of indicators over the same period should be treated with caution.

COMMENTARY

3. Gross Domestic Product (GDP) at constant market prices grew by 0.5 per cent in the United Kingdom, 0.4 per cent in the United States and 0.9 per cent in Canada between 1993 Q1 and 1993 Q2. Over the same period GDP fell in Japan by 0.5 per cent. GDP also fell in Germany, by 1.4 per cent, France, by 0.7 per cent, and Italy, by 0.1 per cent between 1992 Q4 and 1993 Q1.

4. The annual increase in consumer prices in the United Kingdom rose from 1.4 per cent in July to 1.7 per cent in August. Between July and August, annual consumer price rises remained constant in France, at 2.2 per cent, in Italy, at 4.4 per cent, and in the United States, at 2.8 per cent. Over the same period consumer prices fell from 4.3 to 4.2 per cent in Germany, while in Canada there was a rise from 1.6 per cent to 1.7 per cent.

5. For the third successive month the standardised unemployment rate in the United Kingdom in July remained at 10.4 per cent - down from 10.7 per cent in January. In Germany and France these unemployment rates rose to 6.1 per cent and 11.7 per cent respectively, to continue the rises seen since the Autumn of last year. From the beginning of 1993 the unemployment rate has declined in the United States from 7.0 per cent in January to 6.7 per cent in August.

1 Gross domestic product at constant market prices: index numbers

1985 = 100

	United Kingdom[1]	Germany[2]	France	Italy	EC	United States	Japan[3]	Canada	Major 7	OECD
	FNAO	GABI	GABH	GABJ	GAEK	GAEH	GAEI	GAEG	GAEO	GAEJ
1980	90.5	94.6	92.7	93.3	93.0	88.2	82.9	86.7	88.7	88.9
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	104.4	102.2	102.5	102.9	102.8	102.9	102.6	103.3	102.9	102.9
1987	109.3	103.6	104.8	106.1	105.8	106.1	107.1	107.6	106.2	106.3
1988	114.8	107.3	109.5	110.5	110.2	110.3	113.8	113.0	111.0	110.9
1989	117.3	111.0	114.2	113.7	114.0	113.0	119.3	115.7	114.4	114.5
1990	117.8	116.8	117.1	116.1	117.2	114.4	125.0	115.6	117.0	117.3
1991	115.2	121.2	117.9	117.6	118.7	113.6	130.0	113.6	117.7	118.1
1992	114.6	122.6	119.6	118.7	119.4	116.5	132.0	114.4	119.8	120.0
1990 Q1	118.5	114.7	116.6	115.7	116.4	114.5	122.6	116.4	116.4	116.7
Q2	119.1	115.8	117.1	115.6	117.1	114.9	124.6	116.0	117.1	117.4
Q3	117.8	117.9	117.5	116.9	117.7	114.6	125.9	115.5	117.4	117.7
Q4	116.7	118.9	117.3	116.4	117.8	113.7	127.1	114.3	117.1	117.5
1991 Q1	115.8	120.5	117.1	117.0	118.1	113.0	129.1	112.5	117.1	117.5
Q2	115.2	121.6	117.7	117.4	118.6	113.5	129.9	113.7	117.6	118.0
Q3	115.1	121.5	118.4	117.7	118.9	113.9	130.5	114.0	118.0	118.3
Q4	115.3	121.3	118.6	118.3	119.2	114.0	131.1	114.2	118.2	118.6
1992 Q1	114.3	123.3	119.6	119.0	119.7	115.0	132.5	114.2	119.2	119.5
Q2	114.5	123.0	119.7	119.0	119.5	115.8	132.5	114.2	119.5	119.8
Q3	114.9	122.6	119.7	118.6	119.4	116.8	131.7	114.3	119.8	120.1
Q4	115.5	121.5	119.3	118.1	119.1	118.4	131.7	115.0	120.5	120.6
1993 Q1	116.1	119.8	118.5	118.0	..	118.7	132.4	116.0	120.6	..
Q2	116.7	..	..	..	..	119.2	131.7	117.0	..	..
Percentage change, latest quarter on corresponding quarter of previous year										
1993 Q1	*1.1*	*–2.8*	*–0.9*	*–0.8*	..	*3.2*	*–0.1*	*1.6*	*1.2*	..
Q2	*1.7*	..	..	..	..	*2.9*	*–0.6*	*2.5*	..	..
Percentage change, latest quarter on previous quarter										
1993 Q1	*0.5*	*–1.4*	*–0.7*	*–0.1*	..	*0.3*	*0.5*	*0.9*	*0.1*	..
Q2	*0.5*	..	..	..	..	*0.4*	*–0.5*	*0.9*	..	..

1 Estimates due to rebasing to 1990
2 Western Germany (Federal Republic of Germany before unification)
3 GNP

2 Consumer prices[1] Percentage change on year earlier

	United Kingdom	Germany[2]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	18.0	5.5	13.6	21.0	13.7	13.5	8.0	10.1	12.7	13.7
1985	6.1	2.2	5.8	8.6	6.2	3.5	2.0	4.0	4.0	4.8
1986	3.4	−0.1	2.7	6.1	3.7	1.9	0.4	4.2	2.1	3.0
1987	4.2	0.2	3.1	4.6	3.4	3.6	−0.2	4.3	2.9	3.6
1988	4.9	1.3	2.6	5.0	3.6	4.1	0.5	4.0	3.3	4.3
1989	7.8	2.8	3.7	6.6	5.2	4.8	2.3	5.0	4.6	5.4
1990	9.5	2.7	3.4	6.0	5.6	5.5	3.1	4.8	5.0	5.8
1991	5.9	3.5	3.2	6.5	5.0	4.2	3.3	5.6	4.3	5.2
1992	3.7	4.0	2.4	5.3	4.3	3.0	1.6	1.5	3.1	4.1
1992 Q2	4.1	4.5	2.8	5.5	4.7	3.1	2.3	1.4	3.3	4.2
Q3	3.6	3.4	2.1	5.3	4.1	3.1	1.6	1.3	3.0	3.9
Q4	3.0	3.6	1.9	4.8	3.8	3.0	0.7	1.7	2.8	3.7
1993 Q1	1.8	4.3	2.1	4.3	3.5	3.2	1.2	2.0	2.8	3.7
Q2	1.3	4.2	1.9	4.1	3.3	3.2	0.7	1.7	2.7	3.8
1992 Aug	3.6	3.5	2.1	5.2	4.1	3.1	1.6	1.2	3.0	3.9
Sep	3.6	3.6	2.1	5.1	4.0	3.1	2.0	1.3	3.0	3.9
Oct	3.6	3.7	2.0	4.8	3.9	3.2	0.9	1.6	2.9	3.8
Nov	3.0	3.7	1.6	4.7	3.8	3.0	0.4	1.7	2.7	3.7
Dec	2.6	3.7	1.9	4.7	3.6	2.9	0.9	2.1	2.7	3.6
1993 Jan	1.7	4.4	2.1	4.2	3.5	3.3	1.1	2.1	2.9	3.8
Feb	1.8	4.2	2.0	4.4	3.4	3.3	1.3	2.3	2.9	3.8
Mar	1.9	4.2	2.2	4.2	3.4	3.1	1.3	1.9	2.8	3.7
Apr	1.3	4.3	2.0	4.2	3.3	3.2	0.6	1.8	2.7	3.8
May	1.3	4.2	2.0	4.0	3.3	3.2	0.7	1.8	2.7	3.8
Jun	1.2	4.2	1.9	4.1	3.2	3.0	0.9	1.6	2.6	3.8
Jul	1.4	4.3	2.2	4.4	3.4	2.8	1.9	1.6	2.7	3.9
Aug	1.7	4.2	2.2	4.4	..	2.8	..	1.7	..	..

1 Components and coverage not uniform across countries
2 Western Germany (Federal Republic of Germany before unification)

3 Standardised unemployment rates: percentage of total labour force[1]

	United Kingdom	Germany[2]	France	Italy	EC[3]	United States	Japan	Canada	Major 7	OECD
	GABF	GABD	GABC	GABE	GADR	GADO	GADP	GADN	GAEQ	GADQ
1980	6.4	2.9	6.2	7.5	6.4	7.0	2.0	7.4	5.5	5.8
1985	11.2	7.1	10.2	9.6	10.8	7.1	2.6	10.4	7.2	7.8
1986	11.2	6.4	10.4	10.5	10.8	6.9	2.8	9.5	7.1	7.7
1987	10.3	6.2	10.5	10.9	10.6	6.1	2.8	8.8	6.7	7.3
1988	8.6	6.2	10.0	11.0	9.9	5.4	2.5	7.7	6.1	6.7
1989	7.2	5.6	9.4	10.9	9.0	5.2	2.3	7.5	5.7	6.2
1990	6.8	4.9	8.9	10.3	8.4	5.4	2.1	8.1	5.6	6.1
1991	8.7	4.4	9.4	9.9	8.7	6.6	2.1	10.2	6.3	6.8
1992	9.9	4.8	10.3	10.5	9.5	7.3	2.2	11.2	6.9	7.5
1992 Q2	9.7	4.7	10.2	10.0	9.3	7.4	2.1	11.2	6.8	7.4
Q3	10.1	4.8	10.4	10.1	9.5	7.4	2.2	11.5	6.9	7.5
Q4	10.4	5.1	10.7	9.3	9.7	7.2	2.3	11.5	6.9	7.6
1993 Q1	10.6	5.5	11.0	9.1	10.2	6.9	2.3	10.9	6.8	7.6
Q2	10.4	5.9	11.4	..	10.4	6.9	2.4	11.3	6.9	7.8
1992 Aug	10.1	4.8	10.4	–	9.5	7.5	2.2	11.5	6.9	7.5
Sep	10.2	4.9	10.5	–	9.5	7.4	2.2	11.3	6.9	7.5
Oct	10.2	5.0	10.6	9.3	9.6	7.3	2.3	11.3	6.9	7.5
Nov	10.4	5.1	10.7	–	9.7	7.2	2.3	11.7	6.9	7.6
Dec	10.6	5.2	10.9	–	9.9	7.2	2.4	11.4	6.9	7.6
1993 Jan	10.7	5.4	10.9	9.1	10.0	7.0	2.3	11.0	6.8	7.6
Feb	10.6	5.5	11.0	..	10.2	6.9	2.3	10.8	6.8	7.6
Mar	10.5	5.7	11.2	..	10.3	6.9	2.3	11.0	6.8	7.7
Apr	10.5	5.8	11.4	9.1	10.4	6.9	2.3	11.3	6.9	7.7
May	10.4	5.9	11.5	..	10.4	6.8	2.5	11.3	6.9	7.8
Jun	10.4	5.9	11.6	..	10.5	6.9	2.5	11.3	6.9	7.8
Jul	10.4	6.1	11.7	..	10.5	6.8	2.5	11.5	6.9	7.8
Aug	..	..	..	..	..	6.7	..	..	..	..

1 Uses an ILO based measure of those without work, currently available for work, actively seeking work or waiting to start a job already obtained
2 Western Germany (Federal Republic of Germany before unification)
3 Excludes Denmark, Greece and Luxembourg

4 Balance of payments current account as percentage of GDP

	United Kingdom	Germany[1,2]	France	Italy	United States[1]	Japan[1]	Canada
1980	1.2	–1.7	–0.6	–2.3	0.1	–1.0	–0.6
1985	0.8	2.7	–0.1	–0.9	–2.9	3.6	–0.6
1986	–	4.5	0.3	0.4	–3.5	4.3	–2.3
1987	–1.1	4.1	–0.6	–0.2	–3.6	3.6	–2.1
1988	–3.4	4.2	–0.5	–0.7	–2.6	2.7	–2.6
1989	–4.2	4.9	–0.5	–1.2	–1.9	2.0	–3.6
1990	–3.1	3.2	–0.8	–1.3	–1.6	1.2	–3.9
1991	–1.1	–1.3	–0.5	–1.9	–0.1	2.1	–4.3
1992	–1.9	–1.5	0.3	–2.2	..	..	..
1992 Q2	–2.0	–0.4	0.2	–0.5	–1.2	3.2	–3.9
Q3	–1.5	–0.5	–	–0.5	–1.2	..	..
Q4	–2.6	–0.3	0.2	–0.4	..	..	..
1993 Q1	–2.6	–0.3	..	–0.3	..	..	..
Q2	..	..	..	..	..	..	..

1 Balance as percentage of GNP
2 Western Germany (Federal Republic of Germany before unification)

5 Total industrial production: index numbers

1985 = 100

	United Kingdom[1]	Germany[2]	France	Italy	EC	United States	Japan[3]	Canada[4]	Major 7	OECD[5]
	DVIM	HFGA	HFFZ	HFGB	GACY	HFGD	HFGC	HFFY	GAES	GACX
1980	92.6	97.3	101.9	103.6	97.2	89.1	84.4	86.2	91.0	91.1
1985	100.0	100.3	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0
1986	102.4	102.3	100.9	103.6	102.3	100.9	99.8	99.3	101.1	101.2
1987	106.5	102.6	102.8	107.6	104.7	106.0	103.3	104.1	104.9	104.9
1988	111.6	106.3	107.7	114.1	109.0	110.7	113.7	109.6	110.7	110.7
1989	114.0	111.4	112.1	117.6	113.1	112.4	120.3	109.5	113.8	114.6
1990	113.6	117.2	114.2	117.6	115.2	112.4	125.4	106.0	115.4	116.7
1991	109.1	120.7	114.1	115.4	115.1	110.3	127.8	102.2	114.8	116.1
1992	108.6	118.4	113.0	114.8	..	112.9	120.4	102.6	114.2	..
1992 Q2	108.2	120.1	113.8	115.5	114.7	112.6	120.7	102.0	114.3	114.5
Q3	109.4	118.5	113.7	112.8	113.8	112.9	120.3	102.6	114.0	114.3
Q4	109.9	112.9	110.6	112.0	111.5	114.7	117.2	104.1	113.5	113.5
1993 Q1	110.2	109.5	108.5	113.3	110.3	116.3	117.8	106.0	114.0	113.9
Q2	111.2	109.5	..	109.9	109.6	116.9	115.9	106.7	113.7	113.5
1992 Aug	109.6	118.3	113.8	110.7	113.1	112.9	117.6	103.0	113.4	113.7
Sep	110.1	118.4	114.1	111.4	113.5	112.5	122.1	103.3	114.2	114.4
Oct	111.0	115.5	114.7	113.7	113.7	113.9	118.3	103.5	114.0	114.2
Nov	109.8	113.2	109.6	114.6	111.8	114.8	116.8	104.1	113.6	113.6
Dec	109.0	110.1	108.0	107.6	108.9	115.4	116.3	104.6	112.8	112.7
1993 Jan	109.8	109.8	108.2	113.4	109.4	115.8	115.9	104.7	113.3	113.0
Feb	111.3	108.4	110.9	114.1	110.8	116.4	117.2	105.9	114.1	114.0
Mar	109.8	110.4	109.8	112.4	110.7	116.6	120.3	107.2	114.8	114.6
Apr	110.5	109.0	109.3	107.6	108.7	116.9	117.1	106.5	113.7	113.4
May	112.1	109.9	109.4	112.3	110.5	116.7	114.3	106.2	113.6	113.6
Jun	110.9	109.6	109.2	109.8	109.7	116.9	116.2	107.4	113.9	113.6
Jul	111.7	110.4	..	..	..	117.5	115.6	..	..	..
Aug	..	..	..	..	..	117.7	..	..	..	..
Percentage change: average of latest three months on that of corresponding period of previous year										
1993 Jul	..	*–8.0*	..	..	..	*3.8*	*–4.2*	..	..	..
Aug	..	..	..	..	..	*4.1*	..	..	..	..
Percentage change: average of latest three months on previous three months										
1993 Jul	..	*0.6*	..	..	..	*0.3*	*–2.4*	..	..	..
Aug	..	..	..	..	..	*0.5*	..	..	..	..

1 Estimates due to rebasing to 1990
2 Western Germany (Federal Republic of Germany before unification)
3 Not adjusted for unequal number of working days in a month
4 GDP in industry at factor cost and 1986 prices
5 Some countries excluded from area total

6 Producer prices (manufacturing)
Percentage change on a year earlier

	United Kingdom	Germany[1]	France[2]	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	*14.1*	*7.1*	*9.2*	..	..	*13.5*	*14.8*	*13.3*	..	..
1985	*5.3*	*1.9*	*4.4*	*7.8*	*5.0*	*0.9*	*−0.8*	*2.8*	*1.9*	*3.0*
1986	*4.3*	*−2.4*	*−2.8*	*0.2*	*−0.8*	*−1.4*	*−4.7*	*0.9*	*−1.5*	*−1.1*
1987	*3.7*	*−0.4*	*0.6*	*3.0*	*1.3*	*2.1*	*−2.9*	*2.8*	*1.1*	*1.5*
1988	*4.3*	*1.6*	*5.1*	*3.5*	*3.5*	*2.5*	*−0.2*	*4.4*	*2.5*	*3.5*
1989	*4.7*	*3.4*	*5.4*	*5.9*	*5.1*	*5.1*	*2.1*	*1.9*	*4.4*	*5.4*
1990	*5.8*	*1.5*	*−1.1*	*4.2*	*2.3*	*5.0*	*1.6*	*0.3*	*3.4*	*3.9*
1991	*5.4*	*2.0*	*−1.3*	*3.3*	*2.3*	*2.1*	*1.0*	*−1.1*	*2.0*	*2.6*
1992	*3.5*	*1.6*	*−1.6*	*1.9*	*1.4*	*1.2*	*−0.8*	*0.5*	*0.7*	*1.8*
1992 Q2	*3.4*	*2.4*	*−1.1*	*2.1*	*1.8*	*1.3*	*−0.9*	*−0.2*	*0.9*	*1.9*
Q3	*3.3*	*1.4*	*−0.9*	*1.9*	*1.4*	*1.5*	*−0.8*	*1.6*	*1.1*	*2.1*
Q4	*3.2*	*1.0*	*−1.5*	*2.3*	*1.2*	*1.5*	*−1.1*	*3.2*	*1.0*	*2.2*
1993 Q1	*3.7*	*0.7*	*−2.3*	*3.1*	*1.2*	*2.0*	*−1.1*	*4.0*	*1.2*	*2.5*
Q2	*4.2*	*0.0*	*−3.3*	..	*0.9*	*1.9*	*−1.5*	*3.2*	*1.1*	*2.6*
1992 Aug	*2.7*	*1.5*		*1.9*	*1.4*	*1.5*	*−0.9*	*1.6*	*1.0*	*2.0*
Sep	*2.7*	*1.2*		*1.9*	*1.3*	*1.6*	*−0.9*	*2.2*	*1.0*	*2.1*
Oct	*2.8*	*1.0*		*2.0*	*1.1*	*1.7*	*−1.1*	*3.0*	*1.1*	*2.2*
Nov	*3.1*	*1.0*		*2.2*	*1.2*	*1.4*	*−1.1*	*3.2*	*0.9*	*2.1*
Dec	*3.4*	*1.0*		*2.5*	*1.3*	*1.5*	*−1.2*	*3.6*	*1.0*	*2.2*
1993 Jan	*3.6*	*1.0*		*2.8*	*1.2*	*2.0*	*−1.1*	*4.4*	*1.2*	*2.6*
Feb	*3.7*	*0.7*		*2.9*	*1.2*	*2.0*	*−1.0*	*3.8*	*1.2*	*2.5*
Mar	*3.6*	*0.6*		*3.5*	*1.2*	*2.0*	*−1.2*	*3.8*	*1.3*	*2.6*
Apr	*3.8*	*0.3*		*3.7*	*0.9*	*2.3*	*−1.3*	*3.8*	*1.3*	*2.7*
May	*4.0*	*−0.1*		*3.9*	*0.9*	*2.0*	*−1.5*	*3.2*	*1.1*	*2.6*
Jun	*4.0*	*−0.3*		..	*0.9*	*1.4*	*−1.5*	*2.9*	*0.8*	*2.4*
Jul	*4.1*	*−0.2*		..	*1.1*	*1.3*	*−1.7*	*2.9*	*0.8*	*2.4*
Aug	..	..		..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification).
2 Producer prices in intermediate goods

7 Total employment: index numbers[1]

1985 = 100

	United Kingdom[2]	Germany[3,4]	France[4]	Italy	EC	United States[4]	Japan	Canada[4]	Major 7	OECD
	DMBC	GAAR	GAAU	GAAS	GADW	GADT	GADU	GADS	GAEU	GADV
1980	103.6	102	101.1	100	..	93	95	95	..	..
1985	100.0	100	100.0	100	100	100	100	100	100	100
1986	100.2	101	100.5	101	101	102	101	103	101	101
1987	102.0	102	100.9	100	102	105	102	106	103	103
1988	105.2	103	102.0	102	104	107	104	109	105	105
1989	107.8	104	103.5	101	106	109	106	111	107	107
1990	108.6	107	104.6	103	107	110	108	112	108	109
1991	105.5	109	104.6	104	108	109	110	110	108	108
1992	102.7	110	104.2	103	106	110	111	109	108	108
1992 Q1	104.3	109	104.1	103	106	108	109	106	107	107
Q2	103.9	110	104.6	105	107	110	112	109	109	109
Q3	102.6	110	104.7	104	106	111	112	112	109	109
Q4	101.6	110	103.5	102	105	110	111	109	108	108
1993 Q1	101.3	108	103.2	100	104	109	109	107	107	107
Q2	101.3	108	..	98	..	111	112	111	109	108
1993 Apr	..	108	..	98	..	110	111	108	108	107
May	..	108	..	..	..	111	112	111	109	108
Jun	..	108	..	..	..	113	113	114	109	109
Jul	..	107	..	..	..	113	112	114	..	..
Aug	..	..	..	..	..	..	..	..	..	..
Percentage change, latest quarter on that of corresponding period of previous year										
1993 Q1	*−2.9*	*−0.9*	*−0.9*	*−2.9*	*−1.9*	*0.9*	*0.0*	*0.9*	*0.0*	*0.0*
Q2	*−2.5*	*−1.8*	..	*−6.7*	..	*0.9*	*0.0*	*1.8*	*0.0*	*−0.9*
Percentage change latest quarter on previous quarter										
1993 Q1	*−0.3*	*−1.8*	*−0.3*	*−2.0*	*−1.0*	*−0.9*	*−1.8*	*−1.8*	*−0.9*	*−0.9*
Q2	*0.0*	*0.0*	..	*−2.0*	..	*1.8*	*2.8*	*3.7*	*1.9*	*0.9*

1 Not seasonally adjusted except for the United Kingdom
2 Estimates due to rebasing to 1990
3 Western Germany (Federal Republic of Germany before unification)
4 Excludes members of armed forces

8 Average wage earnings in manufacturing[1] Percentage change on a year earlier

	United Kingdom[2]	Germany[3]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	*17.8*	*6.5*	*15.2*	*18.7*	*10.3*	*8.6*	*7.5*	*10.9*	*9.0*	*9.1*
1985	*9.1*	*4.2*	*5.7*	*11.2*	*7.5*	*4.2*	*3.1*	*4.2*	*5.3*	*5.3*
1986	*7.7*	*4.0*	*3.9*	*4.8*	*5.0*	*2.0*	*1.4*	*3.0*	*3.0*	*4.0*
1987	*8.0*	*3.8*	*3.2*	*6.5*	*5.7*	*2.0*	*1.7*	*2.9*	*2.9*	*2.9*
1988	*8.5*	*4.6*	*3.1*	*6.1*	*5.4*	*2.9*	*4.6*	*3.8*	*4.7*	*4.7*
1989	*8.7*	*3.5*	*3.8*	*6.1*	*6.0*	*2.8*	*5.8*	*5.5*	*4.5*	*5.4*
1990	*9.4*	*5.1*	*4.5*	*7.2*	*7.3*	*3.6*	*5.4*	*5.2*	*5.2*	*5.9*
1991	*8.2*	*5.7*	*4.3*	*9.8*	*7.5*	*2.6*	*3.5*	*4.9*	*4.9*	*4.8*
1992	*6.6*	*6.2*	*3.6*	*5.4*	*6.3*	*2.6*	*1.0*	*3.9*	*3.9*	*3.8*
1992 Q2	*6.0*	*3.0*	*3.8*	*6.0*	*6.4*	*2.6*	*2.0*	*3.9*	*4.0*	*4.7*
Q3	*6.1*	*6.0*	*3.5*	*3.8*	*4.8*	*1.7*	*0.7*	*3.1*	*3.1*	*3.8*
Q4	*5.7*	*5.2*	*3.6*	*2.9*	*4.7*	*1.7*	*−0.1*	*3.1*	*2.2*	*3.6*
1993 Q1	*4.7*	..	*3.4*	*2.8*	*4.7*	*2.5*	*−0.5*	*3.0*	*2.4*	*3.1*
Q2	*4.9*	..	*2.6*	*3.1*	..	*2.5*	*0.7*	*2.3*	*2.3*	*3.0*
1992 Aug	*6.5*	..	..	*3.5*	*5.6*	*2.6*	*−1.8*	*3.9*	*2.4*	*3.1*
Sep	*5.8*	..	..	*3.7*	*4.8*	*2.5*	*1.1*	*3.1*	*3.3*	*4.0*
Oct	*6.3*	*5.2*	*3.6*	*4.1*	*5.4*	*2.5*	*1.2*	*3.9*	*3.3*	*3.9*
Nov	*5.6*	..	..	*2.1*	*4.7*	*1.7*	*1.2*	*3.1*	*3.2*	*3.1*
Dec	*5.4*	..	..	*2.4*	*5.4*	*2.5*	*−1.0*	*3.8*	*1.8*	*2.4*
1993 Jan	*4.9*	..	*3.4*	*2.8*	*4.8*	*3.4*	*−3.6*	*3.8*	*2.4*	*2.3*
Feb	*5.1*	..	..	*2.8*	*4.7*	*2.5*	*1.3*	*3.8*	*3.3*	*3.9*
Mar	*4.2*	..	..	*2.7*	*4.7*	*2.5*	*1.0*	*2.3*	*3.2*	*3.9*
Apr	*5.3*	..	*2.6*	*2.6*	..	*2.5*	*2.0*	*2.3*	*2.4*	*3.1*
May	*4.8*	..	..	*2.6*	..	*2.5*	*2.3*	*1.5*	*3.2*	*3.1*
Jun	*4.9*	..	..	*4.2*	..	*2.5*	*−0.9*	*2.3*	*2.1*	*2.8*
Jul	*4.9*	..	..	*4.1*	..	*2.5*	*0.3*	..	..	..
Aug	..	..	..	..	..	*2.5*	..	..	..	..

1 Definitions of coverage and treatment vary among countries
2 Figures for Great Britain refer to weekly earnings; others are hourly
3 Western Germany (Federal Republic of Germany before unification)

9 Retail Sales (volume): index numbers

1985 = 100

	United[2] Kingdom	Germany[1]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
	FAAM	GADD	GADC	GADE	GADH	GADA	GADB	GACZ	GAEW	GADG
1980	86.4	103.0	101.0	83.1	94.6	84.0	103.2	83.6	89.9	90.7
1985	100.0	100.0	100.0	100.0	99.9	100.0	99.9	100.0	100.0	100.0
1986	105.3	103.4	102.4	106.8	104.4	105.5	101.5	104.6	104.5	104.4
1987	110.6	107.5	104.5	112.0	108.6	108.4	107.1	110.3	108.3	108.1
1988	117.5	111.1	108.0	109.5	111.7	112.1	111.4	114.6	111.8	111.5
1989	119.9	114.1	109.5	117.1	116.1	114.6	115.8	114.5	114.9	114.8
1990	120.8	123.7	110.1	114.4	119.2	115.0	121.7	112.0	116.6	116.7
1991	119.4	130.7	109.7	111.2	120.2	112.7	124.2	100.4	115.5	115.9
1992	120.2	128.3	108.9	116.5	120.4	117.6	120.8	101.6	117.7	117.7
1993 Q1	123.4	123.0	108.9	115.5	118.7	120.2	117.7	103.8	118.4	117.8
Q2	124.0	120.8	110.1	..	116.9	121.7	115.2	104.3	118.3	117.5
1992 Aug	120.8	125.5	108.8	112.8	119.4	117.4	120.4	102.3	117.1	117.1
Sep	121.5	128.7	109.8	115.8	121.3	118.0	119.6	102.5	117.9	118.0
Oct	121.8	127.4	110.7	119.0	121.0	120.3	117.8	103.3	119.0	118.7
Nov	121.7	128.7	105.2	122.1	120.4	120.0	117.0	102.9	118.6	118.1
Dec	120.8	133.3	109.6	116.4	121.1	121.4	117.5	103.1	119.6	119.1
1993 Jan	123.1	121.8	110.7	124.8	120.6	121.1	117.9	104.8	119.5	118.8
Feb	123.4	122.7	106.6	110.9	117.6	120.5	117.6	103.3	117.9	117.5
Mar	123.7	124.5	109.3	110.9	118.0	119.1	117.6	103.4	117.6	117.0
Apr	123.5	123.7	112.4	119.2	119.9	121.1	115.9	104.7	119.1	118.4
May	123.2	118.9	104.6	..	115.4	121.6	114.8	104.6	117.7	116.8
Jun	124.9	119.8	113.4	..	115.3	122.4	114.9	103.7	118.0	117.2
Jul	124.5	..	111.9	..	..	..	..	..	..	..
Aug	124.6	..	..	..	..	..	..	..	..	..
Percentage change average of latest three months on that of corresponding period of previous year										
1993 Jul	*3.5*	..	*1.5*	..	..	..	..	..	..	..
Aug	*3.7*	..	..	..	..	..	..	..	..	..
Percentage change average of latest three months on previous three months										
1993 Jul	*0.5*	..	*0.5*	..	..	..	..	..	..	..
Aug	*1.0*	..	..	..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification)
2 Estimates due to rebasing to 1990

Chart I: Gross domestic product

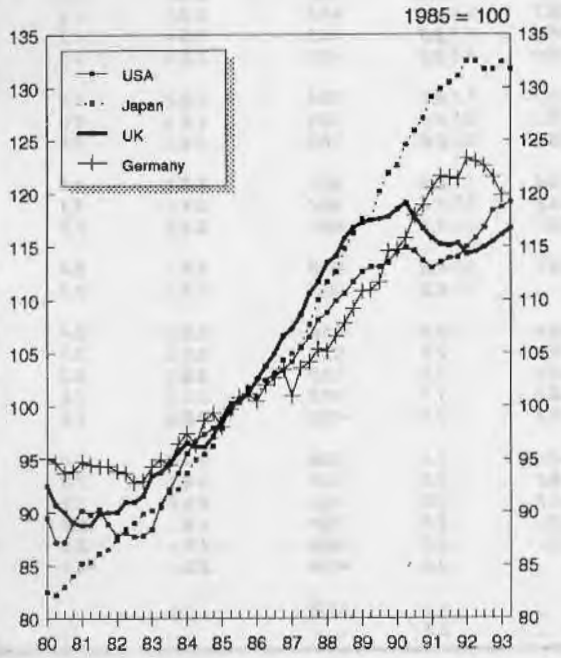


Chart II: Consumer price index

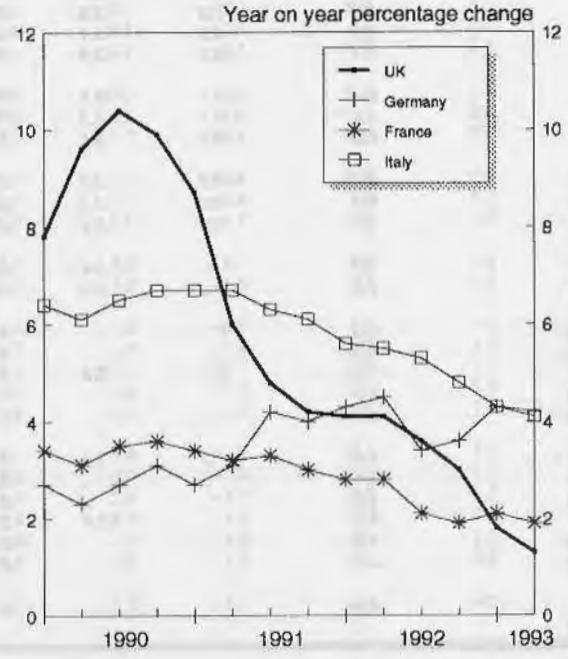
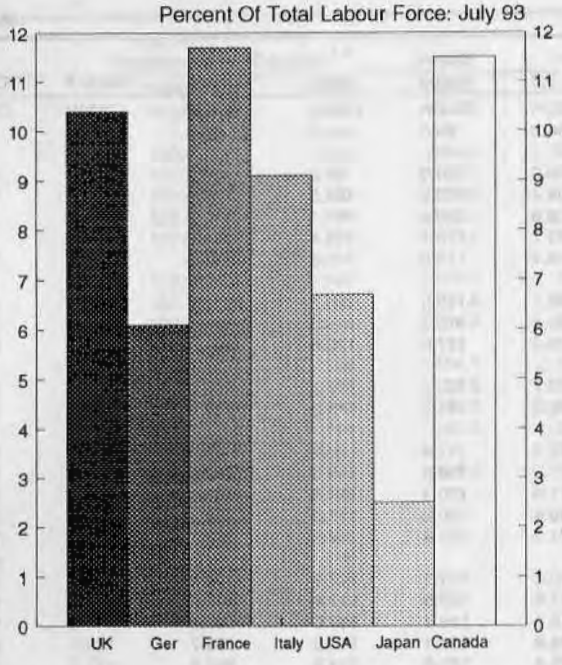


Chart III: Standardised unemployment



The United States refers to August and Italy refers to April

Chart IV: Current account balance - percentage of GDP at market prices

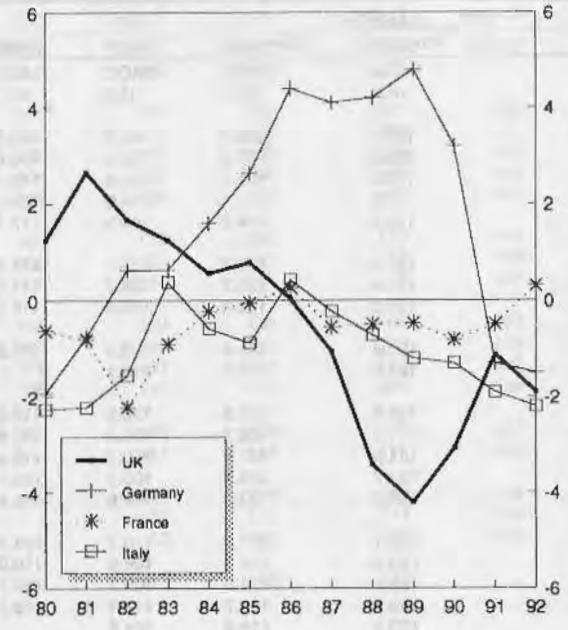


Chart V: Industrial production

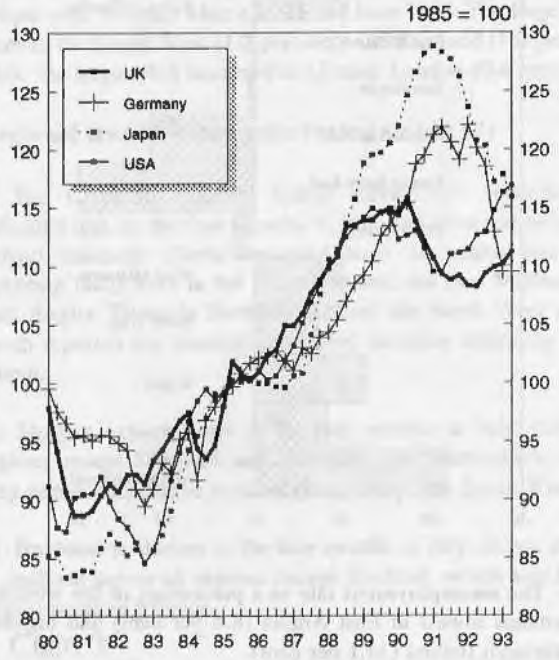


Chart VI: Producer price inflation

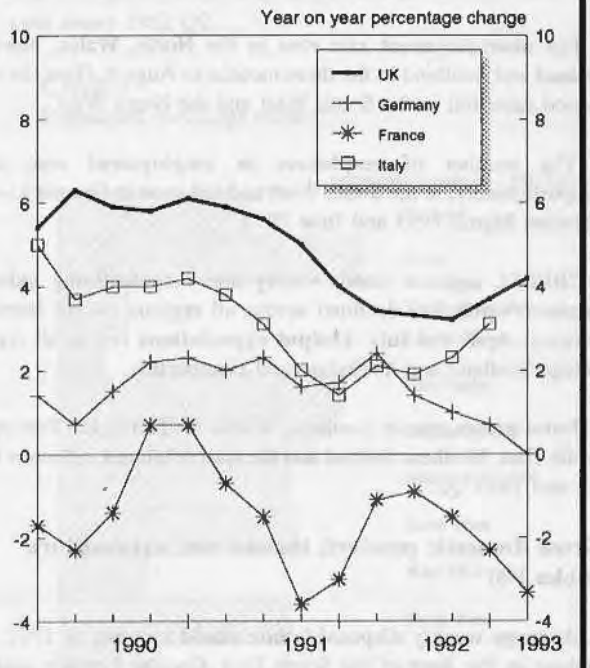


Chart VII: Employment

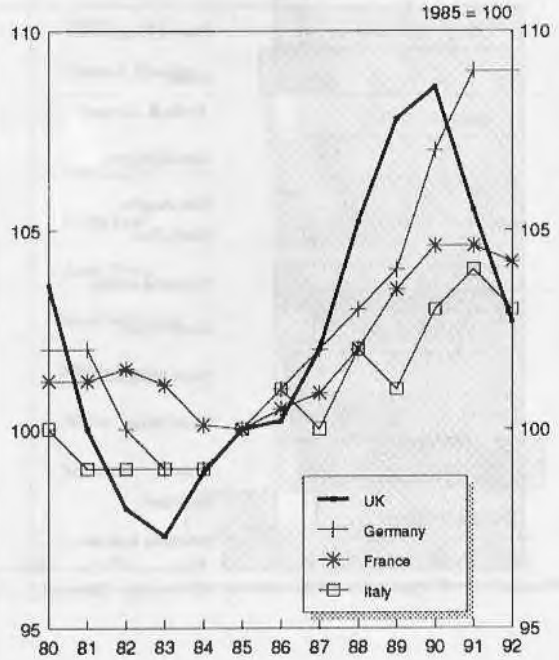
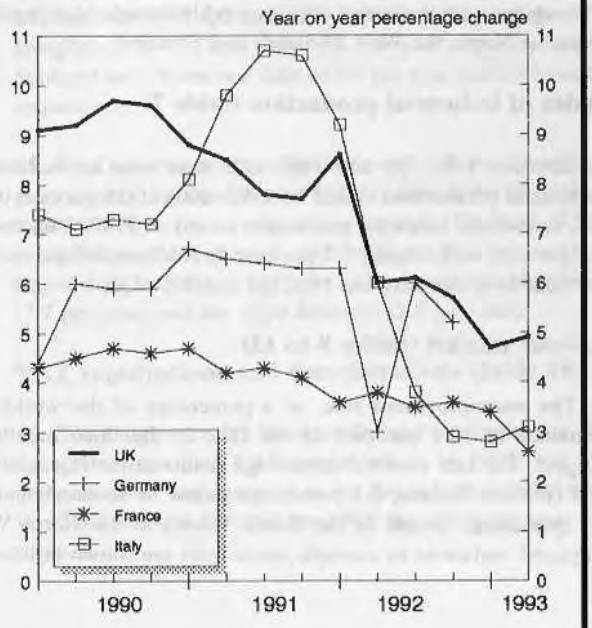


Chart VIII: Wage earnings (manufacturing)



REGIONAL ECONOMIC INDICATORS

(includes data up to 21 September 1993)

Summary

- **Average weekly disposable household income**, in 1992, was highest in the Rest of the South East (ie excluding Greater London) and lowest in Northern Ireland.

- **Average weekly household expenditure**, in 1992, was highest in the Rest of the South East and lowest in the North.

- The **unemployment** rate rose in the North, Wales, Northern Ireland and Scotland in the three months to August. Over the same period rates fell in the South West and the North West.

- The number of **employees in employment** rose most, proportionately, in the South West and fell most in Greater London between March 1993 and June 1993.

- CBI/BSL regional trends survey into manufacturing indicates **business optimism** declined across all regions except Scotland, between April and July. **Output expectations** fell in all regions except Scotland and Yorkshire and Humberside.

- **House prices** rose in Scotland, Wales, the North, the Rest of the South East, Northern Ireland and the East Midlands, between 1993 Q1 and 1993 Q2.

Gross domestic product, income and expenditure (tables 1-6)

1. **Average weekly disposable household income**, in 1992, was highest in the Rest of the South East, Greater London, and the South West. The regions with the lowest average weekly household income were Northern Ireland, the North and Wales. Chart 1 shows the percentage difference from the UK average weekly disposable income for each region.

2. **Average weekly household expenditure**, in 1992, was highest in the Rest of the South East, Greater London and East Anglia. The regions with the lowest average weekly household expenditure were the North, the West Midlands and Scotland.

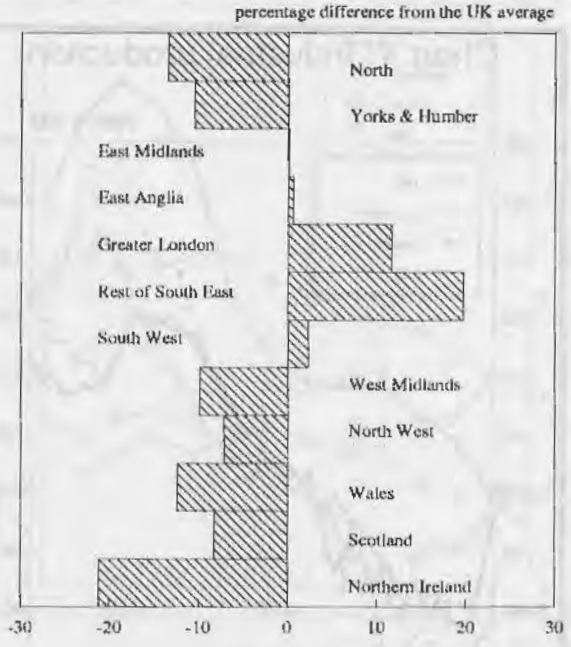
Index of industrial production (table 7)

3. Between 1993 Q1 and 1993 Q2, there was an increase in **industrial production** (based on 1990=100) of 0.8 per cent in the UK as a whole. Industrial production (based on 1985=100) rose by 1.8 per cent in Scotland, 1.7 per cent in Northern Ireland and 0.9 per cent in Wales between 1992 Q4 and 1993 Q1.

Labour market (tables 8 to 12)

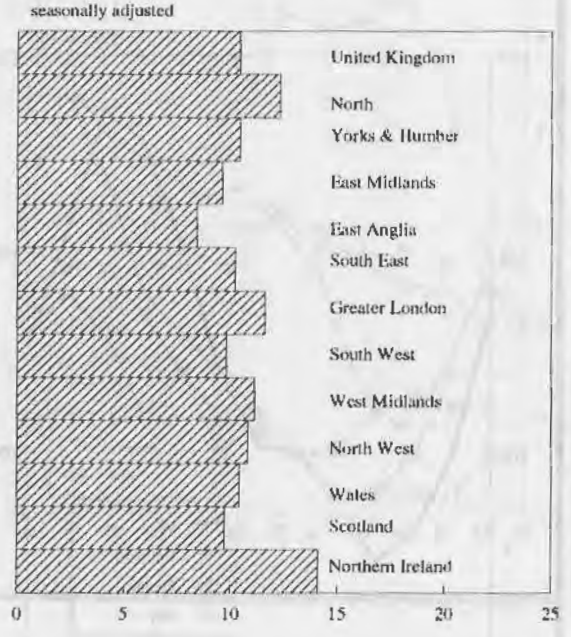
4. The **unemployment** rate, as a percentage of the workforce, remained at 10.4 per cent in the UK, in the three months to August. The rate rose 0.2 percentage points in the North, Wales and Northern Ireland, 0.1 percentage points in Scotland, and fell 0.1 percentage points in the South West and the North West. Regional variations in unemployment rates are shown in Chart 2.

Chart 1
Average weekly disposable household income in 1992



5. The **unemployment** rate as a percentage of the workforce, remains lowest in East Anglia (8.4 per cent) and highest in Northern Ireland (14.1 per cent).

Chart 2
Unemployment (claimant count) as a percentage of total workforce in August



6. The **long-term unemployment** rate rose in the North, the East Midlands, East Anglia, Greater London and the West Midlands by 0.1 percentage points between April and July. During the same period Yorkshire and Humberside and the North West both experienced falls in long term unemployment of 0.1 percentage points.

7. In spring 1993 **redundancy** rates, per 1,000 employees, fell across all regions. The largest falls were in Wales, the North West and Greater London. The Rest of the South East had the lowest redundancy rate, while the North had the highest.

8. The number of **employees in employment** in the UK rose by 0.4 per cent between March 1993 and June 1993. The largest rises were in the South West (1.2 per cent) and Scotland (1.0 per cent), while the largest fall occurred in Greater London (0.4 per cent).

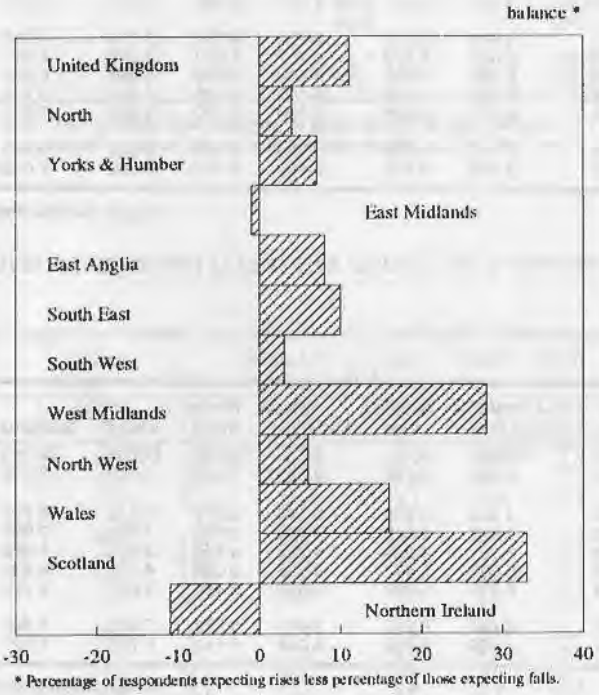
Regional trends in manufacturing (table 13)

9. The CBI/BSL regional trends survey into manufacturing indicated that, in the four months to July, the strongest **volume of output** balances (firms reporting rises in output less those reporting falls) were in the West Midland, the East Midlands and East Anglia. Those in Northern Ireland, the North West and the North reported the weakest (negative) variance indicating falling output.

10. **Output expectations** in the four months to July, fell in all regions except Scotland and Yorkshire and Humberside though they remained positive in all regions except the South West.

11. **Business optimism** in the four months to July, shown in Chart 3, declined across all regions except Scotland, which also had the largest positive balance.

Chart 3
Optimism re: business situation
CBI/BSL Regional Trends Survey in July



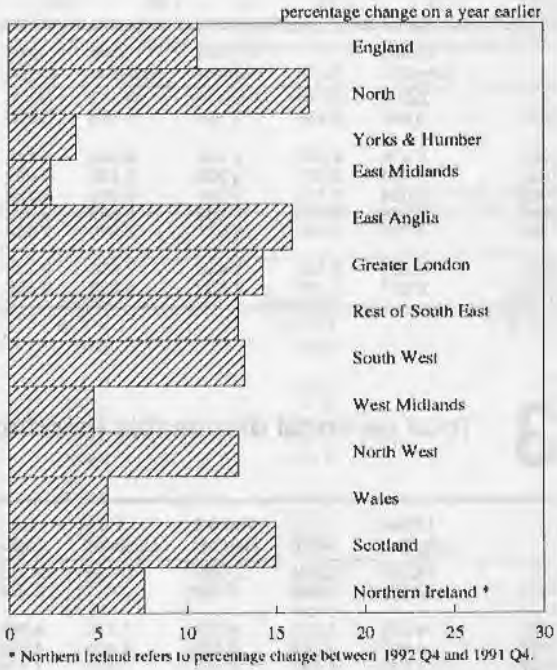
* Percentage of respondents expecting rises less percentage of those expecting falls.

12. The balance expecting increased **volumes of new export orders** (next 4 months) fell across all regions except East Anglia and Scotland. Firms in Northern Ireland expect the largest decline in export orders and also have the largest negative balance.

Dwellings (tables 14-16)

13. As shown in Chart 4, the number of **dwellings started** in 1993 Q2 was higher than 1992 Q2 in all regions. The number of **dwellings started** in England in 1993 Q2 was 10.6 per cent above 1992 Q2. In Scotland the number of **dwellings started** was 15.0 per cent above 1992 Q2, and in Wales it was 5.5 per cent above 1992 Q2.

Chart 4
Permanent dwellings started



* Northern Ireland refers to percentage change between 1992 Q4 and 1991 Q4.

14. Between 1992 Q2 and 1993 Q2 the number of **dwellings completed** in England rose by 6.5 per cent. By contrast Scotland and Wales saw falls of 9.8 per cent and 29.6 per cent respectively.

15. The Department of the Environment's all dwellings **house prices** index for the UK was 0.1 per cent lower in 1993 Q2 than 1993 Q1. House prices rose most in Scotland (5.3 per cent), Wales (4.9 per cent), and the North (3.1 per cent). The largest falls in house prices were in Yorkshire and Humberside (7.7 per cent) and the West Midland (2.8 per cent).

VAT registrations and deregistrations (table 18)

16. Every region except Northern Ireland reported more **VAT deregistrations** than **VAT registrations** in 1992. Net VAT deregistrations were greatest in the South East and the South West and account for more than half the fall in the total VAT register.

1 Gross domestic product at factor cost: current prices as a percentage of UK[1]

Percentages

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCIX	DCJF	DCJD	DCJC	DCIZ	DCPK	DCWH	DCJA	DCJB	DCJE	DCJG	DCJH	DCJI
1981	*100.0*	*5.2*	*8.1*	*6.6*	*3.2*	*15.5*	*19.7*	*7.3*	*8.4*	*10.8*	*4.2*	*8.9*	*2.1*
1985	*100.0*	*4.9*	*8.0*	*6.7*	*3.5*	*15.0*	*20.4*	*7.5*	*8.5*	*10.5*	*4.1*	*8.7*	*2.2*
1986	*100.0*	*4.7*	*8.1*	*6.7*	*3.5*	*15.1*	*20.5*	*7.6*	*8.4*	*10.5*	*4.2*	*8.5*	*2.2*
1987	*100.0*	*4.8*	*7.9*	*6.7*	*3.5*	*15.2*	*20.6*	*7.6*	*8.4*	*10.3*	*4.3*	*8.4*	*2.1*
1988	*100.0*	*4.7*	*7.8*	*6.7*	*3.6*	*15.0*	*21.1*	*7.7*	*8.5*	*10.2*	*4.3*	*8.3*	*2.1*
1989	*100.0*	*4.7*	*7.9*	*6.8*	*3.6*	*15.0*	*21.1*	*7.7*	*8.4*	*10.1*	*4.3*	*8.2*	*2.1*
1990	*100.0*	*4.7*	*7.9*	*6.8*	*3.6*	*14.9*	*21.1*	*7.7*	*8.5*	*10.1*	*4.3*	*8.4*	*2.1*
1991	*100.0*	*4.8*	*7.9*	*6.9*	*3.6*	*14.7*	*20.8*	*7.7*	*8.4*	*10.2*	*4.3*	*8.6*	*2.1*

1 UK *less* continental shelf and statistical discrepancy.

Source: Central Statistical Office

2 Gross domestic product at factor cost: per head

£

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCJJ	DCJR	DCJP	DCJO	DCJL	DCWS	DCJK	DCJM	DCJN	DCJQ	DCJS	DCJT	DCJU
1981	3 882	3 438	3 381	3 555	3 539	4 700	3 985	3 420	3 329	3 460	3 070	3 542	2 882
1985	5 438	4 630	4 744	4 981	5 146	6 398	5 659	4 823	4 730	4 762	4 264	4 890	4 071
1986	5 781	4 927	5 265	5 458	5 691	7 116	6 261	5 325	5 160	5 255	4 708	5 336	4 517
1987	6 334	5 489	5 691	5 998	6 128	7 877	6 872	5 848	5 673	5 661	5 293	5 786	4 784
1988	7 029	6 043	6 262	6 667	6 908	8 767	7 837	6 539	6 419	6 329	5 978	6 411	5 318
1989	7 707	6 663	6 911	7 360	7 669	9 654	8 633	7 171	7 009	6 903	6 501	7 036	5 864
1990	8 351	7 150	7 493	7 988	8 338	10 349	9 336	7 801	7 677	7 469	7 035	7 747	6 362
1991	8 621	7 587	7 803	8 358	8 550	10 617	9 487	8 024	7 835	7 891	7 365	8 234	6 567

Source: Central Statistical Office

3 Total personal disposable income: per head

£

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCSD	DCSM	DCSK	DCSJ	DCSG	DCSF	DCWI	DCSH	DCSI	DCSL	DCSN	DCSO	DCSP
1981	3 154	2 983	2 958	3 027	2 976	3 985	3 356	3 087	2 857	2 982	2 815	3 004	2 673
1985	4 324	4 019	4 076	4 133	4 245	5 349	4 649	4 341	3 964	4 050	3 750	4 098	3 712
1986	4 683	4 249	4 430	4 462	4 535	5 866	5 049	4 779	4 257	4 312	4 025	4 467	4 032
1987	5 043	4 591	4 761	4 837	4 910	6 303	5 390	5 096	4 638	4 659	4 395	4 832	4 329
1988	5 606	4 995	5 166	5 275	5 496	7 038	6 257	5 507	5 160	5 165	4 865	5 209	4 800
1989	6 186	5 380	5 737	5 910	6 114	8 070	6 751	6 036	5 689	5 700	5 322	5 667	5 383
1990	6 656	5 927	6 150	6 271	6 509	8 836	7 122	6 355	6 196	6 162	5 537	6 382	5 642
1991	7 071	6 441	6 575	6 779	6 943	9 079	7 388	6 710	6 489	6 746	6 052	7 092	6 108

Source: Central Statistical Office

4 Consumers' expenditure: per head

£

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCVD	DCVM	DCVK	DCVJ	DCVG	DCVE	DCWD	DCVH	DCVI	DCVL	DCVN	DCVO	DCVP
1981	2 758	2 517	2 453	2 588	2 621	3 463	2 974	2 742	2 598	2 649	2 510	2 602	2 285
1985	3 867	3 374	3 429	3 513	3 859	4 784	4 423	3 845	3 486	3 573	3 512	3 699	3 150
1986	4 281	3 813	3 753	3 794	4 319	5 396	4 882	4 349	3 808	3 998	3 800	3 986	3 542
1987	4 699	4 120	4 150	4 170	4 663	5 978	5 301	4 860	4 207	4 460	4 061	4 340	3 821
1988	5 293	4 551	4 698	4 730	5 276	6 803	5 897	5 417	4 806	5 028	4 572	4 930	4 319
1989	5 775	4 962	5 134	5 340	5 795	7 354	6 412	5 852	5 339	5 480	5 045	5 272	4 747
1990	6 104	5 232	5 334	5 777	6 127	7 674	6 750	6 250	5 648	5 778	5 450	5 595	5 133
1991	6 381	5 468	5 580	5 948	6 395	7 974	7 068	6 552	5 904	6 112	5 755	5 821	5 349

Source: Central Statistical Office

5 Average weekly disposable household income as a percentage of the UK average

Percentages

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCXQ	DCXR	DCXS	DCXT	DCXU	DCXV	DCXW	DCXX	DCXY	DCXZ	DCYA	DCYB	DCYC
1991	*100.0*	*82.4*	*90.8*	*94.4*	*93.3*	*118.4*	*120.6*	*104.4*	*91.5*	*92.3*	*85.2*	*90.0*	*82.2*
1992	*100.0*	*86.5*	*89.5*	*100.1*	*100.6*	*111.6*	*119.7*	*102.3*	*90.1*	*92.9*	*87.6*	*91.8*	*78.8*

Source: Family Expenditure Survey, Central Statistical Office

6 Average weekly household expenditure as a percentage of the UK average

Percentages

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCYD	DCYE	DCYF	DCYG	DCYH	DCYI	DCYJ	DCYK	DCYL	DCYM	DCYN	DCYO	DCYP
1991	*100.0*	*82.8*	*86.5*	*97.1*	*96.3*	*115.0*	*119.7*	*111.8*	*92.4*	*94.4*	*89.6*	*84.4*	*90.0*
1992	*100.0*	*86.6*	*88.7*	*100.4*	*102.1*	*109.0*	*123.0*	*99.5*	*87.1*	*93.1*	*92.4*	*87.4*	*94.4*

Source: Family Expenditure Survey, Central Statistical Office

7 Index of industrial production

Seasonally adjusted

	1990=100	1985=100			
	United Kingdom[1]	United Kingdom	Wales	Scotland	Northern Ireland
	DVZI	DVIM	DCPN	DCPO	DCXC
1981	78.9	89.7	95.2	93.0	95
1985	88.0	100.0	100.0	100.0	100
1986	90.1	102.4	102.9	97.8	100
1987	93.7	105.7	110.8	99.7	99
1988	98.2	109.5	118.5	107.1	110
1989	100.3	109.9	119.6	111.8	113
1990	100.0	109.3	119.6	114.3	113
1991	96.0	106.1	114.6	111.7	111
1992	95.6	105.8	115.4	110.4	113
1992 Q2	94.9	105.0	112.9	108.3	112
Q3	96.0	105.9	117.0	110.0	114
Q4	96.4	106.8	115.6	112.4	115
1993 Q1	96.7	107.0	116.6	114.4	117
Q2	97.5	107.9	..	..	..

1 Incorporates 1990 weights and changes in methodology to the measurement of manufacturing output. It is not comparable with the indices based on 1985=100.

Sources: Central Statistical Office; Welsh Office; The Scottish Office; Northern Ireland Office

8 Unemployment (claimant count) as a percentage of total workforce

Seasonally adjusted

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	Greater London	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCKH	DCKP	DCKN	DCKM	DCKJ	DCKI	DCRA	DCKK	DCKL	DCKO	DCKQ	DCKR	DCPL
1988	*8.1*	*11.9*	*9.3*	*7.1*	*5.2*	*5.4*	*6.6*	*6.2*	*8.9*	*10.4*	*9.8*	*11.2*	*15.6*
1989	*6.3*	*9.9*	*7.4*	*5.4*	*3.6*	*3.9*	*5.1*	*4.5*	*6.6*	*8.5*	*7.3*	*9.3*	*14.6*
1990	*5.8*	*8.7*	*6.7*	*5.1*	*3.7*	*4.0*	*5.0*	*4.4*	*5.8*	*7.7*	*6.7*	*8.1*	*13.3*
1991	*8.1*	*10.3*	*8.7*	*7.3*	*5.9*	*7.0*	*8.1*	*7.1*	*8.5*	*9.4*	*8.9*	*8.6*	*13.4*
1992	*9.8*	*11.3*	*10.0*	*9.1*	*7.8*	*9.3*	*10.6*	*9.4*	*10.6*	*10.8*	*10.0*	*9.4*	*14.2*
1992 Sep	*10.1*	*11.4*	*10.1*	*9.3*	*8.1*	*9.7*	*11.0*	*9.7*	*10.8*	*10.9*	*10.2*	*9.6*	*14.4*
Oct	*10.2*	*11.5*	*10.2*	*9.4*	*8.2*	*9.9*	*11.1*	*9.8*	*10.9*	*10.9*	*10.2*	*9.6*	*14.3*
Nov	*10.4*	*11.8*	*10.4*	*9.6*	*8.4*	*10.1*	*11.3*	*10.0*	*11.1*	*11.0*	*10.3*	*9.7*	*14.3*
Dec	*10.6*	*12.1*	*10.6*	*9.8*	*8.6*	*10.3*	*11.6*	*10.2*	*11.4*	*11.1*	*10.5*	*9.8*	*14.3*
1993 Jan	*10.6*	*12.1*	*10.7*	*9.9*	*8.7*	*10.4*	*11.6*	*10.2*	*11.4*	*11.2*	*10.6*	*9.8*	*14.3*
Feb	*10.6*	*12.1*	*10.6*	*9.8*	*8.6*	*10.4*	*11.6*	*10.1*	*11.3*	*11.0*	*10.4*	*9.8*	*14.3*
Mar	*10.5*	*12.0*	*10.5*	*9.6*	*8.5*	*10.3*	*11.6*	*10.0*	*11.2*	*10.9*	*10.3*	*9.6*	*14.2*
Apr	*10.5*	*12.1*	*10.5*	*9.6*	*8.5*	*10.3*	*11.6*	*10.0*	*11.2*	*11.0*	*10.3*	*9.7*	*14.1*
May	*10.4*	*12.1*	*10.4*	*9.6*	*8.4*	*10.2*	*11.6*	*9.9*	*11.1*	*10.9*	*10.2*	*9.6*	*13.9*
Jun	*10.4*	*12.2*	*10.3*	*9.5*	*8.5*	*10.2*	*11.6*	*9.8*	*11.0*	*10.8*	*10.3*	*9.6*	*14.0*
Jul	*10.4*	*12.2*	*10.3*	*9.6*	*8.5*	*10.2*	*11.6*	*9.8*	*11.0*	*10.8*	*10.4*	*9.7*	*14.0*
Aug	*10.4*	*12.3*	*10.4*	*9.6*	*8.4*	*10.2*	*11.6*	*9.8*	*11.1*	*10.8*	*10.4*	*9.7*	*14.1*

Source: Employment Department

9 Long-term unemployed as a percentage of total workforce (those out of work for 12 months or more)

Percentages

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	Greater London	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCKS	DCLA	DCKY	DCKX	DCKU	DCKT	DCRB	DCKV	DCKW	DCKZ	DCLB	DCLC	DCLD
1992 Oct	*3.4*	*4.1*	*3.5*	*3.0*	*2.2*	*2.4*	*3.8*	*2.9*	*3.9*	*3.9*	*3.4*	*3.2*	*7.3*
1993 Jan	*3.7*	*4.3*	*3.7*	*3.3*	*2.5*	*2.8*	*4.1*	*3.2*	*4.2*	*4.1*	*3.6*	*3.4*	*7.5*
Apr	*3.8*	*4.4*	*3.9*	*3.4*	*2.6*	*3.0*	*4.4*	*3.3*	*4.4*	*4.2*	*3.7*	*3.4*	*7.6*
Jul	*3.8*	*4.5*	*3.8*	*3.5*	*2.7*	*3.0*	*4.5*	*3.3*	*4.5*	*4.1*	*3.7*	*3.4*	*7.6*

Source: Employment Department

10 Redundancies

Rates[1]

	Great Britain	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland
	DCXD	DCXE	DCXF	DCXG	DCXH	DCXI	DCXJ	DCXK	DCXL	DCXM	DCXN	DCXO
Spring 1991	17.8	18.4	15.5	19.4	14.1	20.0	16.5	14.7	21.2	17.7	26.3	14.4
Spring 1992	15.1	16.6	16.2	19.9	17.8	14.7	14.8	14.3	16.1	13.6	16.6	9.7
Summer 1992	13.0	11.5	13.1	9.4	15.0	15.3	13.3	10.1	12.4	14.9	12.1	13.7
Autumn 1992	14.4	17.9	14.2	11.9	14.8	14.3	14.6	13.4	15.2	12.1	15.2	17.0
Winter 1992	16.1	18.1	14.2	16.6	12.1	17.0	14.9	16.5	17.4	18.9	19.7	13.0
Spring 1993	12.4	16.5	13.0	13.9	–[2]	11.4	11.2	12.5	13.9	12.3	11.4	11.5

1 Redundancies per 1,000 employees.
2 Sample size to small too provide a reliable estimate.

Source: Labour Force Survey, Employment Department

11 Employees in employment (all industries)

June 1990=100

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	Greater London	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCLE	DCLM	DCLK	DCLJ	DCLG	DCLF	DCRC	DCLH	DCLI	DCLL	DCLN	DCLO	DCLP
1991	96.9	98.4	96.7	97.5	97.4	95.1	93.6	97.1	96.2	97.6	96.5	100.8	101.0
1992	94.5	96.7	95.1	96.0	94.8	91.9	90.4	94.6	92.7	95.2	94.6	100.3	101.0
1992 Sep	93.7	96.0	94.5	95.2	94.1	90.7	89.5	94.1	91.7	94.5	94.0	100.0	101.0
Dec	93.5	95.0	94.3	96.0	94.1	90.6	89.0	93.6	91.1	94.7	94.2	99.1	101.2
1993 Mar	92.7	94.1	93.6	94.9	93.6	89.8	88.3	93.8	90.3	93.8	94.1	97.9	101.0
Jun	93.1	93.9	94.0	95.3	93.9	90.1	87.9	95.0	90.5	94.0	94.0	98.9	101.0

Source: Employment Department

12 Total average gross weekly pay[1]

£

	Great Britain	North	Yorks & Humber	East Midlands	East Anglia	South East	Greater London	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCQC	DCQK	DCQI	DCQH	DCQE	DCQD	DCPI	DCQF	DCQG	DCQJ	DCQL	DCQM	DCQN
1991 Apr	284.70	258.00	257.90	261.30	268.90	326.70	361.10	265.60	261.10	267.10	252.20	265.30	245.90
1992 Apr	304.60	282.30	277.30	276.10	288.40	348.60	385.30	283.10	279.90	285.50	270.90	286.70	269.60

1 Average gross weekly earnings of full-time employees on adult rates whose pay for the survey pay-period was not affected by absence.

Sources: New Earnings Survey, Employment Department; Department of Economic Development, Northern Ireland

13 Regional trends in manufacturing

Balance[1]

Volume of output (past 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCLQ	DCLY	DCLW	DCLV	DCLS	DCLR	DCLT	DCLU	DCLX	DCLZ	DCMA	DCMB
1992 Oct	–25	–33	–20	–15	–32	–23	–26	–26	–38	–18	–25	–16
1993 Jan	–14	–37	–19	–4	–21	–19	–11	–14	–1	2	–11	–9
Apr	–1	–10	–8	6	3	11	5	13	2	26	–8	–12
Jul	2	–2	4	16	14	7	3	19	–4	10	4	–7

Volume of output (next 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCMC	DCMK	DCMI	DCMH	DCME	DCMD	DCMF	DCMG	DCMJ	DCML	DCMM	DCMN
1992 Oct	–7	–6	10	–10	–1	–10	–5	–6	3	–18	–21	–15
1993 Jan	2	–4	1	7	9	10	1	9	8	8	17	14
Apr	14	21	9	15	25	17	18	32	22	17	16	29
Jul	3	12	10	5	6	8	–1	26	7	7	18	6

Optimism re:business situation

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCMO	DCMW	DCMU	DCMT	DCMQ	DCMP	DCMR	DCMS	DCMV	DCMX	DCMY	DCMZ
1992 Oct	–23	–29	–22	–26	–34	–25	–18	–31	–29	–51	–17	21
1993 Jan	11	6	6	1	6	21	25	24	16	22	11	7
Apr	31	15	8	25	43	44	41	51	32	35	12	30
Jul	11	4	7	–1	8	10	3	28	6	16	33	–11

Volume of new orders (past 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCNA	DCNI	DCNG	DCNF	DCNC	DCNB	DCND	DCNE	DCNH	DCNJ	DCNK	DCNL
1992 Oct	–28	–29	–28	–11	–39	–32	–21	–23	–33	–35	–18	7
1993 Jan	–13	–33	–16	–5	–30	–16	–21	–15	–8	13	–10	–10
Apr	–	–2	–4	–1	3	10	–9	23	7	30	–8	9
Jul	8	–4	14	12	16	9	16	22	–9	–1	1	–30

Volume of new orders (next 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCNM	DCNU	DCNS	DCNR	DCNO	DCNN	DCNP	DCNQ	DCNT	DCNV	DCNW	DCNX
1992 Oct	–1	–2	3	–	–26	–9	–1	1	1	–19	–15	1
1993 Jan	13	6	13	8	22	17	25	17	20	25	4	14
Apr	20	15	15	23	24	28	20	39	22	27	7	45
Jul	4	5	8	–1	7	15	9	22	6	1	17	–23

Volume of new export orders (past 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCNY	DCOG	DCOE	DCOD	DCOA	DCNZ	DCOB	DCOC	DCOF	DCOH	DCOI	DCOJ
1992 Oct	–19	6	–20	–9	–22	–18	–1	–15	–1	–21	–	12
1993 Jan	–11	–34	–10	–9	–28	–8	–5	–18	7	12	9	–9
Apr	10	–3	–	–4	3	7	6	16	12	36	16	–
Jul	7	–37	5	8	14	12	–13	1	–3	–2	10	–37

Volume of new export orders (next 4 months)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCOK	DCOS	DCOQ	DCOP	DCOM	DCOL	DCON	DCOO	DCOR	DCOT	DCOU	DCOV
1992 Oct	6	1	18	12	5	2	29	18	15	–13	1	1
1993 Jan	18	12	22	18	32	21	25	15	25	25	25	9
Apr	18	12	9	14	4	21	19	30	18	29	10	42
Jul	–1	1	–4	–4	11	–	–9	4	–5	–17	16	–35

Firms working below capacity (percentages)

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCOW	DCPE	DCPC	DCPB	DCOY	DCOX	DCOZ	DCPA	DCPD	DCPF	DCPG	DCPH
1992 Oct	*68*	*68*	*63*	*60*	*68*	*75*	*57*	*83*	*71*	*77*	*71*	*69*
1993 Jan	*73*	*74*	*71*	*64*	*63*	*76*	*73*	*81*	*65*	*66*	*61*	*86*
Apr	*63*	*70*	*62*	*61*	*60*	*68*	*68*	*75*	*65*	*56*	*65*	*79*
Jul	*63*	*62*	*57*	*55*	*56*	*66*	*50*	*79*	*62*	*62*	*50*	*62*

1 Balance in percentage of firms reporting rises *less* those reporting falls.

Source: CBI/BSL Regional Trends Survey ISSN:0960 7781

14 Permanent dwellings started

Numbers

	England	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	BLHA	DCRZ	DCRX	DCRW	DCRT	DCRR	DCWL	DCRU	DCRV	DCRY	BLIA	BLFA	BLGA
1991	131 694	7 497	12 728	12 830	10 060	11 483	31 869	14 645	14 653	15 929	9 393	20 618	7 458
1992	129 077	7 734	12 680	12 703	7 866	12 123	31 810	13 698	14 414	16 049	8 913	17 932	7 714
1992 Q2	36 331	2 032	3 536	4 086	2 285	3 617	8 604	3 701	3 585	4 885	2 496	4 530	2 341
Q3	32 315	1 772	3 064	3 086	2 013	3 144	8 378	3 158	3 869	3 831	2 024	4 942	1 976
Q4	26 111	1 771	2 450	2 378	1 542	2 799	6 269	3 130	2 912	2 860	2 016	3 744	1 668
1993 Q1	38 557	1 878	3 697	3 867	2 470	3 717	9 267	4 086	4 196	5 379	3 101	5 200	..
Q2	40 186	2 375	3 670	4 182	2 649	4 134	9 714	4 192	3 756	5 514	2 634	5 208	..

Source: Department of the Environment

15 Permanent dwellings completed

Numbers

	England	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	BLHI	DCVZ	DCVX	DCVW	DCVT	DCVR	DCWM	DCVU	DCVV	DCVY	BLII	BLFI	BLGI
1991	152 221	7 890	13 301	15 473	10 836	16 291	37 743	17 379	15 879	17 429	10 115	19 236	6 910
1992	142 974	7 984	13 196	14 017	9 537	14 910	35 381	15 806	14 915	17 228	9 644	17 017	7 999
1992 Q2	33 406	2 000	3 112	3 014	2 340	3 196	8 206	3 562	3 678	4 298	2 378	4 445	2 341
Q3	36 055	1 866	3 153	3 557	2 379	3 492	9 215	4 383	3 871	4 139	2 518	4 833	1 976
Q4	36 255	2 435	3 442	3 777	2 233	3 787	8 505	3 618	3 750	4 708	2 342	4 166	1 668
1993 Q1	35 947	1 608	3 298	3 619	2 334	3 496	8 831	3 545	4 840	4 376	2 070	4 000	..
Q2	35 589	1 962	3 456	3 162	2 047	3 679	8 992	3 926	3 665	4 700	1 675	4 008	..

Source: Department of the Environment

16 Regional house prices[1]

1990=100

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	Greater London	Rest of South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCPQ	DCPY	DCPW	DCPV	DCPS	DCPJ	DCPR	DCPT	DCPU	DCPX	DCPZ	DCQA	DCQB
1991	98.6	100.6	104.1	97.5	97.2	96.0	94.7	96.8	100.0	101.4	98.6	108.4	107.2
1992	94.9	104.9	102.3	95.5	92.0	86.2	88.0	91.4	97.2	102.7	97.5	113.1	109.1
1992 Q2	94.8	106.5	104.6	96.1	91.3	86.0	86.6	91.1	99.1	102.0	96.6	112.4	107.9
Q3	95.2	105.4	103.7	96.0	93.3	85.8	87.8	91.6	96.6	103.2	96.8	114.9	110.3
Q4	91.8	111.1	95.1	91.7	88.6	81.3	84.0	87.0	94.4	101.2	93.7	114.9	114.0
1993 Q1	91.6	102.1	106.5	91.4	86.6	86.5	83.1	84.4	95.1	99.3	96.4	112.9	111.0
Q2	91.5	105.3	98.3	91.7	86.5	85.0	84.5	84.4	92.4	97.6	101.1	118.9	111.7

1 These indices adjust for the mix of dwellings (by size and type, whether new or second-hand) and exclude those bought at non-market prices.

Source: Department of the Environment

17 Direct inward investment

Percentage of total UK

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCQO	DCQW	DCQU	DCQT	DCQQ	DCQP	DCQR	DCQS	DCQV	DCQX	DCQY	DCQZ
1990	*100.0*	*8.5*	*8.7*	*2.9*	*8.2*	*17.3*	*0.7*	*14.2*	*12.1*	*7.2*	*16.2*	*4.0*
1991	*100.0*	*6.9*	*11.4*	*2.0*	*6.6*	*17.5*	*0.3*	*9.2*	*13.9*	*19.0*	*8.6*	*4.6*
1992	*100.0*	*9.3*	*5.3*	–	*8.4*	*4.1*	*1.8*	*9.8*	*6.6*	*28.5*	*16.8*	*9.3*

Source: DTI invest in Britain Bureau

18 VAT registrations and deregistrations: net change[1]

Thousands

	United Kingdom	North	Yorks & Humber	East Midlands	East Anglia	South East	South West	West Midlands	North West	Wales	Scotland	Northern Ireland
	DCYQ	DCYS	DCYT	DCYU	DCYV	DCYW	DCYX	DCYY	DCYZ	DCZA	DCZB	DCZC
1990	55.0	1.6	3.3	3.1	1.4	24.0	3.7	4.2	6.1	2.1	4.2	1.3
1991	3.0	0.1	0.6	0.2	–	0.8	–1.4	–	1.5	–0.4	0.9	0.6
1992	–41.0	–1.5	–2.8	–2.2	–1.9	–17.8	–6.2	–3.3	–3.5	–2.1	–0.3	0.6

1 Registrations *less* deregistrations.

Source: Department of Trade and Industry

THE UK SECTOR ACCOUNTS

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INTRODUCTION

The objective of this article is to present and explain the UK system of sector accounts (which include financial transaction accounts and balance sheets) and demonstrate that they provide an essential framework of the integrated economic accounts of the nation. Sector accounts are used by economists in goverment, the city, and elsewhere to analyse how developments in the economy as a whole are reflected in particular sectors, and what this means for policy makers. They also show how financial deficits in one or more sector are financed by financial surpluses in other sectors.

The boxed text accompanying this article explains what the sector accounts are, and how the financial or "flow of funds" accounts fit within this framework. This section is primarily for readers who are new to the subject or unfamiliar with national accounts concepts. In part 1 of the main article the UK system of compiling integrated economic accounts on a quarterly basis is explained with details of the improvements made since 1989. Part 2 sets out CSO's plans for further integration and improvement over the next few years.

The CSO's mission statement contained in the recently published Corporate Plan[1] is "*to improve decision making, stimulate research and inform debate within government and the wider community by providing a quality statistical service*". The UK 'integrated economic accounts' aim to do this by compiling and presenting macro-economic aggregates within an integrated and coherent framework with minimal errors and omissions.

Several recent articles in *Economic Trends*[2, 3, 4] have discussed improvements to CSO's macro-economic statistics as a result of changes initiated by the "Pickford" report in November 1988[5] and followed up by the two so called "Chancellor's Initiatives". A more recent article[6] focused on improvements to one of the sectors - the overseas sector or balance of payments accounts (BoP). The CSO strategy and these recent improvements to the accounts have focused on the production of fully articulated and accurate quarterly sector accounts as early as possible and with a minimum of subsequent revisions.

PART 1 - AN INTEGRATED SYSTEM OF ECONOMIC ACCOUNTS

The CSO has produced quarterly gross domestic product accounts; quarterly current and capital sector accounts; quarterly balance of payments (BoP) accounts; and quarterly financial accounts for over 30 years. The GDP and BoP accounts were first developed during and immediately after World War II; while the financial accounts were developed following the "Radcliffe report of 1959[7] These are brought together and published as a complete set of sector accounts quarterly in[8] and annually in[9]. However, until recently, these accounts were compiled and fixed in a strict time sequence. In the full quarterly sector accounts (ie. excluding provisional early estimates of specific components): the balance of payments were finalised and published first; followed by the GDP parts of the accounts ; then the sector accounts down to the FSD line (see box); and finally in the fourth month the financial accounts and quarterly balancing items.

The CSO has an advantage over most other countries in that the compilation of all these accounts are the responsibility of one organisation and not split between the central bank and the national statistical institute. Furthermore in the UK, the balance of payments accounts are largely based on statistical returns from domestic enterprises rather than on the 'European' system of recording all or most individual cross-border transactions via the banks and a compulsory reporting system. Nevertheless some of the advantages of this UK organisation and system were lost by lack of complete integration of the separate quarterly operational cycles.

In recent years there has been a progressive move to compile the complete quarterly national accounts (covering GDP, BoP, and financial accounts) on a single integrated timetable and based on a single common dataset. Initially the timing of the BoP accounts were delayed slightly to take on later data and appeared only a day or two before the GDP accounts. This process was taken a step further in 1992. Earlier and better data sources, plus improved compilation methods enabled the compilation date for the financial accounts to be brought forward into the third month. Finally in February 1993, as part of a general change in release practices, the CSO was able to announce a new quarterly timetable which included both an earlier release of provisional income and expenditure components of GDP at week 8 and a fully integrated set of economic accounts at week 12.

This new timetable became fully operational from March 1993 and was accompanied by a new quarterly publication "*UK Economic Accounts*"[10] published for the first time in April 1993. The new integrated timetable greatly helps the CSO to ensure internal consistancy by ensuring that a comman set of data is being used in every part of the accounts. It also helps to identify enomalies at an early stage, which may require the examination of alternative evidence for some parts of the accounts, if Sector balancing items are unacceptably large. Such evidence may take the form of figures from an alternative data source for a particular cell of the matrix. More usually it is an estimate of change, or knowledge of trends, from other sources which cannot be directly quantified within the 'hard' data series used for the accounts.

At this stage of the compilation process, the estimates for many of the transactions in the accounts are provisional and subject to wide margins of error. The collective judgement of all the professional statisticians involved in the compilation of national accounts is therefore required to improve coherence of the accounts. A similar more intensive process of achieving coherence also takes place as part of the annual cycle - in this case also extending to input-output analysis[11].

Alongside Canada, the UK leads the world in this process of producing coherent integrated economic accounts on a quarterly basis. Very few countries actually produce financial accounts on a quarterly basis. Of those known to do so - France, UK, USA, Australia, Canada; only in the UK, Canada and Australia are responsibilities concentrated in one organisation. Furthermore only in the UK and Canada have the *full financial accounts been published at the same time as their main quarterly national sector accounts* (at week 12 after the quarter in the UK) ***and*** *full integration with the balance of payments account been achieved.*

Behind this integration of the compilation system also lies increasing integration in data collection systems. For banks and financial institutions in particular overseas sector BoP transactions are now collected as an integral part of surveys covering domestic transactions. Financial information for large industrial and commercial companies is now collected directly from the companies themselves in the Financial Assets and Liabilities Survey. These data are used together with counterpart information from banks and financial institutions and remaining specific balance of payments surveys (see [6] for more details).

Holdings of listed shares are measured as part of annual Share Register Surveys[12]. Even where specific surveys of overseas transactions remain (eg Direct Investment and Trade in Services) steps are being taken to ensure they make full and effective use of the new CSO Inter-Departmental Business Register[13] and to link questionnaires with those used for domestic transactions. Data obtained from counterpart sources however remains very important for the estimation of the accounts of the personal sectors (eg bank deposits and national savings) because information is often very difficult to collect directly.

A major new comprehensive system of estimation of dividend and interest flows between sectors (The Dividends and Interest Matrix - DIM) has recently been introduced into the sector accounts by the CSO[14]. This is based on a combination of interest and dividend rates applied to balance sheet values plus actual reported totals of flows where known.

Responsibility for each sector of the accounts rests with a specific branch of CSO within Sector Accounts Division. Each of these sector branches have a work programme aimed at improving the quality and coherence 'top to bottom' of the accounts for their specific sector - see for example[6] for the improvements in hand for the overseas sector. For the financial institutions sector in particular these coherent 'top to bottom' accounts are being developed for each distinct sub-sector for which separate data are collected.

This 'vertical' dimension in the organisation of CSO national accounts work, which is a crucial feature of enquiry development, needs to be complemented by an equally strong horizontal dimension looking across the sectors of the matrix. It is the job of the central compilation branches of CSO to ensure that any 'improvements' to one sector also improve the estimates for other sectors and hence the coherence of the accounts as a whole. This horizontal dimension has been further strengthened by the allocation of responsibility for data sources and methodology for all financial instruments (rows of the financial accounts matrix) to 'instrument statisticians'. These individuals are in practice the same people as the 'sector statisticians' but wearing a different 'hat', by taking an interest in how other sectors record transactions in instruments for which they are responsible and for which their sector is often the issuer.

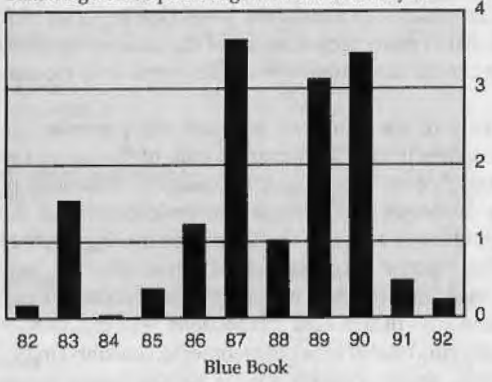
There can be no doubt that this process of increasing integration and the 'matrix' organisation of the CSO has led to substantial benefits in terms of the quality of the published statistics. A parallel factor has been the move to "agency status" for the CSO in November 1991. At that time Treasury ministers first set targets for the CSO in terms of reducing revisions, balancing items, and other discrepancies in the accounts. The success of CSO in meeting these targets and their subsequent tightening are set out in CSO's annual report for 1992-93[15] and in[4]

These improvements are illustrated by Chart 1 and 2 . Chart 1 shows the balancing items for the four main sectors for the latest year as published in each successive annual *Blue Book*. Chart 2 contrasts the sector balancing items for the same year (1989) as published in the 1993 Blue Book with those published in the 1990 *Blue Book*. It emphasises that improvements to the quality of the accounts have been made for several past years as well as for the latest year and quarters.

CHART 1

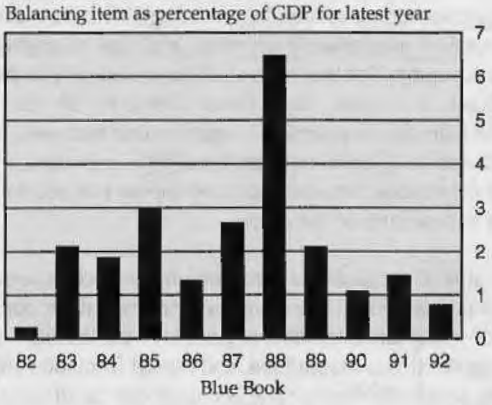
Overseas sector balancing item

Balancing item as percentage of GDP for latest year



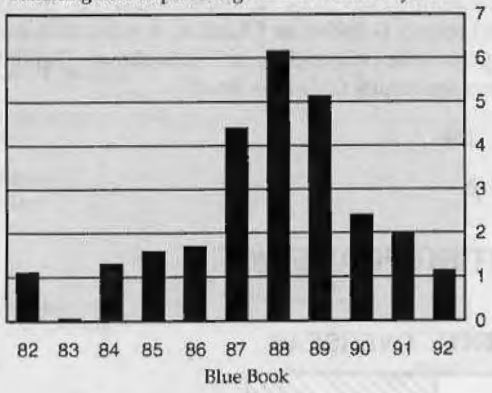
Company sector balancing item

Balancing item as percentage of GDP for latest year



Personal sector balancing item

Balancing item as percentage of GDP for latest year



Public sector balancing item

Balancing item as percentage of GDP for latest year

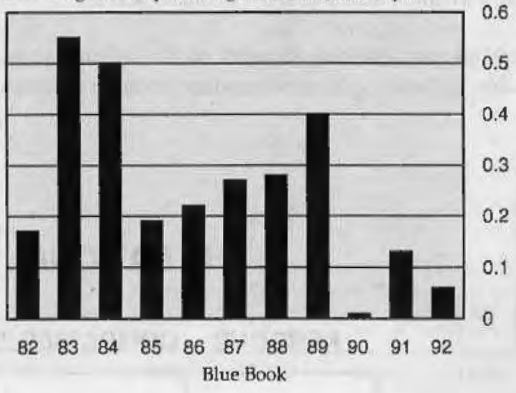
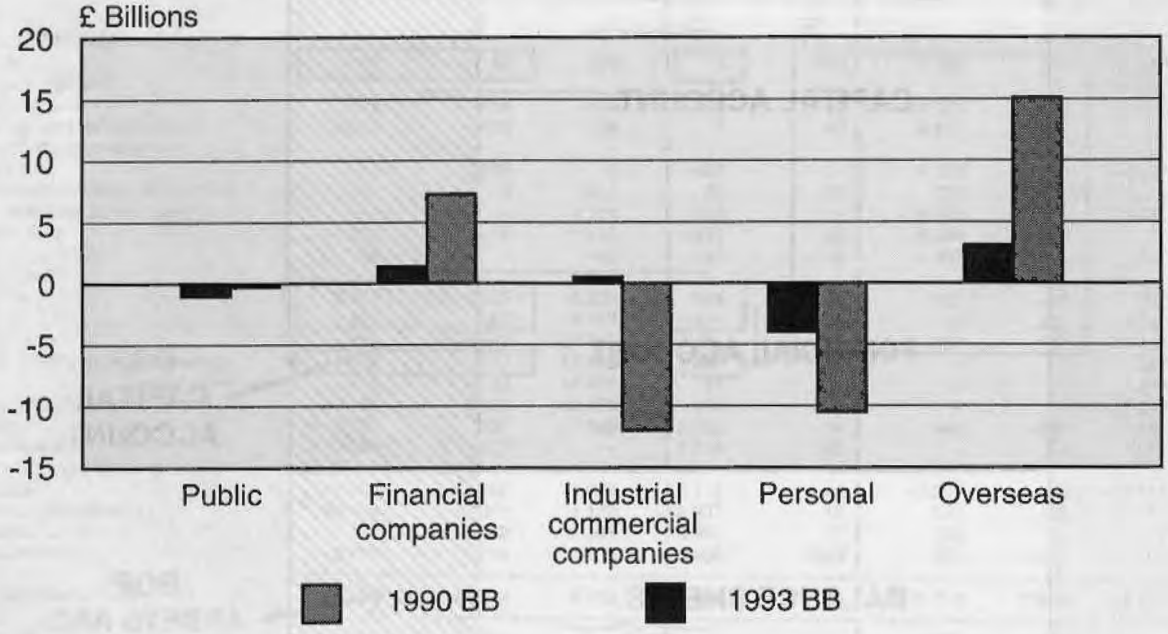


CHART 2
BALANCING ITEMS FOR 1989

As published in the 1990 and 1993 Blue Books



THE SECTOR ACCOUNTS

The purpose of any system of national accounts is to record output, income, consumption, accumulation and wealth in ways that give a clear overview of economic activities and their outcomes in the national economy. The basic national income identity is: *Income = Expenditure = Output*. Thus Gross Domestic Product (GDP) measured from the income side is equal to that measured from the expenditure side. The accounts can therefore be presented in formats showing the various forms of income on the one side and the various forms of expenditure on the other.

Such "national accounts" use the same framework as commercial accounts prepared by the accountancy profession for companies. They follow standard international guidelines and the basic concepts such as production, consumption, and capital formation are routed firmly in economic theory. The accounts can be divided into: a production (or profit and loss) account; an appropriation account (also known as an income and expenditure account or a current account); a capital account; and a financial account.

The capital and financial accounts of the national accounts are equivalent to the old style sources and uses of funds statement within commercial accounts. The new format for commercial accounts comprises a profit and loss account and a cash flow statement. The former broadly corresponds to the current account; while the latter corresponds to a combination of the current, capital and financial accounts, but on a cash flow basis. One important difference to note is that in many presentations of the national accounts, depreciation or capital consumption is not deducted from income.

Many of the summary accounts are presented for the national economy in total. However the units of the national economy can be classified by "sector" and "sub-sector" comprising groups of people or economic units whose economic behaviour is homogeneous (production accounts are more often dis-aggregated by 'industry'). The "sector accounts" show separately the various kinds of transactions for these various groups of economic entities within the economy. In this case transactions between sectors which do not effect the total of national income (ie. transfers) must also be shown. These sector accounts greatly aid the interpretation of economic events.

A simplified schematic representation of this 'matrix' of accounts and sectors is shown in **Chart A**. A more complete matrix with figures in the cells for the year 1992 is shown a **Table A** This is taken from the annual CSO *Blue Book*[9].

CHART A

THE NATIONAL ACCOUNTING FRAMEWORK

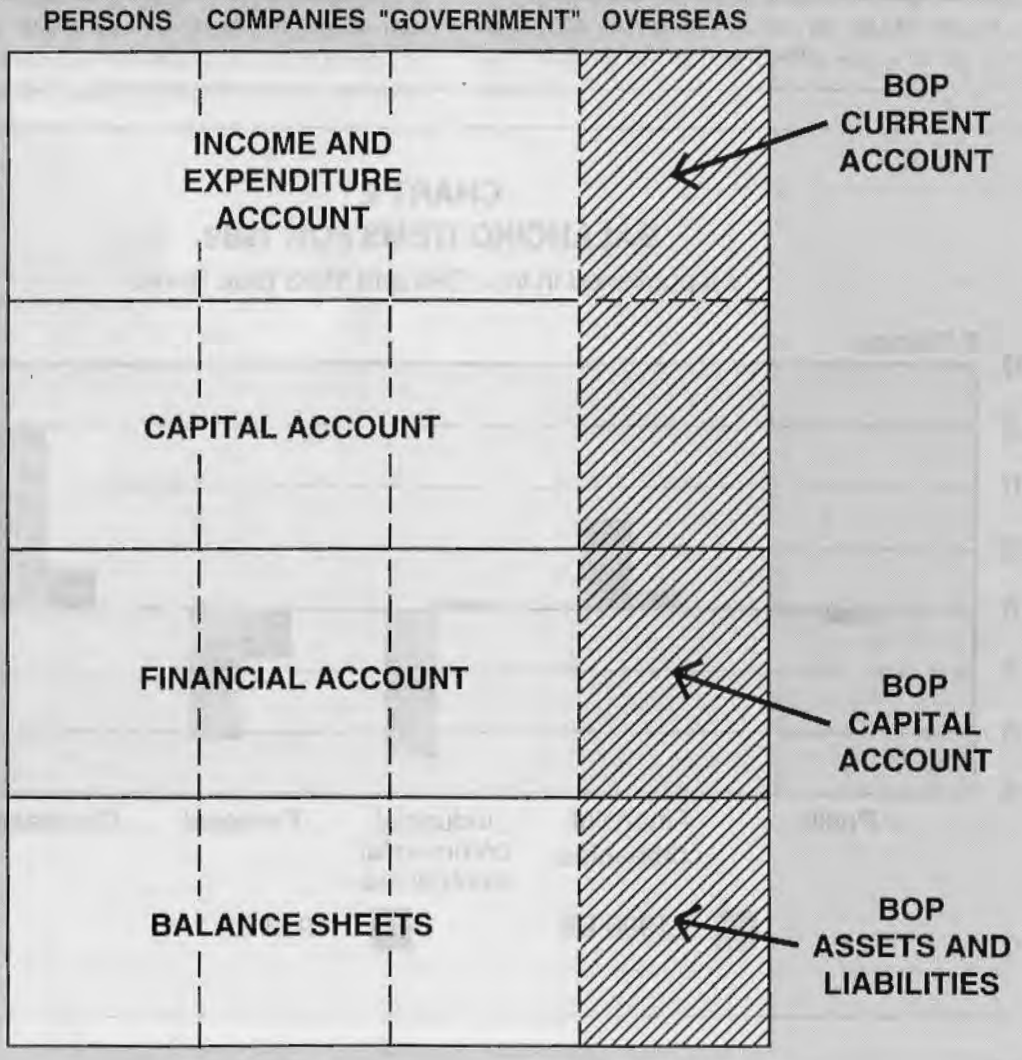


Table A : Summary analysis by sector, 1992

£ million

	Personal sector	Industrial and commercial companies	Banks and building societies	Other financial institutions	Public corporations	Central government	Local authorities	Overseas sector	TOTAL
CURRENT TRANSACTIONS	D								A
Factor incomes:									
Income from employment	341 009	–	–		–	–	–	–	341 009
Income from self-employment	58 060	–	–		–	–	–	–	58 060
Gross trading profits, etc	–	80 614	–16 040		1 813	–285	374	–	66 476
Rent	36 957	4 794	639		565	134	3 757	–	46 846
Imputed charge for capital consumption	604	–	–		–	1 608	1 995	–	4 207
less stock appreciation	–80	–2 105	–		–31	–	–	–	–2 216
Inter-sector transfers:								C	
Earnings on direct investment overseas	221	13 121	734		1	–	–	–14 077	–
Earnings due abroad	–129	–5 186	–160		–	–	–	5 475	–
Dividends and interest:									
receipts	70 421	9 617	117 155		311	8 927	675	59 543	
payments	–45 517	–47 551	–94 097		–1 121	–16 619	–5 026	–56 718	–
Taxes on income	–57 906	–13 410	–1 937		–199	73 452	–	–	–
Social security contributions	–37 464	–	–		–	37 464	–	–	–
Social security benefits	65 525	–	–		–	–66 172	–	647	–
Community charge	–7 859	–	–		–	–	7 859	–	–
Other current grants by government:									
receipts	14 067	–	–		–	2 888	53 062	7 026	
payments	–	–	–		–	–64 273	–9 882	–2 888	–
Other current transfers: receipts	2 263	–	–		–	571	–	2 250	
payments	–2 789	–261	–59		–	–	–	–1 975	–
Royalties and licence fees on oil and gas production	–	–600	–		–	600	–	–	–
Factor cost adjustment:									B
Taxes on expenditure	–	–	–		–	87 555	124	–	87 679
Subsidies	–	–	–		–	–5 482	–626	–	–6 108
Expenditure:	E								
Consumption	–382 696	–	–		–	–82 477	–49 901	–	–515 074
Exports of goods and services	–	–	–		–	–	–	–139 827	–139 827
Imports of goods and services	–	–	–		–	–	–	149 164	149 164
Balance = **Saving**[2]	54 687	39 033	6 235		1 339	–22 109	2 411	8 620	90 216
CAPITAL TRANSACTIONS									
Gross domestic fixed capital formation	–22 953	–47 847	–5 271		–4 255	–6 911	–5 655	–	–92 892
Value of physical increase in stocks and work in progress[3]	–130	2 115	–		–10	17	–	–	1 992
Taxes on capital	–2 300	–513	–100		–	2 913	–	–	–
Other capital transfers:									
receipts	4 012	537	–		3 305	–	8 076	–	
payments	–7	–141	–		–151	–14 417	–1 214	–	–
Balance = **Financial surplus or deficit**	33 309	–6 816	864		228	–40 507	3 618	8 620	–684
FINANCIAL TRANSACTIONS	G				F				
Notes and coin	1 108	95	274	4	–148	–1 398	–	65	–
Sterling treasury bills and government securities	510	–666	–839	16 920	9	–16 950	–3	1 019	–
National savings and tax instruments	4 974	–319	–96	7	47	–4 617	4	–	–
Issue Department's transactions in commercial bills	–	–2 183	3	–429	–	4 470	–	–1 861	–
Other government domestic transactions	–47	10	–911	36	38	233	641	–	–
Government overseas transactions	–	–	4 774	268	–	–11 103	–	6 061	–
Local authority debt	326	–14	1 443	–312	–22	–5 936	4 589	–74	–
Public corporations' debt	56	–	–42	–57	–718	1 302	5	–546	–
Deposits with banks:									
Sterling sight	3 072	–805	–3 933	994	–100	127	–57	702	–
Sterling time	2 577	189	–4 713	–721	172	61	297	2 138	–
Foreign currency	171	–1 247	–27 912	7 431	19	57	21	21 460	–
Deposits with building societies: Sterling	10 641	227	–12 692	1 466	–	–	–	358	–
Foreign currency	16	32	–1 424	81	–	–	–	1 295	–
Bank lending (excluding public sector)	88	4 425	19 656	–193	–	–	–	–23 976	–
Other lending	–18 389	297	21 399	–3 092	–14	449	–268	–382	–
Trade and retail credit	–590	–622	–	1 316	143	–	–	–247	–
UK and overseas securities and unit trust units	–1 403	–4 468	11 870	19 118	–4	–7 631	–5	–17 477	–
Other domestic instruments	28 489	–7 312	1 122	–48 937	10	177	–10	26 461	–
Other overseas instruments	32	–2 683	105	8 958	77	188	–	–6 677	–
Accruals adjustments	2 722	1 776	239	–3 400	–293	358	–1 402	–	–
Total financial transactions	34 353	–13 268	8 323	–542	–784	–40 213	3 812	8 319	–
BALANCING ITEM	–1 044	6 452	–6 917		1 012	–294	–194	301	–684

1 Excluding tax credits.
2 After providing for stock appreciation but before providing for additions to dividend and tax reserves.
3 A positive figure indicates a decrease in stocks.

Not shown in the charts is the production (or operating) account showing receipts from production or 'operations' and expenditure incurred in such production (wages and salaries, intermediate consumption and taxes on production). The economy has been divided in chart A into only four sectors: persons, companies, government, and overseas. Table A however shows seven sectors as used in the published UK economic accounts (The financial accounts use 10 sectors). Details of the definitions of these sectors can be found in[16] and[17].

The *income and expenditure account* records income for each sector in the shape of 'profits' carried over from the production account, income from employment, income from investments, and transfer income from other sectors such as taxes received by 'government' and social security payments received by 'persons'. It also shows all outgoings on 'current' account for each sector such as taxes paid by companies and persons and consumers' expenditure by persons. The outgoings of one sector of the accounts are also the incomings of other sectors. The 'balance' from the income and expenditure account for each sector is known as 'saving' and can be positive or negative. The sum of '**saving**' for all the domestic sectors represents the total of national saving available to add to 'wealth' (before providing for capital consumption or depreciation).

Key economic aggregates which appear within this matrix of income and expenditure accounts by sector are: the income measure of GDP at factor cost (box A of Table A); the expenditure measure of GDP at market prices (box B); the adjustment on overseas transactions to move from GDP to GNP (box C); personal disposable income (box D) and consumers expenditure (box E).

The next two accounts *'capital' and 'financial'* are known as accumulation accounts since transactions in them add or subtract from the wealth of each sector. This net wealth is represented by the final account in the system - the sector *balance sheets* (not shown in Table A).

The *capital* account starts with 'saving' carried over from the income and expenditure account and shows capital expenditure net of disposals (known as Gross Domestic Fixed Capital Formation) stockbuilding, plus capital transfers to and from other sectors. The net balance of this account is known as the **financial surplus or deficit** (FSD) and represents the amount available for that sector to invest in financial assets or the amount required to be borrowed (financial liabilities) from other sectors to balance its books. The inclusion of the overseas sector in the accounts makes this a closed system, and the expenditures of one sector must be represented by the incomes of other sectors. Although income does not equal expenditure for any one sector, the sum of the FSDs ought to be equal to zero. In practice however this is not always so, due to measurement errors and omissions in the national accounts. The sum of the FSD's is in fact equal to the **residual error** between the income and expenditure measures of GDP as these are aggregates within the expenditure and income sides of the sector accounts (see Table A).

The *financial account* records transactions in financial assets or liabilities for each sector classified according to type of financial instrument (cash, deposits, lending, securities etc). Conceptually the net total of such transactions, known as *total financial transactions* (TFT) should be equal to the FSD. In practice the two are not equal and the difference, known as the *balancing item* represents errors, omissions and unmeasured timing differences in all aspects of the measurement of transactions for each sector. Because these balancing items are sometimes relatively large (and in the recent past have been even larger) they have been the subject of much debate and controversy over the accuracy of the UK economic accounts. They have been used as a rough indication of quality of the accounts as a whole, both of past inadequacies and of recent improvements.

The classification of financial transactions shown in Table A is in fact only a subset of the amount of detail available. In the full accounts published in *Financial Statistics*[8] 45 categories of financial instrument are shown and below this in the compilation data-base 374 sub-instruments are used. The UK financial transactions accounts are shown on a net basis, ie. assets and liabilities in the same financial instrument are netted against each other. However in many cases the financial instruments identified are the liabilities of only one sector, so the interpretation of the net flows is clear.

Flows across all sectors for each financial instrument should conceptually sum to zero (transactions in liabilities must equal transactions in assets). The UK compilation system follows the above conceptual framework of ensuring the sum of financial transactions in each row of the financial accounts to sum to zero. It does this by assuming that any difference between the net total of recorded transactions or levels and zero (the 'residual') are unrecorded items in one or more of the sectors. The personal sector is often treated as the residual, because relatively little information is collected from this sector, particularly for those financial instruments where the discrepancies tend to be greatest. Nevertheless some information can be collected about the personal sector from counterparties such as banks and other financial intermediaries. Where direct or counterpart information is available for all sectors, the residual represents errors and omissions in the data. Such residuals should be allocated to sectors according to the degree of accuracy of the primary estimates (known as 'hard data'). The UK is developing its system to follow this improved residual allocation practice wherever possible.

The financial accounts show the net flow of funds between each sector of the economy as well as showing how each sector invests any surplus or finances any deficit. The accounts therefore provide a structured framework within which the financial effects of economic policy can be examined and forecasts made. Within this framework for example the money supply - M4, is identified (box G in Chart 2) as is the Public Sector Borrowing Requirement - PSBR (box F in Chart 2). Consumer credit and bank lending are also important key financial aggregates contained within this structure.

More details of the construction and interpretation of the sector and financial accounts and their sources and methods can be found in the **Financial Statistics Explanatory Handbook**[17] particularly pages 1 -14 and in **Sources and Methods**[16]

Having described the accounts and terminology it is necessary to go back to chart A and explain a minor complication. Different presentations and terminology are used in the balance of payments published accounts from those used for the overseas sector of the integrated accounts (although for the UK the underlying data sources are the same). In BoP terminology the financial transactions account is known as the "capital" account and the income and expenditure account is known as the "current" account.

There is no equivalent to the capital expenditure account as such in the balance of payments though occasional and rare capital transfer would appear here if they occurred. With this exception, the current account balance of the BoP (often referred to popularly as 'The Balance of Payments') is equal to the Financial Surplus or Deficit (FSD) of the overseas sector, but with the opposite sign. The signs are different because the current account of the BoP looks at flows from the perspective of the UK domestic economy; whilst the overseas sector income and expenditure account in Table A looks at the flows from the perspective of the rest of the world's dealings with the UK.

PART 2 - DEVELOPMENTS FOR THE FUTURE

While the basic structure of the UK sector accounts is well established and soundly based, there are two important aspects of the UK financial accounts that need to be developed to aid economic analysis and international comparisons and improve the quality of the accounts: balance sheets, and use of international standard classifications.

Lack of resources and other priorities has meant that development of the *financial balance sheets/levels* has been somewhat neglected in recent years and have not shown the quality improvements seen for transactions. They are currently published with a 5 month lag and their quality is not up to standard. The quarterly series was however last year extended to cover all sectors of the economy each quarter. The compilation system, which had been built up on a different basis to the financial flow accounts, not always using the same building blocks or even the same sources in all cases, is in the process of reconstruction onto the same basis as transactions. Valuation is a more pervasive problem for balance sheets than for transactions. Historical or 'book' values still form the basis for the valuation of many assets and liabilities in company accounts as opposed to the market values required by the national accounts.

It has therefore been very difficult, to reconcile the published changes in balance sheets with the flows. Broadly speaking changes in balance sheet for a particular cell of the matrix for a particular period *equal* financial flows *plus* revaluation effects *plus* any reclassifications between sector during the period.

Work is in progress to remedy this deficiency, in particular to ensure that consistent methodology for measuring levels and flows is developed by instrument statisticians; to put the two compilation systems onto the same basis; and to bring forward the publication date of the balance sheet accounts to coincide with the rest of the accounts. Once these improvements are in place a full set of *reconciliation accounts* will be developed (now known as 'Other Changes in Balance Sheets' in international terminology). These accounts would explain changes in balance sheets from one time period to another in terms of: transactions or flows; revaluations of assets and liabilities; changes due to reclassifications; and other extraneous factors. As well as being an important aid to economic interpretation they would provide an important means of further improving the quality of the accounts by ensuring that the figures do reconcile.

The UK system of classification of financial transactions is unique, and not readily adaptable to the *international standards* set by the United Nations (known as the System of National Accounts or SNA) and by EUROSTAT (known as the European system of Integrated Economic Accounts or ESA). It has evolved in this way for two reasons: first because our system was established in the late 1950's before the international systems were agreed; and secondly because of a desire to link it clearly to important UK policy aggregates such as the money supply and the PSBR. In recent years, greater international cooperation and integration in economic matters, including developments in the European Community, have raised the importance of using international standards and classifications in the UK accounts.

From 1995 it is intended to base the UK financial accounts firmly on the new international standards currently being finalised. This will greatly improve international comparability and our ability to meet increasing requirements for harmonisation from the European Community. Introduction of the full SNA/ESA will require changes to both the sector and financial instrument classifications currently in use in the UK. Changes will also be required to the BoP accounts due to the requirements of the new IMF manual, which is now more in line with the SNA. Some adaptions to the international standards may be necessary to suit the particular institutional arrangements of the UK or to meet specific policy requirements. However as far as possible this will be done within the context of the international standards.

One of the priority tasks of the so called 'instrument statisticians' is the completion of a series of *reviews of the sources, methods and coherence of every instrument line* in the financial accounts. These instrument reviews cover definition, financial flows and levels, the sectorisation, and also the investment income estimates for the instrument derived as part of the new DIM system[14].

In addressing this horizontal dimension to the financial accounts the contrast between alternative estimates for particular cells often comes to the fore. One estimate may be based on information from the issuer of an instrument e.g. banks' estimates of lending to companies. Another estimate may be based on returns by enterprises **holding** that instrument e.g. company sector borrowing from banks. Conflicts such as these and their resolution can directly improve the accounts or at least identify areas for future study and improvement.

Many other important developments and improvements to the accounts are planned for next few years. On the *data collection* side, the signing of 'firm agreements' with all key government departments supplying data to the national accounts will clarify requirements and set quality targets. The introduction of the new CSO Inter-Departmental Business Register (IDBR[13]) including integration of financial and BoP enquiry registers will ensure that gaps are filled and that duplication between enquiries does not occur. Further integration between enquiries and other improvements to data collection are also planned.

Our outputs will also be improved by more economic commentary on the accounts in the new quarterly publication[16] and expansion of the tables to include balance sheets. A comprehensive system of seasonal adjustment for the financial accounts matrix is also being developed; while documentation of the financial accounts methodology and its presentation in Financial Statistics will be improved. Finally, introduction of better computerised datasets for sale which include front-end software with browse, printing, help, and extraction facilities will help outside users to make better use of the comprehensive and detailed nature of the integrated dataset.

CONCLUSION

The objectives of the CSO as expressed in the Corporate Plan[1] are client orientated. Data providers, be they commercial companies or other government departments, need to be looked after by the CSO. This means being clear in want we want, why and when; ensuring that we do not duplicate requests; and ensuring that the resource load demanded of our data suppliers is not unrealistic. Customers of our outputs are equally important to the CSO be they: city institutions; academics; ministers; fellow civil servants; politicians, journalists, or members of the public. Our aim must be *to get our statistics used* so that our mission statement quoted in the opening paragraph can be fulfilled.

The UK is one of the leaders internationally in the production of integrated economic accounts on a quarterly basis. We now have a better quality 'product' with the earlier production of fully integrated sector accounts based on common sources and methods and demonstrating greater coherence than in the past.

The workplan described above will take us further along this road. In particular the planned improvements to the sector balance sheet accounts and the development of reconciliation accounts; plus further improvements in data sources linked to integrated enquiries and the associated development of sub-sector accounts will take the integration concept one stage further. The review of existing UK classification schemes within the accounts, linked to the introduction of the new European System of Accounts (ESA) will improve the value of our product; by making international comparisons easier, and facilitating study of the integration of financial markets.

The CSO has gone a long way to meeting its user requirements. However further discussions with, and more contact with, external users of our accounts about their needs are essential to inform further developments for the future. As part of this process the views of readers of this article are invited on further improvements they would like to see in the quality and outputs of the CSO sector accounts.

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STATISTICAL INDICATORS OF INNOVATION

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Introduction

The purpose of this article is to provide an introduction and overview to some of the statistical indicators of innovation in the business enterprise sector of the economy and in science and technology (S&T). Both indicators in common use and those being developed are discussed. The article has been written for those who may be unfamiliar with quantitative work in S&T. There are references at the end of the article for further information on the use and limitations of the various indicators and international comparisons.[1]

Summary tables or charts are given to illustrate the use of the indicators. Most of these show the UK compared to other countries and some comment on them is included. However, there is no attempt to draw conclusions from the overall analysis; that would require a more extended paper.

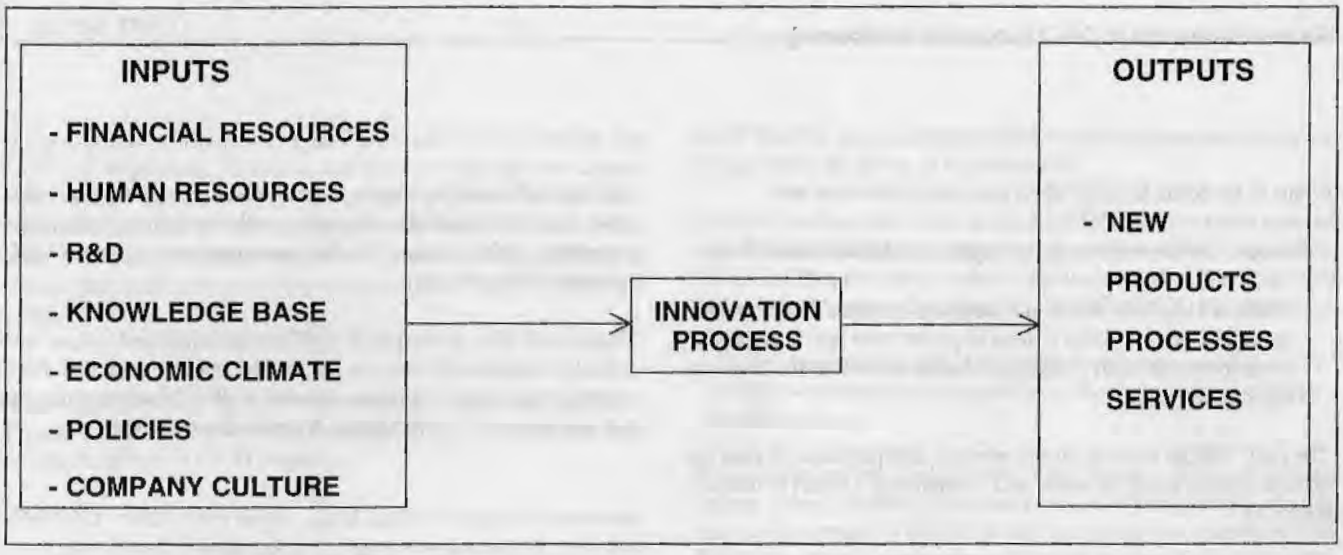
Innovation is the translation of new ideas into marketable new products, new processes or new services. It is not a simple linear process with research at one end and new products at the other. It is a circuitous and many-stranded process with cross-fertilisation between fields of research, different markets affecting each other and movements backwards and forwards between basic research and final product.

A definition of innovation is given in the report of the joint CBI/DTI innovation project[2]:

> *Innovation is the process of taking new ideas efficiently and profitably through to satisfied customers; it is a process of continuous renewal involving the whole company, and is an essential part of business strategy and everyday practice.*

The most important measurable input factors are financial and human resources and research and development (R&D) activity. Outputs are the number of new products, new processes and new services. There are also factors more difficult to assess such as existing knowledge, the economic climate, national and international policies and company culture.

The factors are summarised by the following diagram:



Inputs and outputs feed into each other; eg R&D activities increase the knowledge base; new processes release resources for research. Although only output indicators are direct measures of a country's innovation, input indicators are also important for at least two reasons. Firstly because there exists a positive relation between inputs and outputs. Secondly because understanding the structure and development of inputs informs technology policy.

Input indicators included in this review are human resources in science and technology (HRST) and R&D; output indicators discussed are patents, bibliometrics, trade in technology products and the technological balance of payments (TBP). Finally, statistics on the innovation process itself are discussed.

Human Resources in Science and Technology (HRST)

Innovation is a major source of competitive advantage within sectors of industry, and innovation requires qualified personnel.[3] The market creates a demand for highly qualified personnel, but it takes a long time to supply skilled science and technology (S&T) personnel, because of the education and training needed. Demand is more volatile than supply, so current market conditions might not be a good guide to skills needed in the future. Reliable data on the stock of highly qualified personnel is necessary for effective policy making to prevent future imbalances between demand and supply. Studies of such data will enable us to increase our understanding of the market for higher level personnel, and of its link with the higher education system.

Table 1 shows higher education enrolments by field of study. It gives the total numbers of students for each field and the number as a percentage of the total number of students for all fields for the year 1989/90.

TABLE 1

Enrolments per field of study (1989/90) University first degree level

	Maths	Physics	Engineers	Social Studies[1]
Holland	2870 (0.7%)	9391 (2.3%)	24830 (6.1%)	110468 (27%)
Germany	84819 (4.9%)	131610 (7.7%)	323515 (18.8%)	403756 (23.5%)
Japan	18704 (0.7%)	54771 (2%)	..[2]	1037840 (38.7%)
UK	58562 (5%)	82191 (7%)	12517[3] (12.4%)	237127 (20.1%)
US	44003 (0%)	88786 (0.1%)	790866 (5.8%)	359512 (26%)

1 categories Social and behavioural science, Commercial and business administration, and Home economics are added together.
2 Not available.
3 from University Statistics 1990, both number and percentage from 1990/91.

Source: Education in OECD countries, forthcoming

Points to be borne in mind when analysing these data are:

- social studies cover a much larger area than the other fields

- there are big differences in educational systems. For example, in the UK the 'A' level system requires more specialisation at sixth-form level and first-degree courses are shorter than in most other countries.

The draft OECD manual on the use and interpretation of data on human resources in science and technology (HRST)[4] defines HRST as

all types of scientific, engineering and technical personnel who may be involved in a wide range of activities including production, teaching, R&D, consulting and management and across all sectors of the economy.

Thus people who are trained in S&T but not employed in it, as well as those who are employed but not trained in it, are included. R&D professionals are an important element of HRST for innovation but just one element. The following diagram illustrates this.

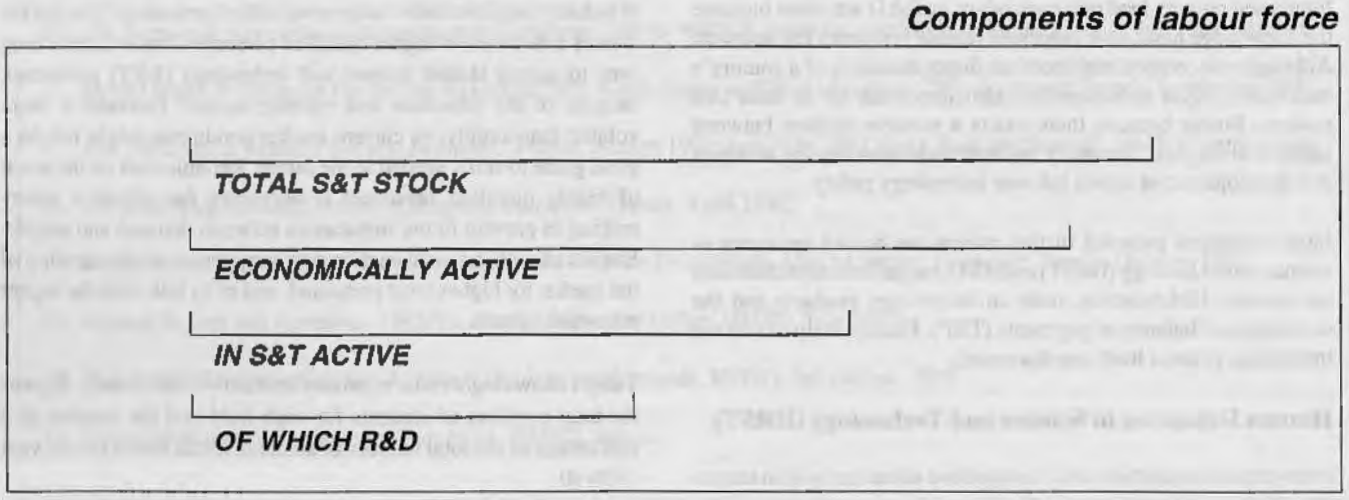
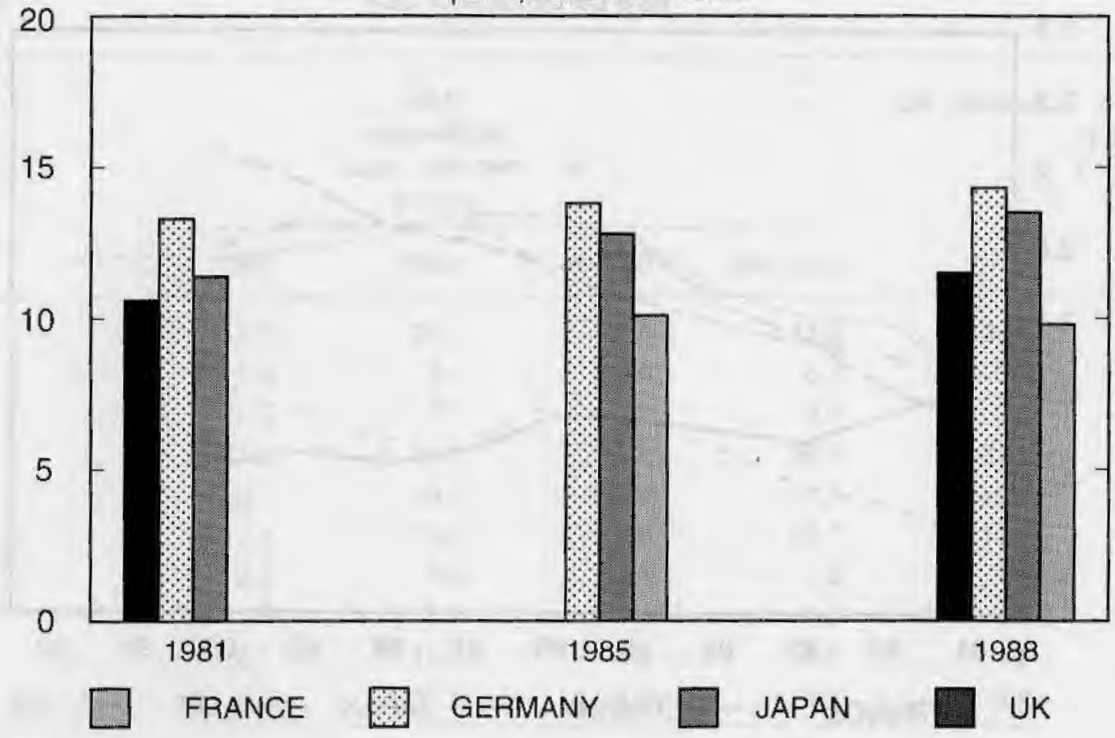


FIGURE 1
TOTAL R&D EMPLOYMENT
per 1,000 Labour force



source: OECD

In the UK data on **the stock** of S&T personnel are collected by the Office of Population Censuses and Surveys through the Labour Force Survey (LFS). This is a quarterly sample survey covering 60,000 households in Great Britain. The LFS is an EC survey and other countries take part. Another source for the measurement of stock is the census of population, which is carried out once every ten years.

Data on employment in R&D are often collected in R&D surveys. Figure 1 shows employment in R&D as a proportion of total employment for 4 OECD countries.

UNESCO collects data on the world stock of scientific personnel. They give a good overview of the comparative position of countries, but are too highly aggregated to allow detailed analysis. The OECD covers only the stock of R&D personnel. There are no specific HRST data as yet, but consideration is being given to constructing statistics using existing sources of data.

Data on **flows** of graduates can be obtained from the First Destinations Survey, carried out by the Department for Education (DFE), and are used for the Survey of Students from Overseas. The number of foreign graduates can provide a proxy for inflows of S&T personnel.

Research & Development (R&D) Expenditure

R&D data have since the early 60s been collected on a consistent basis, with the use of Frascati Manual definitions.[5] R&D statistics are thus easy to obtain and can be compared for different countries. Figure 2 illustrates how gross domestic expenditure on R&D can be compared for different countries by showing it as a percentage of GDP. The UK appears towards the bottom of this group of countries. More details are given in the reference.[6]

R&D expenditure expressed as a share of GDP does not take account of the fact that different industries have different R&D intensities. To reflect this, the OECD have suggested an index: the Structural Indicator of Business Enterprise R&D (STIBERD). It is defined as

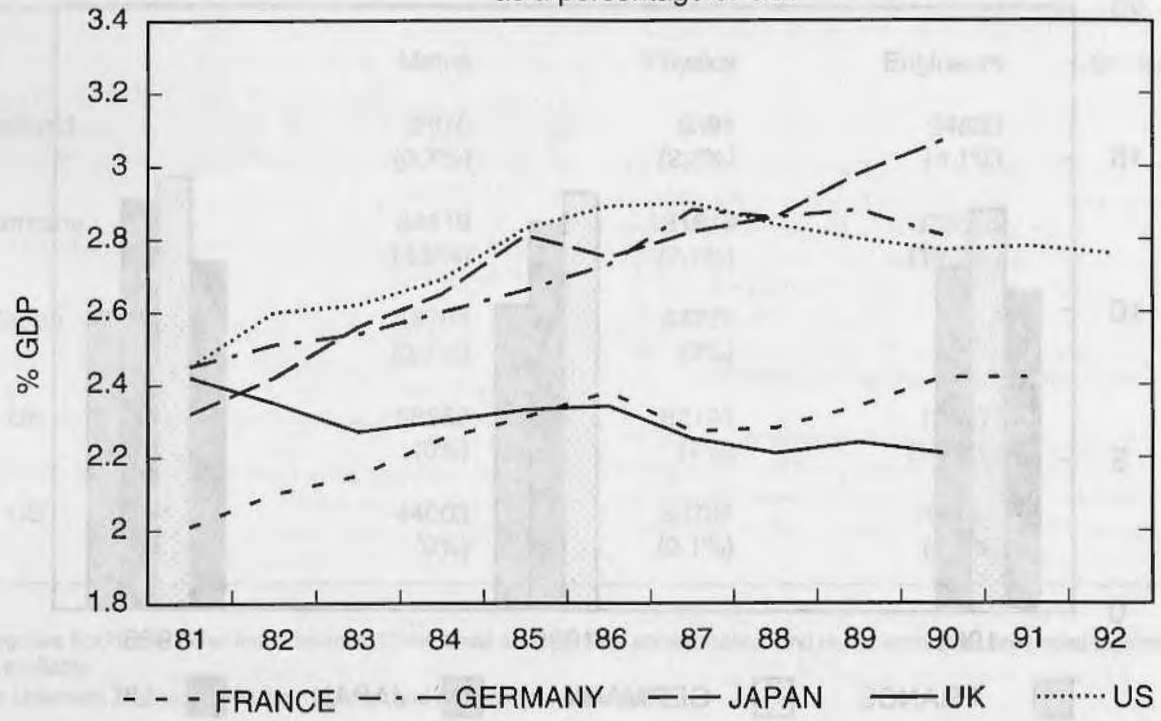
the weighted average of the R&D intensity of each (manufacturing) industry expressed as a proportion of the international average for that industry.

The weights are the world share of each industry in manufacturing output. If every industry in a country has an R&D intensity equal to the world average, STIBERD would be exactly one. A country with R&D intensity above or below the world average for its individual industries would score more or less than one respectively. Using OECD data, DTI have produced STIBERD measures for Germany, Japan, the US and the UK (figure 3). These show the UK at a lower level than the other three countries.[7]

The purposes of R&D are 'to increase the stock of knowledge' and 'to devise new applications'.[5] R&D is an invaluable part of the innovation process. Indeed, a recent study in the Nordic countries has shown that 40% on average of the innovation budget is allocated to R&D activities.[8]

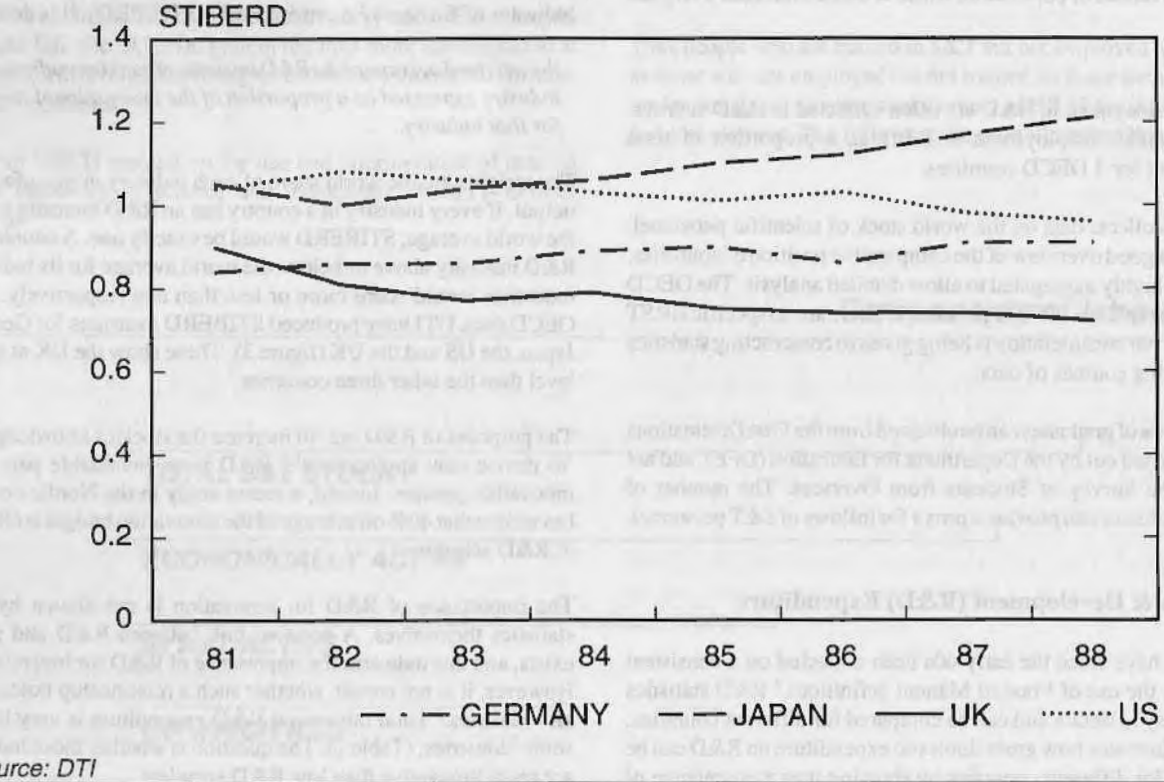
The importance of R&D for innovation is not shown by R&D statistics themselves. A positive link between R&D and patents exists, and this indicates the importance of R&D for inventiveness. However, it is not certain whether such a relationship holds across all industries.[9] Total intramural R&D expenditure is very high for some industries, (Table 2). The question is whether those industries are more innovative than low R&D spenders.

FIGURE 2
GROSS EXPENDITURE ON R&D
as a percentage of GDP



source: OECD

FIGURE 3
STIBERD



source: DTI

TABLE 2

Distribution of R&D activity in 1985 and patents for 1985 - 1990 over broad product groups, share of totals

group	R&D expenditure pct of total over all groups				US patents	propensity (patents per £1000 R&D)
	total	basic	applied	dev' ment		(*1000)
1	19.7	23.1	41.6	11.3	35.9	2.2
2	5.3	5.1	3.0	6.3	9.9	2.2
3	7.5	0.1	2.9	8.9	3.2	0.5
4	31.9	23.4	19.9	36.6	21.2	0.8
5	25.7	18.4	12.9	31.7	16.4	0.8
6	17.8	18.0	8.5	22.7	10.0	0.7
7	2.5	5.5	4.4	1.5	3.8	1.8
8	1.5	1.1	1.5	1.5	4.7	3.7
9	3.1	12.6	8.3	1.1	1.2	0.5
10	2.7	10.7	5.5	1.1	3.8	1.7
	100.0	100.0	100.0	100.0	100.0	

group 1 = chemicals and pharmaceuticals
group 2 = mechanical engineering
group 3 = office machinery
group 4 = electrical & electronic engineering
group 5 = motor vehicles and other transport equipmen
group 6 = aerospace
group 7 = food, drink & tobacco
group 8 = other manufactured products
group 9 = non manufactured products
group 10 = other

Source: SPRU patent database and CSO R&D database

Table 2 is also discussed in the next section on patents.

Patent statistics

Patent statistics form another readily available group of innovation indicators. Patents are one output of the innovation process.

A patent is an official document that aims to protect the right to use or produce an invention for a specific person for a number of years. In exchange for the protection, a fee has to be paid, and the invention has to be published.

Work on the interpretation of patents as innovation indicators has been done by the Science Policy Research Unit (SPRU).[10]

Figure 4 shows patent data from the European Patent Office (EPO).

The EPO patent office is relatively new, and is gradually replacing direct applications at national patent offices. However, even taking account of this, there is a striking contrast between the rapid expansion of the number of patents granted to Japan, USA and Germany and the much lower growth of those granted to France and the UK.

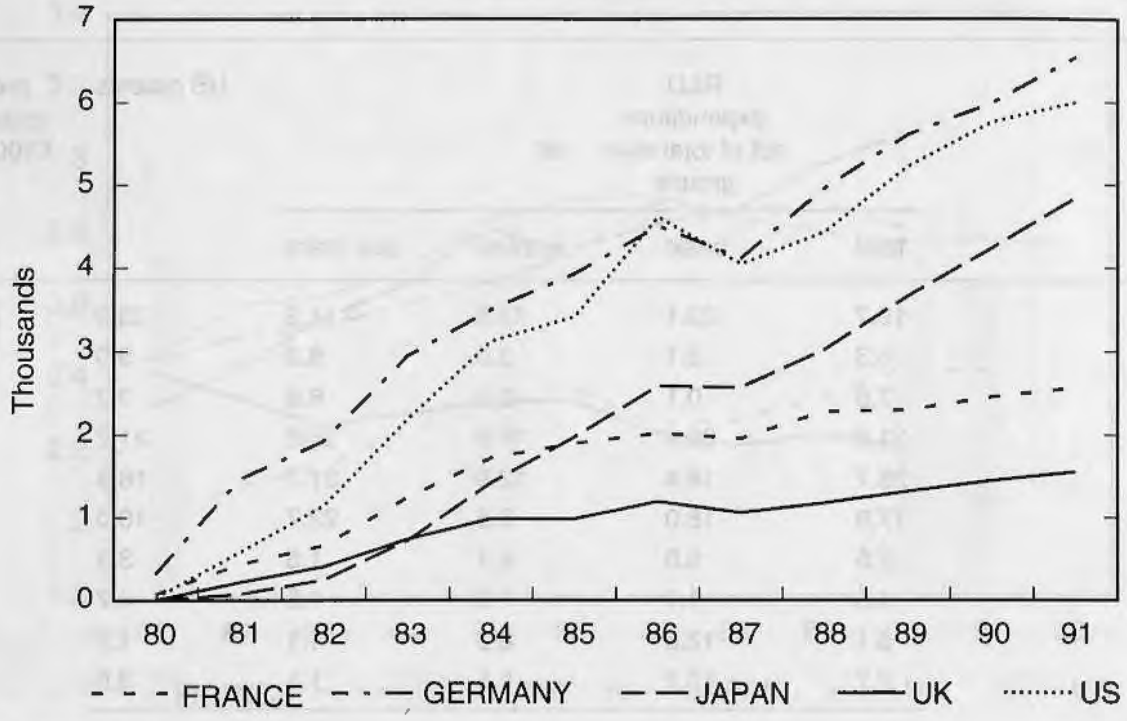
Patents registered in the US provide another, perhaps better, source for international comparisons. Table 3 shows the percentage of total patents for all technologies granted in the US for a selection of OECD countries. The expansion of patents granted to Japan is striking in this table, too, and the UK is the only one of the four countries shown to reduce its share.

Like R&D, patents can be analysed by industrial groups and this provides a method of studying the relationship between patents and R&D. Table 2 (above) gives the distribution of US patents and detailed expenditure on R&D across the product groups for UK industry, expressed as percentage shares of totals. The last column of gives the number of patents per £ thousand expenditure on R&D, the propensity to patent. The propensity varies considerably. This reflects the varying importance of R&D for inventiveness. R&D is more expensive in some industries than in others; some industries rely less on patenting as a means of protecting their inventions. The propensity to patent varies for different countries and different companies as well as for different industries.

Patents, despite their availability and easy interpretation, are not complete measures of innovation. Patents are not the only means of

FIGURE 4

GRANTS OF EUROPEAN PATENTS BY COUNTRY OF ORIGIN



source: European Patents Office

protection. Other methods are complexity, introduction lead-times and secrecy. Some inventions are not protected at all.

Patent data do not provide us with any information on their economic significance. A patented invention does not automatically become an economic success. Not all patented inventions become innovations, and even if they do, their value for the inventor is uncertain.

Bibliometrics

Bibliometrics is a method of quantifying S&T by counting scientific publications and citations.

Absolute numbers of scientific publications and citations by themselves are not very meaningful, but the share of world publications and citations gives an indication of a country's scientific

TABLE 3

Percentage of toal patents for all technologies granted in the US for a selection of OECD countries: 1963-68 to 1985-90

	1963-68	1969-73	1974-78	1979-84	1985-90
United Kingdom	4.1	4.3	4.2	3.7	3.3
France	2.2	2.8	3.3	3.3	3.3
Germany	5.5	7.2	8.5	9.5	9.2
Japan	1.7	5.3	9.1	13.6	20.1

Source: US Patent data (SPRU)

TABLE 4

Papers published and citations 1981-1990

	Papers (thousands)	Citations (thousands)	Mean citations per paper
UK	413	2318	5.62
US	1763	11720	6.65
Germany (FR)	268	1465	5.47
France	221	1115	5.05
Japan	302	1333	4.42

Source: ISI Science Indicators Database

strength. The number of publications and citations may rise for all industrialised countries, so that trends relative to other countries can indicate whether a country's position is weakening or not.

SPRU has done work on bibliometric research, investigating the activity within Britain compared with other countries. The Institute for Scientific Information (ISI) maintains a database of numbers of scientific papers published and citations for countries throughout the world. Table 4 illustrates the use of these data. Among the 5 countries shown the UK ranks second for numbers of papers published and mean citations per paper during the period 1981-1990.

The accumulation of scientific knowledge in a country can be measured with bibliometric methods. And this tells us something about the environment for innovation in that country. However, when interpreting trends in bibliometric data, one should bear in mind that the majority of scientific papers are written in English. Countries not familiar with this language suffer a disadvantage. Another factor is that citation rates vary for different sciences. Papers on the physical, chemical and applied sciences tend to be cited less than those on the biological sciences.[11]

Publications in scientific journals are available worldwide, and generated knowledge is therefore not captured within a country's borders. Bibliometric methods may thus only indicate the contributions of the different countries to the growth of the worldwide stock of knowledge. On the other hand, knowledge is transferred through personal contact as well as reading.[12] Such transfers tend to be geographically, as well as linguistically localised.

Technological Balance of Payments

Transfers of knowledge across national boundaries are not always measurable, but when they are paid for the expenditure provides a measure. International Transfers of Technology (ITT) are a form of international trade with a balance of payments for each country taking part, the Technological Balance of Payments (TBP). In the OECD manual on compiling and interpreting TBP data, an ITT is defined as[13]

a transfer between two firms of a technology that is exclusively held by one party, either under a legal protection or by non-disclosure.

Sums of money are paid and received for the use of patents, licenses and trade marks, designs, inventions, know-how, international services and R&D carried out abroad. The TBP serves as a partial indicator of innovation output, but its main aim is to register the international circulation of technology.

At present, the TBP combines ITTs with other goods and services. For this reason, it cannot be considered as a reliable indicator.

The OECD publishes TBP data, giving details about TBP for 25 industrialised countries.[14] The figures in table 4 are the difference between payments and receipts. A positive value means that technology exports exceed imports. In recent years only the USA has had a positive balance. The UK moved from a positive to a negative balance during the 1980s

Interest in TBP data does not seem to be particularly strong.[15] This is probably because there are difficulties in collecting the data and variation in the definitions used details recorded in different countries. There is also a lack of homogeneity over time; only France, Japan and Germany produce consistent time series.

Advanced Manufacturing Technology (AMT)

Advanced Manufacturing Technology (AMT) is an indicator of process innovation. It is defined in OECD publications as

computer controlled or micro electronic based equipment used in the design, manufacture or handling of a product.

Also included are preparatory work on design and development and on materials and components; quality control and testing; packaging and storage prior to dispatch; and the other operations necessary to make a complete product ready for sale.[16]

TABLE 5

Technology balance of payments (in millions national currency)

	France	Germany	Japan	UK	US
1981	-462	-1433	-84526	83	6170
1982	-933	-1341	-97692	87	3678
1983	-673	-1502	-38393	133	7301
1984	-920	-935	-3935	38	4934
1985	-1525	-1410	-58953	90	5385
1986	-1598	-1206	-36499	-73	6535
1987	-2308	-1292	-67670	-88	8070
1988	-2268	-1364	-65940	-84	9217
1989	-2032	-2185	-577	-120	10462
1990	-3297	-1821	-32555	-406[1]	13337

1 only technological royalties are counted

Source: OECD

More AMT may mean higher productivity and better-quality production, important for maintaining industrial competitiveness. AMT ultimately leads to an completely automated factory or a computer-integrated manufacturing system.

It is not possible to produce a time series of AMT-units. Instead we have to judge progress by considering different types of AMT.

To make matters even more complicated, there seem to be no agreement on a definition. DTI's Management of Advanced Manufacturing Branch define AMT broadly as any new technique likely to require a change in manufacturing practice, the management system and the manufacturer's approach to the design and production engineering of the product.[17] The lack of agreement does not prevent the international comparison of the stock of robots in production, or the study of the diffusion of micro electronics - to take some examples - but it makes it difficult to bring together different studies in the topic.

Specific surveys have been conducted in North America and many countries are now including questions on the use of a wide range of new technologies in their regular innovation surveys. Data on trends may become available over the next few years.

A country's industrial culture has a strong influence on the diffusion of AMT. Countries, like Japan, where the automotive industry is of major importance, are likely to have more robots per 10,000 labour force than countries where the service industry is better represented, the UK for example. Figure 5 gives the stock of robots for 1983 to 1988.

Low, medium and high technology trade

Innovation is more important for some industries than others and most important for "high-technology" industries. The OECD categorise industries into high-, medium- and low-technology using R&D intensity as a measure of technology.[18] It is sometimes argued that countries with flourishing high-technology industries are the most competitive in international trade. However, the correlation between technology and trade balance is not a simple one.[19] Whatever the argument, it is possible to use classifications by technology level to analyse international trade. Table 6 shows the distribution of 6 countries' exports across the 3 OECD technology groups. The USA and Japan lead in terms of the percentaged high technology exports, followed by the UK.

Innovation Surveys

The innovation-indicators discussed so far do not cover either the input side or the output side of the innovation process completely. They do provide us with some insight into the relative importance of inputs and outputs, and their relationship, but apart from that tell us nothing about the innovation process. The direct collection of data from businesses via innovation surveys may open up new possibilities.

The cost of R&D probably varies from one industry to the other, without having a proportional effect on innovation. This hypothesis is confirmed by the results of the first innovation surveys.[20]

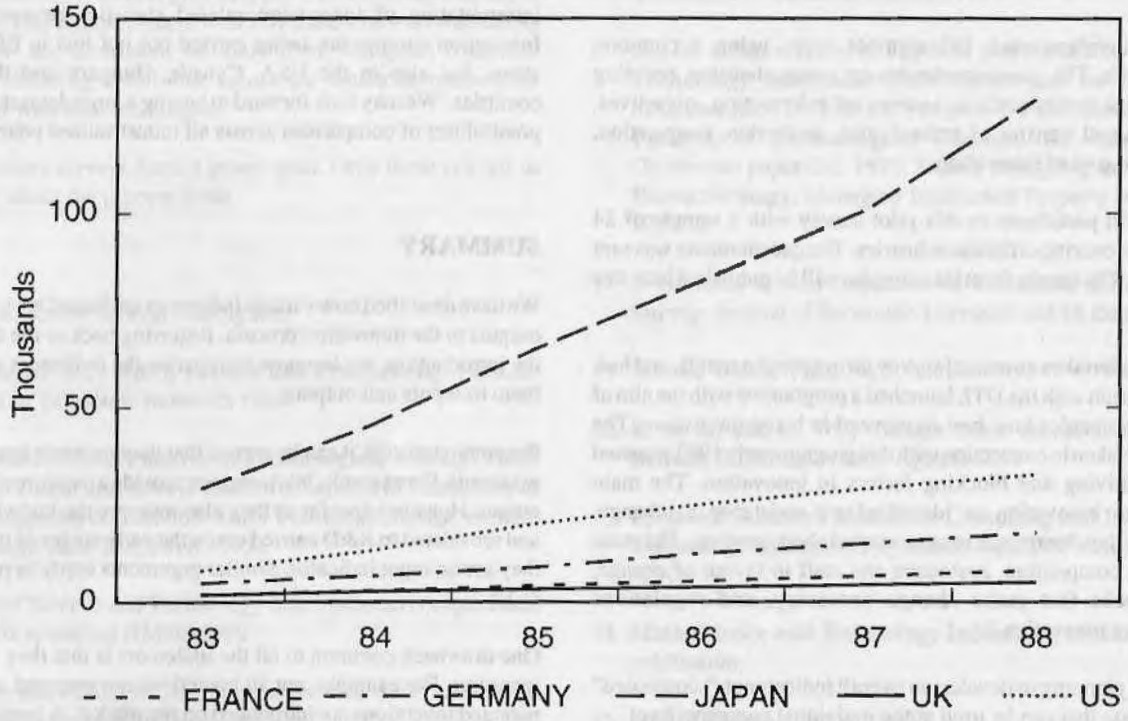
Innovation in small firms, which do not have separate research departments, as well as innovation in the production engineering and design departments of large firms, are not fully reflected in R&D statistics.

The purpose of an innovation survey would be to get an understanding of the non R&D elements of innovation, factors such as sources of information, transfer of knowledge and technology, perceived barriers to innovation etc.

The European community's innovation survey (CIS) is based on the OECD "Oslo" manual on the subject.[15] The EC aims to involve all member countries in this exercise, which is still in its piloting phase.

FIGURE 5

STOCK OF INSTALLED INDUSTRIAL ROBOTS



source: OECD

TABLE 6

Percentage distribution of exports across technology groups

	France	Germany	Italy	UK	Japan	US
High technology						
1980	14.3	16.2	10.8	21.2	24.7	27.5
1984	18.5	18.0	12.3	26.2	32.4	34.5
1987	20.0	18.4	13.1	26.3	34.5	38.2
Medium technology						
1980	43.3	52.4	38.1	42.9	45.9	47.0
1984	41.1	52.2	35.6	40.1	43.3	42.9
1987	43.1	53.8	37.4	40.1	48.2	39.9
Low technology						
1980	42.4	31.4	51.5	35.9	29.4	25.5
1984	40.5	29.8	52.1	33.7	24.3	22.6
1987	36.9	27.8	49.5	33.1	17.3	21.9

Source OECD

The first results of the pilot survey are scheduled for publication at the end of this year. CIS is mostly being conducted by or in co-operation with the statistical offices of the member states. It is possible that in future such surveys will be regular, though not annual.

The CIS involves each EC member state, using a common questionnaire. The questionnaire is very comprehensive, covering questions on topics such as sources of information, objectives, acquisition and transfer of technologies, protection, cooperation, barriers and cost of innovation.

The UK will participate in this pilot survey with a sample of 24 companies covering different industries. The questionnaire was sent out in May. The results from this exercise will be published later this year.

The CBI undertakes an annual survey on innovation trends, and has, in combination with the DTI, launched a programme with the aim of advising companies how best to proceed in being innovative. The study undertaken in connection with this programme in 1992 assessed the main driving and blocking factors in innovation. The main obstacles to innovation as identified are resistance to change, regulations that discourage innovation and short-termism. The main drivers are competition, customers and staff in favour of change, major shocks that make change necessary, and regulations encouraging innovation.[2]

The DTI is planning to develop an overall indicator or "scoreboard" of innovation that can be used at the individual company level.

Another activity in this field is the appropriation and diffusion study (ADS), also known as the Yale2 Survey. This study is being carried out by the Maastricht Economic Research Institute on Innovation and Technology (MERIT) in cooperation with research teams in other countries.

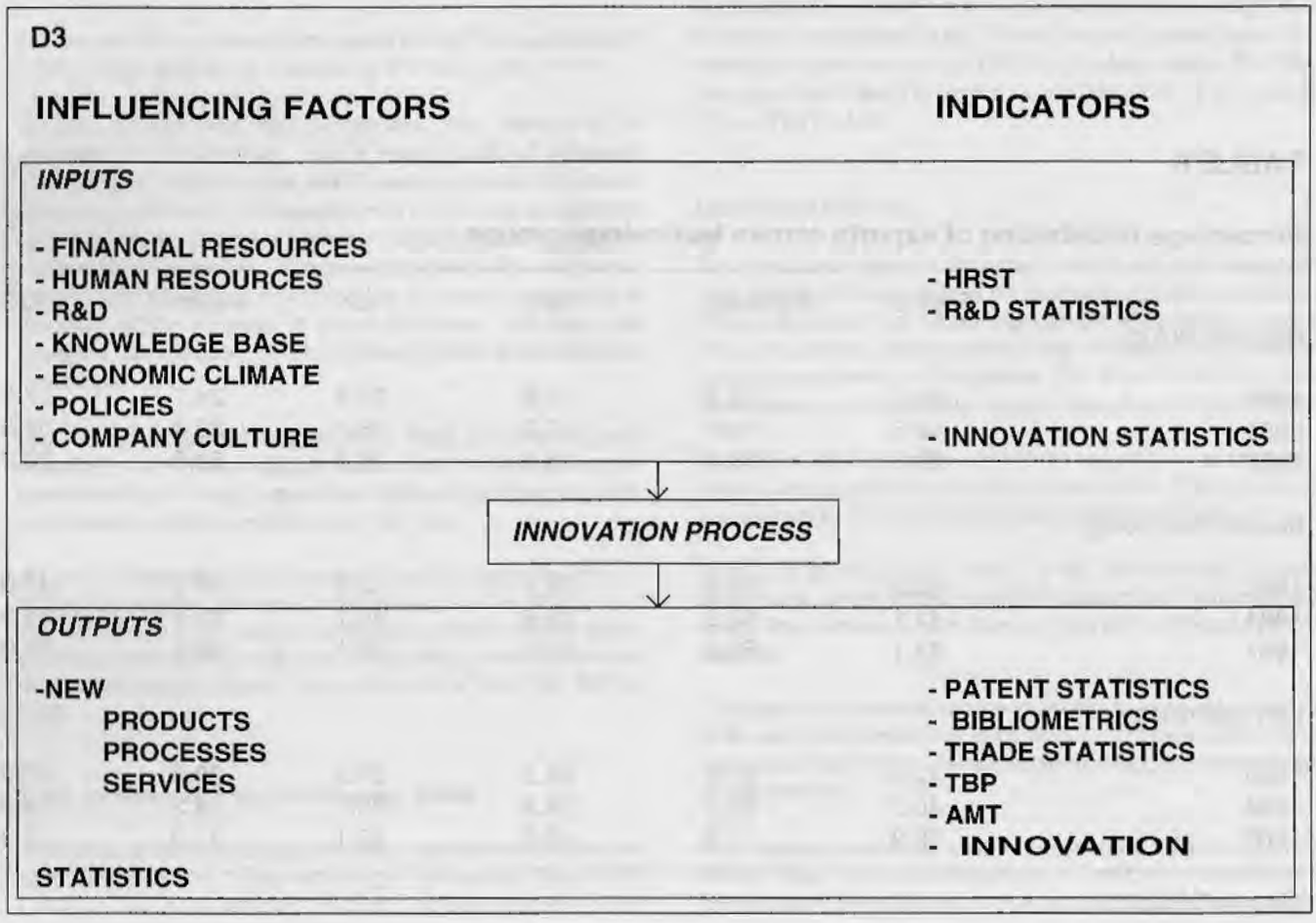
The OECD is attempting to standardise the collection and interpretation of innovation related statistics beyond Europe. Innovation surveys are being carried out not just in EC member states, but also in the USA, Canada, Hungary and the Nordic countries. We may look forward to having a large dataset that offers possibilities of comparison across all industrialised countries.

SUMMARY

We have described how various indicators are linked with inputs and outputs to the innovation process. Referring back to the diagram in the introduction, we can now summarise the indicators and assign them to inputs and outputs.

For some statistics, it can be argued that they measure inputs as well as outputs. For example, bibliometrics provide a measure of scientific output. However, insofar as they also measure the knowledge base and are related to R&D carried out in the early stages of innovation, they are an input indicator. Similar arguments apply to patents and ITTs.

One drawback common to all the indicators is that they are partial measures. For example, not all inventions are patented, and not all patented inventions are introduced on the market. A way to counter this is to combine several measures. By putting together partial measures, a more complete picture of the inputs and outputs of the innovation process may be obtained.



A further disadvantage is that most of the data are collected for other purposes and are not subject to refinement for the purposes of studying innovation.

Another much more serious problem, is the lack of comparability of the figures. This is most evident with TBP data, which are reasonably comparable and consistent for only three European countries. However, differing definitions across the countries make other statistics as well less meaningful.

The innovation surveys form a group apart. Only these can tell us something about the process itself.

Notes

1 Suggestions for general reading are:

Z Griliches (Ed.) **R&D, Patents and Productivity**, National Bureau of Economic Research 1984

P Patel and K Pavitt **Patterns of Technological Activity: Their Measurement and Interpretation** (Chapter 2 of **Handbook of the Economics of Innovation and Technical Change**, ed. Paul Stoneman, Basil Blackwell 1993)

Office of Science and Technology **International comparisons of R&D spending** HMSO 1992

Science and Public Policy (Special issue on S&T indicators), Volume 19 Number 6, December 1992

2 CBI/DTI joint project **Innovation, the Best Practice, 1993**

3 Coopers & Lybrand, **Made in the UK, the survey of British manufacturing**, 1992; see also Kleinknecht's 1990 innovation study, Beleidsstudies Technologie Economie 6, Dutch Ministry of Economic Affairs)

4 Draft manual on the measurements of S&T human resources, OECD 1992

5 **Proposed Standard Practice for Surveys of Research and Experimental Development, 'Frascati Manual'**, OECD 1991

6 See for example **The Annual Review of Government Funded R&D, 1992** HMSO 1992; **Research and Development in the United Kingdom**, Economic Trends August 1993.

7 We are indebted to Alan Carter of the DTI for making work on this topic available.

8 M Akerblom & A Leppälathi, **Industrial Innovation in Finland**, Tutmuksia 184 Studies, Helsinki 1991

9 See for instance K Pavitt **The Size and Structure of British Technology Activities: What we do and do not Know**, Scientometrics 14 1988; K Pavitt & P Patel **Contemporary Patterns of Technological Change, the widespread...**, Conference paper Oct. 1992; S Greif **Designing an Industrial Patent Strategy**, Managing Intellectual Property Issue 1, Oct 1990

10 Z Griliches **Patent Statistics as Economic Indicators: A Survey**, Journal of Economic Literature vol 18 Dec 1990

11 Science Watch, Vol.2 No.1, Jan/Feb 1991

12 K Pavitt, SPRU, **Why British basic research matters to Britain**, ESRC Innovation Agenda 1993

13 **Proposed Standard Method of Compiling and Interpreting Technology Balance of Payments Data, TBP Manual**, OECD 1990;

14 **Main Science and Technology Indicators**, OECD bi-annual publication;

15 **OSLO Manual**, OECD 1990.

16 **Managing Manpower for Advanced Manufacturing Technology**, OECD 1991;
See also **Government Policies and the use of Microelectronics**, OECD 1989;

17 A list of Publications and Projects can be obtained from DTI's Information and Manufacturing Technologies Division;

18 **R&D, invention and competitiveness**, Science and Technology Indicators 2, OECD 1986

19 K S Hughes **Technology and international competitiveness**, International Review of Applied Economics, Vol. 6 No. 2, 1992

20 K Smith **Technological Innovation Indicators: experience and Prospects**, Science and Public Policy Dec 1992

The Definition of the PSBR

Allen Ritchie and David Lawton, H M Treasury[1]

Introduction

The Public Sector Borrowing Requirement (PSBR) is the "bottom line" of the public sector finances presented to Parliament in the annual *Financial Statement and Budget Report*. It represents the extent to which the public sector has to raise cash by financial transactions such as borrowing in order to finance that part of its expenditure not covered by revenue. This article, a summary version of a new Treasury Working Paper[2], explains how the PSBR is defined and the way it is measured. Both definition and measurement are the joint responsibility of the CSO and the Treasury.

Origins of the PSBR

The use of the PSBR as a measure of the Government's financial position dates back to the 1960s. Up to 1964, the Budget-time Financial Statement presented Government finances in terms of the revenue and expenditure of the "Exchequer" - effectively just the Consolidated Fund. Other central government funds and accounts, such as the National Insurance Fund and the Exchange Equalisation Account, were excluded. The 1963 White Paper on the *"Reform of the Exchequer Accounts" (Cmnd 2014)* argued that there should be comprehensive accounts for central government as a whole, as well as a detailed reconciliation of the Financial Statement figures with the published national accounts numbers. As a result, the 1965 Financial Statement included a table showing the "national accounts classification of central government transactions" which identified what is now termed the CGBR as the "net borrowing" of the central government sector. In 1966, there was a public sector version of the same table, giving for the first time figures for the public sector's "net balance" - the PSBR. But it was not until a few years later that the PSBR came to be adopted as the Government's principal indicator of the fiscal position.

PSBR and fiscal policy

The emphasis of fiscal policy has now been on the PSBR for more than 20 years, for example in the projections given in successive revisions of the present Government's Medium Term Financial Strategy. Compared with other indicators of the fiscal stance[3], the PSBR has two main advantages.

First, it is on a cash basis, a simpler and more certain concept than accruals. Outturn estimates are timely and unlikely to be subject to large revisions. A cash basis is consistent with the public expenditure plans and with Parliamentary control over the Exchequer, as well as providing, for monetary policy, a useful indicator of the public sector's net demand for finance from the other sectors of the economy (including the overseas sector).

Second, the PSBR measures the net balance of the **total public sector**. To focus entirely on central government borrowing risks giving a misleading picture of the impact of public sector finances on the rest of the economy if, for example, a central government surplus is more than offset by substantial borrowing by local authorities and/or public corporations. For the same reason, there are also no other public sector funds which are treated as "off-budget", that is, regarded as being outside the budgetary process and excluded from the PSBR. This contrasts with the practice in a number of other countries, where "extra-budgetary" funds are quite common.

Definition of the PSBR

The PSBR is the difference between the public sector's income and expenditure. In this context, expenditure is broadly defined to include certain financial transactions, such as loans to the private sector and the net acquisition of company securities, as well as current and capital expenditure as conventionally defined in the national accounts. It is important to distinguish the income and expenditure items which **determine** the PSBR from the transactions which **finance** it. A positive PSBR is usually financed by borrowing (ie an increase in liabilities) but it can also be financed by running down liquid assets.

A helpful way of considering the definition of the PSBR in more detail is to compare it with the national accounts concept of the Public Sector Financial Deficit (PSFD). The PSFD is the balance of expenditure less revenues on the current and capital accounts (line A of table 1). As in the PSBR, transactions which go to make up the PSFD are consolidated across the public sector; to avoid double counting, intra-public sector flows - such as those between central government and local authorities - are netted out.

The current and capital accounts are conventionally recorded on an accruals basis wherever practicable, so the PSFD is an accruals concept. To move to the cash basis of the PSBR, we need to make the appropriate **accruals adjustments** (line B). These simply represent the difference between accrued revenue or expenditure, and actual cash receipts or payments.

On the receipts side, they apply to the main taxes; income tax, VAT, national insurance contributions, national non-domestic rates and local authority taxes. For example, VAT is scored as accruing when the tax is levied on the final expenditure, which is likely to be one to three months before the cash is paid over to Customs and Excise.

There are fewer adjustments on the expenditure side, as the cash numbers are for the most part the same as the accruals. But one important exception is the capital uplift on index-linked gilts. In the national accounts, this is scored as interest at the time it accrues. But it is not actually paid out (and scored in the PSBR) until the gilt is redeemed. So an accruals adjustment is needed which removes the accrued uplift scored and adds back any payments of uplift on redemptions.

The national accounts also include some imputed expenditure. An example is the estimate of the consumption of fixed capital used in non-trading activities, which is added to current expenditure on goods and services to arrive at a measure of the total cost of providing

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1 with help and comments from colleagues in the CSO, Treasury, Bank of England and Department of the Environment

2 "The public sector borrowing requirement-definition and measurement" by Allen Ritchie and David Lawton, HM Treasury; Treasury Working Paper No. 61 (forthcoming)

3 These include the national accounts Public Sector Financial Deficit (PSFD), and the central and general government equivalents of the PSBR and PSFD. Outturn data for all these measures are available in Financial Statistics.

government services. These imputed expenditures have no effect on the PSFD because offsetting items are imputed to receipts. In some cases (such as capital consumption), there is no cash flow associated with the imputed figure. But in other cases, there is an associated cash flow, which differs from the imputed figure used in the national accounts. These latter instances generate a further set of adjustments to put the transactions which make up the PSFD on the cash basis required for the PSBR.

Three of the more important are in respect of:

- **transactions of certain notionally-funded public sector pension schemes**. The adjustment needed here (line C) is the difference between actual pension **payments** - which is what count to the PSBR - and the pension **contributions** scored in the national accounts;

- public sector assets acquired on **finance leases**. Since 1991, the national accounts have scored as expenditure at the outset the full capital value of assets taken out on finance leases, together with the interest element of the ongoing leasing payments. But the PSBR, as a cash concept, scores only the actual leasing payments made (both the interest element and the repayment of principal). An adjustment is thus required which deducts the expenditure imputed in the financial deficit in respect of the initial capital value, and adds back the repayment of principal;

- purchases and sales of goods and services by public corporations are measured at the point of exchange in the national accounts, rather than at the point of (cash) payment. Thus the financial deficit of the public corporations has to be adjusted by their **net trade credit** position in order to arrive at the (cash) borrowing requirement.

The adjustments for finance leasing and trade credits are brought together with various other financial transactions in line D of table 1.

Finally, the PSBR treats net public sector expenditure on the acquisition of financial assets (other than bank deposits and equivalent liquid assets) as a determinant, in contrast to the PSFD where it is a financing item. Two main types of financial transaction fall under this heading:-

(i) **loans to the private sector**, net of redemptions (line E);

(ii) **cash expenditure on company securities**, net of receipts from sales (line F). Over the past ten years or so this item has been negative, as receipts from sales (mainly privatisation proceeds) have dominated.

The reason for counting most acquisitions of (non-liquid) financial assets as determinants of the PSBR, rather than as financing items, is that planning and accounting for such expenditure is part of the budgetary process for public sector finances. Net lending and the net acquisition or sale of company securities are planned and managed by government departments.

In national accounts terms therefore, the PSBR represents a balance struck somewhere in the middle of the financial transactions account. The items which remain below the balancing line are treated as **financing** the PSBR. By definition, their sum exactly matches the sum of the determinants above the line. These financing items include most transactions in public sector financial liabilities, such as Government borrowing (line H), but also transactions in liquid financial assets (line I).

These latter transactions, in bank deposits and the like, the official reserves, Bank of England Issue Department holdings of commercial bills and so on, are generally unconnected with the Government's Budget, and its resulting underlying demand for finance. Hence they are not counted as determinants of the borrowing requirement - but rather as part of the transactions which finance it. (Prior to 1984, changes in public sector bank deposits did in fact determine the PSBR. The revised treatment - made for the reasons cited above - had the advantage of putting overdrawn deposit accounts on a par with borrowing from banks which has always counted as a financing item.)

Definitional Problems - Some "Grey Areas"

To sum up, there are three broad principles by which the PSBR is defined:

- it is a **public sector** measure, so only transactions which cross the boundary between the public sector and the private and overseas sectors are relevant;

- it is on a **cash basis**, so only cash transactions matter (with one minor exception, interest on National Savings, which is scored as it accrues);

- current and capital account transactions (measured on a cash basis) and transactions in non-liquid financial assets **determine** the PSBR, whereas transactions in financial liabilities and liquid financial assets **finance** it.

Inevitably however, there are some "grey areas" where these broad principles do not provide a clear guideline. And in some cases, the practicalities of measurement may have some influence in dictating the most sensible PSBR treatment. Some of the more important "grey areas" - the treatment of disguised interest payments, the distinction between lending and borrowing, and the dividing line between liquid and non-liquid financial assets - are discussed in some detail in the working paper.

Measurement of the PSBR

In principle, the PSBR can be measured in two different ways. The most obvious way is from the income and expenditure flows which determine it. But as the borrowing requirement has to be financed, it is also possible to measure the PSBR as the sum of these financing items, ie as the public sector's net borrowing and net investment in liquid assets. Ideally, it would be measured both ways, so as to provide a cross-check. But in practice, it is only possible to attempt this for central government borrowing (the CGBR). The total PSBR is built up from figures for the separate components for central government, local authorities, and public corporations.

Estimates of the central government borrowing requirement are constructed by consolidating the cash accounting records of the various central government funds and accounts (such as the Consolidated Fund and the National Loans Fund). Within each of these funds, the transactions which determine the CGBR can be distinguished from the ones which finance it. So the CGBR can be estimated both by summing determinant transactions across funds and, as a cross check, by summing the counterpart financing transactions. For a fuller account of the procedures for measuring the CGBR from central government funds and accounts, see *Treasury Working Paper No.57, "Central Government Funds and Accounts and the Central Government Borrowing Requirement"*, by Colin Mowl and Philippa Todd (June, 1990).

Local authorities' borrowing is only measured from financing components; there are no monthly figures for income and expenditure on which to base an estimate of the LABR from determinants. The principal data source for the monthly LABR estimate is the DOE's monthly borrowing and lending inquiry. The monthly returns from a fixed sample of 185 local authorities (stratified by size and type of authority) are grossed up to produce an estimate of the borrowing requirement over the whole local authority sector. The 383 authorities who are not required to respond to the monthly inquiry fill in a quarterly return. The results from this full survey are then used to revise the initial estimates generated from grossing up the smaller sample.

However, the estimates of the changes in bank deposits and, from April 1993, in bank borrowing which emerge from the DOE enquiry are not used in calculating the LABR. Data from Bank of England returns from the banks are substituted instead. This has the advantage of ensuring consistency with the data for other public sector bank deposits and bank borrowing used in the remainder of the PSBR calculations, and in the monthly monetary statistics.

Public corporations borrowing is also estimated using only financing components. The main source is banking data collected by the Bank of England. The Bank of England also provides (or collects from other bodies) data on changes in public corporations' holdings of central government debt and other holdings. Other data sources include the Department for National Savings, the local authorities' borrowing and lending returns, and the Treasury. There is also some use of information from individual public corporations, but in general direct information from public corporations plays a very limited role in measuring the PCBR.

An estimate of each month's PSBR is published by press notice (First Release) on the 12th working day of the following month, and subsequently - with rather more supporting detail of the income and expenditure components for central government - in *Financial Statistics*. The quarterly national accounts (again published in *Financial Statistics*) also show how the component borrowing requirements, for central government, local authorities, and public corporations, are built up from the determinants. But because the borrowing requirements are not actually measured using the national accounts estimates of the determinants, there is an unidentified balancing item for each sector (the consolidated public sector balancing item is subsumed in line D of table 1). The PSBR is also one of the M4 counterparts in the *Monthly Monetary Statistics* published by the Bank of England.

Net public sector debt: the stock analogue of the PSBR

The PSBR is a flow concept: it measures the amount of borrowing that the public sector needs to do in any given period. But it also represents a net addition to the stock of debt arising from cumulative borrowing over previous periods. This stock analogue of the PSBR is net public sector debt (NPSD).

NPSD measures the public sector's financial liabilities to the private sector and abroad, net of short-term financial assets. As its stock analogue, there are obviously clear correspondences between the definitions of the PSBR and NPSD:

- both cover the public sector as a whole;
- both are consolidated across sectors, to eliminate double-counting. Just as the PSBR measures each component sector's borrowing from the market and overseas, so NPSD comprises each sector's outstanding stock of liabilities with the market and overseas. Intra-public sector holdings of debt are thus netted out;
- both cover the same set of liabilities and assets. Just as the PSBR can be financed either by borrowing or by a reduction in liquid financial assets, so NPSD comprises the stock of public sector financial liabilities net of its stock of liquid financial assets.

Despite these close correspondences however, the stock of net public sector debt does not exactly equal the cumulative PSBR. The differences stem largely from the fact that the PSBR measures the cash value of transactions while NPSD measures the debt stock at nominal values (which is the amount that the public sector is contracted to repay). For instance, when gilts are issued at a discount or a premium, the PSBR is financed by the actual amount received (ie net of the discount or premium), whereas NPSD is deemed to increase by the nominal value of the gilts. More generally, changes in the stock of assets and liabilities that do not arise from any cash transaction affect NPSD, but not the PSBR. An example would be exchange rate movements, which change the sterling value of foreign currency assets and liabilities, and thus NPSD. But, since there is no associated cash transaction, the PSBR is unaffected.

An estimate of NPSD as at 31 March each year is published in the Bank of England *Quarterly Bulletin* (usually in the November edition). Updated estimates are provided in table S1 of *Financial Statistics* (usually in the February edition). A historical run of figures is available back to 1970.

Table 1: Public Sector transactions, 1992-93:

Current and capital receipts	**£ million**	
Taxes on income, expenditure and capital	161849	
Social security contributions	37352	
Community charge	8116	
Gross trading surpluses and rent	8402	
Interest and dividend receipts	4367	
Imputed charge for non-trading capital consumption	3811	
capital transfers from private sector	236	
Current and capital expenditure		
Final consumption	130855	
Subsidies	6393	
Current grants	89572	
Debt interest	18170	
Gross domestic fixed capital formation	17586	
Capital grants to private sector	5228	
Public Sector Financial Deficit	43672	A
Financial transactions		
Accruals adjustments (net)	1330	B
Transactions of public sector pension schemes	227	C
Miscellaneous financial transactions	-714	D
Net lending to private sector and abroad	308	E
Cash expenditure on company securities	-8153	F
Public Sector Borrowing Requirement	36670	G
Memo: PSBR financed by		
Transactions in financial liabilities	37150	H
Transactions in liquid financial assets	-480	I

Relationship between lines:

PSRB (ie line) = PSFD (ie line A) plus lines B to F