

# 1992 first half-yearly update of seasonal adjustments: background note

*The monetary statistics in this edition of the Bulletin incorporate the results of the latest update of seasonal adjustments (the monthly Monetary statistics have, since 1 May 1992, also included the results of the latest update).*

## (a) Methodological change

There has been one change in the method used in previous updates.<sup>(1)</sup> It affects only the seasonal adjustments for the first and last three years' observations in each series; for the remainder, they have been calculated as before. Generally, the adjustment for any given month (or quarter) is a weighted average of the seasonal effects in the five like months (or quarters) centred on that month (or quarter). Within three years of each end of the series there are not enough observations to compute seasonal adjustments in this way; instead, the seasonality is extrapolated. In previous updates the method of extrapolation allowed the seasonality to grow or decline in line with recent experience. In this update, however, a more neutral form of projection has been used. The change was introduced because, on the evidence of past data, it tends to reduce the size of subsequent revisions to the adjustments.

The revisions presented here therefore reflect the incorporation of data for the most recent five months (which affects the series back to November 1988), revisions to earlier data (which may affect the whole series), and the change in projection method (which affects the first, as well as the most recent, three years of the series).

For technical reasons (essentially because M0 is not measured on the same dates in the calendar in each year), the previous version of the seasonal adjustment method is still being used for M0.

## (b) Date ranges

The seasonal adjustments are now derived from the following data periods:

- (i) M0: 28 May 1969 to 26 February 1992;
- (ii) monthly M2, M4 and lending (financial year constrained): July 1982 to February 1992;
- (iii) quarterly M4 and its counterparts (financial year constrained): Q3 1982 to Q4 1991;
- (iv) quarterly M4 and its counterparts (calendar year constrained): Q2 1963 to Q4 1991.

## (c) Treatment of outliers

All 'outliers' have been investigated fully to see whether it is appropriate to modify them before computing seasonal adjustments; certain other observations known to be distorted

have also been modified. Where an outlier has been modified, appropriate offsetting adjustments need to be applied to other series in order to preserve the accounting relationships between them (this does not apply to M0, as it is not part of the financial matrix). In addition to those detailed in previous background notes,<sup>(2)</sup> the following amounts (in £ millions) have been added—with due regard to sign—to the unadjusted data before deriving the new seasonal adjustments on the following monetary series:

1990 Dec. Interest-bearing bank deposits in M2  
and bank retail deposits in M4: +800

Building society shares and deposits in  
M2 and building society retail shares and  
deposits in M4: -800

(associated with the privatisation of the  
regional electricity companies in early  
December 1990; reversing adjustments  
made to the above in November 1990, see  
August 1991 *Quarterly Bulletin*)

## (d) Comparison of old and new seasonally adjusted series

The table compares the new M0, M4 and lending growth rates (one and twelve-month) with the old. M0's recent history has not changed significantly. With the exception of July 1991, M4's new one-month growth rates are generally higher in the first three quarters of 1991, and lower in subsequent periods. Overall, the seasonally adjusted series for M4 shows a smoother pattern for M4 growth at the end of the series. Seasonal adjustments on M4 lending are relatively unchanged. The old seasonal adjustments tended to overcompensate for the end-quarter surge in M4 and M4 lending (mainly because they were derived from a period when interest rate—and thus quarterly interest crediting and debiting—were higher), so that one-month growth rates in quarter months were lower than one-month rates in the months either side. This feature continues to be apparent in the new seasonally adjusted one-month growth rates but is less pronounced for more recent dates.

## (e) Sectoral M4 and M4 lending

The broad pattern for sectoral M4 and lending in recent periods is unchanged. The new three-month growth rate for lending to industrial and commercial companies in 1991 Q4

(1) For a discussion of the methodology used in previous updates see the February 1991 edition of the *Quarterly Bulletin*.

(2) For a list of outliers adjusted for in previous updates see the following editions of the *Quarterly Bulletin*: February 1991, pages 94–95; August 1991, page 397; February 1992, pages 82–83.

is lower than published in February's *Monetary statistics* and lending to other financial institutions is higher. All sectors' holdings of M4 are weaker in 1991 Q4. Overall, the new seasonal adjustments have smoothed out some of the abrupt quarterly changes at the ends of the series apparent using the old seasonal adjustments.

**(f) The next half-yearly update**

The Bank intends to carry out the next update of seasonal adjustments when the data to August 1992 become available and expects to promulgate the results with the September 1992 outturn statistics, published in October.

Revised seasonal adjustments: a comparison of 'old' and 'new' seasonally adjusted series<sup>(a)</sup>

Changes (£ millions) and one and twelve-month percentage growth rates

		M0						M4						Sterling lending to M4 private sector					
		Change		Growth rates				Change		Growth rates				Change		Growth rates			
		Old	New	1-month		12-month		Old	New	1-month		12-month		Old	New	1-month		12-month	
1988	July	149	150	0.9	0.9	6.9	7.0	7,616	7,523	2.3	2.3	17.8	17.8	8,529	8,507	2.3	2.3	23.9	23.9
	Aug.	70	70	0.4	0.4	7.4	7.4	3,781	3,807	1.1	1.1	17.6	17.6	6,284	6,276	1.6	1.6	24.3	24.3
	Sept.	258	259	1.6	1.6	8.4	8.4	5,422	5,387	1.6	1.6	18.5	18.5	6,788	6,777	1.7	1.7	24.3	24.3
	Oct.	-23	-25	-0.1	-0.1	7.5	7.6	4,323	4,223	1.3	1.2	17.5	17.4	7,321	7,311	1.9	1.9	24.9	24.8
	Nov.	45	45	0.3	0.3	7.5	7.6	4,001	3,921	1.2	1.1	17.6	17.6	6,674	6,653	1.7	1.7	24.8	24.7
	Dec.	87	87	0.5	0.5	7.7	7.7	4,445	4,346	1.3	1.2	17.4	17.3	6,841	6,846	1.7	1.7	24.8	24.8
1989	Jan.	23	26	0.1	0.2	7.3	7.3	4,749	4,875	1.3	1.4	17.8	17.7	7,809	7,806	1.9	1.9	24.6	24.6
	Feb.	20	20	0.1	0.1	6.8	6.8	5,003	5,000	1.4	1.4	18.1	18.1	5,918	5,930	1.4	1.4	24.4	24.4
	Mar.	59	59	0.4	0.3	6.2	6.2	4,563	4,989	1.2	1.4	17.6	17.6	7,403	7,464	1.7	1.7	24.4	24.4
	Apr.	115	118	0.7	0.7	5.9	6.0	3,867	3,936	1.0	1.1	17.5	17.5	7,111	7,120	1.6	1.6	23.6	23.6
	May	36	34	0.2	0.2	5.9	6.0	4,640	4,791	1.2	1.3	17.6	17.6	7,222	7,244	1.6	1.6	23.4	23.4
	June	96	94	0.6	0.5	5.8	5.8	7,105	6,834	1.9	1.8	18.2	18.3	6,913	7,085	1.5	1.6	22.7	22.8
	July	80	84	0.5	0.5	5.3	5.3	4,960	4,948	1.3	1.3	17.0	17.1	7,831	7,744	1.7	1.7	22.0	22.1
	Aug.	188	191	1.1	1.1	6.0	6.0	6,313	6,398	1.6	1.6	17.5	17.6	8,389	8,297	1.8	1.8	22.2	22.2
	Sept.	24	22	0.1	0.1	4.5	4.5	5,543	5,914	1.4	1.5	17.3	17.5	8,375	8,397	1.8	1.8	22.2	22.3
	Oct.	111	105	0.6	0.6	5.3	5.3	5,452	5,106	1.3	1.3	17.4	17.5	6,166	6,446	1.3	1.3	21.5	21.6
	Nov.	129	126	0.7	0.7	5.8	5.8	4,352	4,509	1.1	1.1	17.3	17.5	5,947	5,639	1.2	1.2	21.0	21.0
	Dec.	127	130	0.7	0.7	6.0	6.0	8,864	8,140	2.1	2.0	18.3	18.3	9,724	9,702	2.0	2.0	21.4	21.4
1990	Jan.	-30	-23	-0.2	-0.1	5.7	5.7	5,907	5,908	1.4	1.4	18.4	18.4	6,296	6,063	1.3	1.2	20.6	20.6
	Feb.	171	163	1.0	0.9	6.6	6.5	4,774	4,932	1.1	1.2	18.1	18.1	7,582	7,789	1.5	1.5	20.7	20.7
	Mar.	49	49	0.3	0.3	6.5	6.5	4,897	5,267	1.1	1.2	17.9	17.9	8,067	8,101	1.6	1.6	20.5	20.5
	Apr.	246	245	1.4	1.4	7.2	7.2	4,284	4,668	1.0	1.1	17.8	17.9	5,516	5,185	1.0	1.0	19.8	19.8
	May	-28	-26	-0.2	-0.1	6.8	6.8	4,286	4,875	1.0	1.1	17.5	17.7	6,636	6,586	1.3	1.2	19.4	19.3
	June	-5	2	—	—	6.2	6.2	6,262	5,788	1.4	1.3	17.0	17.1	7,213	6,766	1.3	1.3	19.2	18.9
	July	-15	-19	-0.1	-0.1	5.6	5.6	4,058	2,972	0.9	0.7	16.6	16.4	4,863	4,706	0.9	0.9	18.2	18.0
	Aug.	75	75	0.4	0.4	4.9	4.9	3,216	3,888	0.7	0.9	15.5	15.5	4,232	4,810	0.8	0.9	17.0	16.9
	Sept.	-2	-6	—	—	4.7	4.7	3,360	3,973	0.7	0.9	14.8	14.8	4,667	5,176	0.8	0.9	16.0	16.0
	Oct.	-8	—	—	—	4.0	4.1	3,455	3,208	0.7	0.7	14.1	14.2	5,626	5,901	1.0	1.1	15.6	15.6
	Nov.	-5	-18	—	-0.1	3.2	3.2	5,746	5,307	1.2	1.1	14.3	14.2	6,219	5,146	1.1	0.9	15.5	15.4
	Dec.	66	25	0.4	0.1	2.9	2.6	1,272	733	0.3	0.2	12.2	12.2	3,252	3,575	0.6	0.6	13.9	13.9
1991	Jan.	79	150	0.4	0.8	3.5	3.6	2,288	2,198	0.5	0.5	11.2	11.2	3,897	3,487	0.7	0.6	13.3	13.2
	Feb.	32	17	0.2	0.1	2.7	2.8	3,645	3,480	0.8	0.7	10.8	10.7	4,394	4,568	0.8	0.8	12.5	12.4
	Mar.	16	3	0.1	—	2.5	2.5	1,530	2,309	0.3	0.5	9.9	9.9	1,941	2,551	0.3	0.4	11.1	11.1
	Apr.	75	62	0.4	0.3	1.5	1.4	3,892	4,066	0.8	0.8	9.7	9.7	4,426	3,704	0.8	0.6	10.8	10.7
	May	-7	1	—	—	1.6	1.6	2,652	3,446	0.5	0.7	9.3	9.2	2,798	2,738	0.5	0.5	10.0	9.9
	June	49	66	0.3	0.4	1.9	1.9	195	466	—	0.1	7.8	7.9	2,051	1,618	0.3	0.3	8.9	8.8
	July	25	12	0.1	0.1	2.2	2.1	3,959	1,883	0.8	0.4	7.7	7.7	3,375	2,905	0.6	0.5	8.5	8.4
	Aug.	-21	-11	-0.1	-0.1	1.6	1.6	895	1,973	0.2	0.4	7.1	7.2	2,180	3,030	0.4	0.5	8.1	8.0
	Sept.	131	118	0.7	0.6	2.4	2.3	662	2,158	0.1	0.4	6.5	6.7	965	2,112	0.2	0.4	7.4	7.4
	Oct.	38	54	0.2	0.3	2.6	2.6	3,071	2,259	0.6	0.5	6.4	6.5	936	1,425	0.2	0.2	6.5	6.5
	Nov.	54	42	0.3	0.2	2.9	2.9	2,448	2,173	0.5	0.4	5.6	5.7	5,427	3,578	0.9	0.6	6.3	6.2
	Dec.	49	39	0.3	0.2	2.8	3.0	4,370	3,330	0.9	0.7	6.2	6.3	1,097	1,597	0.2	0.3	5.8	5.8
1992	Jan.	-38	-9	-0.2	—	2.2	2.1	2,948	2,664	0.6	0.5	6.3	6.3	3,663	2,783	0.6	0.5	5.8	5.7
	Feb.	29	28	0.2	0.1	2.2	2.2	2,311	2,106	0.5	0.4	6.0	6.0	285	670	—	0.1	5.0	4.9

(a) Figures elsewhere in this *Bulletin* (eg in the statistical annex) incorporate any further revisions to the unadjusted data which have occurred since the revised seasonal adjustments were introduced in mid-April.