

# 1992 second half-yearly update of seasonal adjustments

The figures in this edition of the Bulletin incorporate the results of the latest half-yearly update of seasonal adjustments. (The monthly Monetary statistics, published on the 29 October 1992, also included the results of the latest update). The method of seasonal adjustment used is the same as that used in the previous update. For notes on the method see pages 93–98 of the February 1991 Bulletin, page 397 of the August 1991 Bulletin and page 214 of the May 1992 Bulletin.

## (a) Date ranges

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

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

## (b) Treatment of outliers

Atypical observations, which may be manifest as 'outliers', possess the potential to distort estimates of the trend and the seasonal pattern within time series. All 'outliers' have been investigated 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 observation has been modified, appropriate offsetting adjustments need to be applied to other series in order to preserve the accounting relationships (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>(1)</sup> the following amounts (£ millions) have been added—with due regard to sign—to the unadjusted data before deriving the new seasonal adjustments on the following monetary series:

### M0 (amounts outstanding, with consequential effects on changes)

1992 April	Notes and coin:	-60
1992 May	Notes and coin:	-120
1992 June	Notes and coin:	-105
1992 July	Notes and coin:	-105
1992 Aug.	Notes and coin:	-105

(note circulation temporarily boosted by a dispute at a commercial note-issuing bank).

1992 April	Notes and coin:	+20
1992 May	Notes and coin:	+43
1992 June	Notes and coin:	+48
1992 July	Notes and coin:	+52
1992 Aug.	Notes and coin:	+53

(coin circulation temporarily distorted by withdrawal of surplus 50 pence pieces, and of 10 pence pieces in advance of new coin issue).

### Monthly and quarterly M4 and its counterparts (financial year constrained)

1992 April	Changes in banks' lending to the M4 private sector:	-600
1992 Q2(April)	Changes in central government debt sales [increase(-)]:	+600

(associated with the abnormally high volume of official gilt sales which occurred immediately after the general election)

### Sectoral analysis of M4 and its sterling lending counterpart (calendar year constrained)

1992 Q2(April)	Changes in banks' lending to other financial institutions:	-600
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(associated with the abnormally high volume of official gilt sales which occurred immediately after the general election)

### Building society data <sup>(2)</sup>

1988 March	House purchase commitments: <sup>(3)</sup>	-1,000
1988 March	Gross advances: <sup>(3)</sup>	-400

(associated with the announcement of the end of tax relief on home improvements in April 1988 and the end of multiple mortgage interest tax relief in August 1988).

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

The table compares the new notes and coin, M0, M4 and lending growth rates (one and twelve-month) with the old.

(1) For a list of outliers adjusted for in previous updates see the following editions of the Bulletin: February 1991, pages 94–95; August 1991, page 397; February 1992, pages 82–83 and May 1992, page 214.

(2) This update marks the first time that outlier analysis has been incorporated into seasonal adjustments for building society series other than those included within M2 and M4.

(3) These outlier adjustments affect the seasonally-adjusted series published in Tables 6.9 and 6.10 of *Financial Statistics*.

While the addition of six months' extra data has brought about some modest revisions to one-month percentage growth rates, particularly in recent months, twelve-month growth rates are broadly unchanged. In the past year, only four one-month growth rates within M4 and M4 lending have altered by more than 0.1 percentage point as a result of the seasonal update. Within M4, the largest revision to one-month growth rates (-0.3 percentage points) occurs in April 1992. Lending is also revised downwards (by 0.2 percentage points) in the same month.

The broad pattern for sectoral M4 and lending is largely unchanged by the seasonal update. Nevertheless, the new

three-month annualised growth rates for lending to all sectors are lower in 1992 Q2 than those published in August's *Monetary statistics*. Overall, the new seasonal adjustments have slightly smoothed out some of the recent abrupt quarterly changes apparent using the old seasonal adjustments.

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

The Bank intends to carry out the next update of seasonal adjustments when the data to February 1993 become available and expects to publish the results in April with the March 1993 outturn statistics.

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

One and twelve-month percentage growth rates

		Notes and coin				M0				M4				Sterling lending to M4 private sector			
		Growth rates								Growth rates							
		1-month		12-month		1-month		12-month		1-month		12-month		1-month		12-month	
		Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New	Old	New
1989	Jan.	0.3	0.3	7.6	7.6	0.2	0.1	7.3	7.3	1.4	1.4	17.7	17.7	1.9	1.9	24.8	24.8
	Feb.	0.1	0.1	6.7	6.7	0.1	0.1	6.8	6.8	1.4	1.4	18.1	18.1	1.4	1.4	24.6	24.6
	Mar.	0.5	0.5	6.6	6.6	0.3	0.3	6.2	6.2	1.4	1.4	17.6	17.6	1.8	1.8	24.6	24.6
	Apr.	0.3	0.3	6.3	6.3	0.7	0.7	6.0	6.0	1.1	1.1	17.5	17.5	1.6	1.6	23.8	23.8
	May	0.4	0.3	6.1	6.1	0.2	0.1	6.0	5.9	1.3	1.3	17.6	17.6	1.6	1.6	23.6	23.5
	June	0.7	0.7	6.0	6.0	0.5	0.6	5.8	5.8	1.6	1.6	18.0	18.0	1.6	1.6	23.0	22.9
	July	0.6	0.6	5.8	5.8	0.5	0.5	5.3	5.3	1.3	1.3	16.8	16.8	1.7	1.7	22.3	22.2
	Aug.	0.7	0.7	5.8	5.8	1.1	1.1	6.0	6.0	1.6	1.6	17.4	17.4	1.8	1.8	22.4	22.3
	Sept.	0.5	0.5	4.7	4.7	0.1	0.1	4.5	4.5	1.5	1.5	17.3	17.2	1.8	1.8	22.4	22.4
	Oct.	0.5	0.5	5.5	5.5	0.6	0.6	5.3	5.3	1.3	1.3	17.3	17.3	1.3	1.3	21.8	21.8
	Nov.	0.7	0.7	5.8	5.8	0.7	0.7	5.8	5.7	1.1	1.1	17.3	17.2	1.2	1.2	21.2	21.2
	Dec.	0.6	0.7	6.0	6.0	0.7	0.8	6.0	6.0	1.9	1.9	18.1	18.0	2.0	2.0	21.6	21.5
1990	Jan.	0.5	0.5	6.2	6.3	-0.1	-0.1	5.7	5.7	1.4	1.4	18.1	18.1	1.2	1.2	20.8	20.7
	Feb.	0.6	0.5	6.7	6.6	0.9	0.9	6.5	6.5	1.1	1.1	17.8	17.8	1.6	1.6	21.0	20.9
	Mar.	0.4	0.4	6.5	6.5	0.3	0.3	6.5	6.5	1.2	1.2	17.7	17.7	1.6	1.6	20.8	20.8
	Apr.	0.8	0.8	7.1	7.0	1.4	1.3	7.2	7.1	1.1	1.0	17.7	17.6	1.0	1.0	20.0	20.0
	May	0.2	0.3	6.9	7.0	-0.1	-0.1	6.8	6.8	1.1	1.1	17.4	17.4	1.3	1.2	19.6	19.5
	June	0.1	0.1	6.3	6.3	—	—	6.2	6.3	1.3	1.3	17.1	17.1	1.3	1.3	19.2	19.1
	July	0.2	0.2	5.9	5.9	-0.1	-0.2	5.6	5.6	0.7	0.6	16.4	16.3	0.9	0.9	18.3	18.2
	Aug.	0.1	0.1	5.2	5.2	0.4	0.4	4.9	4.9	0.9	0.9	15.5	15.5	0.9	0.9	17.2	17.1
	Sept.	0.1	0.1	4.8	4.8	—	—	4.7	4.7	0.9	0.9	14.8	14.8	1.0	1.0	16.3	16.1
	Oct.	—	—	4.3	4.3	—	—	4.1	4.1	0.7	0.7	14.2	14.1	1.1	1.1	16.0	15.8
	Nov.	—	—	3.6	3.6	-0.1	-0.1	3.2	3.2	1.1	1.1	14.2	14.2	0.9	0.9	15.7	15.6
	Dec.	—	—	3.0	3.0	0.1	0.1	2.6	2.6	0.2	0.2	12.2	12.2	0.7	0.7	14.2	14.1
1991	Jan.	0.7	0.7	3.2	3.1	0.8	0.8	3.6	3.6	0.5	0.5	11.2	11.2	0.7	0.7	13.5	13.5
	Feb.	0.1	0.1	2.7	2.7	0.1	—	2.8	2.7	0.7	0.7	10.7	10.7	0.8	0.9	12.8	12.7
	Mar.	0.1	0.1	2.4	2.4	—	0.1	2.5	2.5	0.5	0.5	9.9	9.9	0.5	0.6	11.5	11.5
	Apr.	-0.1	-0.1	1.4	1.5	0.3	0.4	1.4	1.5	0.8	0.7	9.7	9.6	0.7	0.6	11.2	11.1
	May	0.5	0.5	1.7	1.8	—	—	1.6	1.6	0.7	0.7	9.3	9.2	0.5	0.5	10.3	10.2
	June	0.5	0.5	2.1	2.2	0.4	0.4	1.9	2.0	0.1	0.2	8.0	7.9	0.3	0.3	9.3	9.2
	July	0.1	—	2.0	2.0	0.1	—	2.1	2.1	0.4	0.3	7.7	7.6	0.5	0.5	8.9	8.8
	Aug.	0.2	0.1	2.1	2.0	-0.1	-0.1	1.6	1.6	0.4	0.5	7.2	7.1	0.6	0.5	8.5	8.4
	Sept.	0.4	0.4	2.4	2.3	0.6	0.7	2.3	2.3	0.4	0.4	6.8	6.7	0.4	0.4	7.9	7.8
	Oct.	0.4	0.4	2.8	2.8	0.3	0.3	2.6	2.6	0.5	0.4	6.5	6.4	0.3	0.3	7.1	7.0
	Nov.	0.2	0.2	3.0	3.0	0.2	0.2	2.9	3.0	0.4	0.4	5.8	5.7	0.7	0.7	6.8	6.7
	Dec.	-0.4	-0.2	2.6	2.7	0.2	0.3	3.0	3.1	0.7	0.7	6.3	6.3	0.3	0.3	6.4	6.3
1992	Jan.	0.5	0.4	2.4	2.4	—	-0.2	2.1	2.1	0.4	0.5	6.3	6.3	0.5	0.6	6.3	6.2
	Feb.	—	-0.1	2.3	2.3	0.1	0.1	2.2	2.2	0.4	0.4	6.0	5.9	0.1	0.2	5.6	5.5
	Mar.	-0.1	0.1	2.2	2.2	0.1	0.2	2.2	2.3	0.4	0.4	5.9	5.8	—	0.2	5.1	5.1
	Apr.	0.2	0.1	2.5	2.4	0.4	0.4	2.3	2.3	0.8	0.5	5.8	5.6	0.9	0.7	5.3	5.2
	May	—	0.2	2.0	2.1	0.1	0.3	2.5	2.5	0.2	0.2	5.3	5.1	0.5	0.4	5.2	5.2
	June	-0.2	-0.2	1.3	1.4	-0.8	-0.8	1.3	1.3	0.2	0.3	5.3	5.3	0.5	0.5	5.4	5.4
	July	0.6	0.5	1.8	1.8	1.2	1.1	2.4	2.5	0.8	0.7	5.8	5.7	0.5	0.5	5.4	5.4
	Aug.	0.7	0.5	2.3	2.3	-0.1	-0.2	2.4	2.4	0.1	0.3	5.5	5.5	0.4	0.4	5.2	5.2

(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-October.