

Revisions to GDP planned for the 2004 Blue Book

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The article explains the sources of revision to GDP estimates planned for the *UK National Accounts – The Blue Book 2004*, with a detailed explanation of the effects of the re-referencing and rebasing exercises carried out each year from now on as a part of annual chain-linking. In general, the revisions policy employed for the 2004 *Blue Book* is that periods from 2001q1 onwards will be open for revisions. In addition, however, the effect of the reclassification of NHS Trusts will be taken back to their inception in 1991, with a minor effect on GDP growth rates. ONS is also in the process of quality assuring new estimates of the real output of government health services which could affect GDP growth rates in the closed period.

Introduction

The main aim of this article is to remind users that, in the 2004 Blue Book dataset to be published in June 2004, the reference year and the price base year for the most recent periods of all chained-volume series will be updated, from 2000 to 2001. This updating is part of the system of annually chain-linked volume estimates and will take place every year. The article also explains which periods could be affected by other sources of revision to estimates of growth in real gross domestic product (GDP).

Summary of revisions and the periods affected

The policy employed for the 2004 Blue Book is that, in general, periods from 2001q1 onwards will be open for revisions to both current price and chained-volume estimates of GDP. This follows the standard Blue Book revisions policy, reflecting the incorporation of new and revised current price data as part of the normal supply and use balancing process; 2002 is being balanced through the supply and use framework for the first time, and 2001 will be re-balanced.

Revisions will also be made to volume growth in the most recent years, as volume measures for 2002 onwards will, for the first time, be calculated using the prices of 2001. In other words, the base year for the most recent years is being advanced from 2000 to 2001. This rebasing of volume measures will affect annual and quarterly **growth rates** from 2002 onwards (quarterly growth rates in 2001 are also likely to be slightly revised). This type of rebasing is now a standard revision for each Blue Book.

The reference year for chained-volume (CVM) **levels** series, expressed in £ million or as indices, will also be advanced from 2000 to 2001. The entire length of these levels series will be affected by the re-referencing (note that although levels prior to 2002 are affected, growth rates are not). This re-referencing is now a standard revision for each Blue Book.

In addition to these standard revisions, the Office for National Statistics (ONS) often chooses to make specific revisions to closed periods where the contribution to the quality of the national accounts is felt to be significant. For the 2003 Blue Book, the effect of the reclassification of NHS Trusts will be taken back to their inception in 1991, and will have a minor effect on GDP growth rates.

ONS is also in the process of quality assuring new estimates of the real output of government health services which could affect GDP growth rates in the closed period. These new estimates will be incorporated into the 2004 Blue Book provided ONS is satisfied that the methodology, and other aspects of data quality, are robust. Further information on the decision taken, and the periods affected, will be published in the May First Release of Output, Income and Expenditure.

The time periods affected by the standard revisions, and the NHS Trusts' reclassification, are summarised in Table 1 and in Appendix A.

Table 1

	Source of Revision			
	New and revised source data (A)	Updating price base to 2001 (B)	Re-referencing to 2001 (C)	NHS Trusts' reclassification
Series type affected	CVM growth and levels CP growth and levels	CVM growth and levels	CVM levels (not growth rates)	CVM growth and levels CP growth and levels
Periods affected	2001q1 onwards	2002q1 onwards *	All periods (1947 onwards)	1991q1 onwards

CVM = chained-volume measures

CP = current prices

* very small changes to quarterly growth in 2001 are possible, due to benchmarking, but annual growth for 2001 will be unchanged (see Appendix B).

Why are the reference year and most recent price base being updated?

In the UK National Accounts, volume growth is estimated using chained-volume measures (CVMs), that is, growth into each year is calculated using valuations based on the prices of the previous year. This is not the case, however, in the most recent years where, in effect, a fixed-base tail exists at the end of each CVM series. The base year for these fixed-base tails is currently 2000, so that volume growth into all periods from 2001q1 onwards is calculated using the average prices of 2000 (note that growth in 2001 is, therefore, calculated using prices of the previous year).

2000 is also the reference year for the presentation of levels series, that is, indices are presented with 2000=100, and CVM series in £ million terms are presented using the prices of 2000.

Each year, the base year of the fixed-base tail can be moved forward using the latest available dataset balanced through the supply and use framework. Thus, in the 2004 Blue Book (and for quarterly data published from June 2004) the base year for the tail (2002q1 onwards), and the reference year, will be 2001. Similarly, for the 2005 Blue Book the most recent base year, and the reference year, will be 2002.

Economic theory generally suggests that the effect of moving the base year forward would be expected to lead to lower estimates of growth. This expectation is based on the assumption that price and volume movements are negatively correlated. So, economic theory would suggest that updating the base year from 2000 to 2001 would lead to downward revisions to growth estimates from 2002q1 onwards.

Very small changes to quarterly growth in 2001 are possible, due to benchmarking, but annual growth for 2001 will be unchanged. See Appendix B.

Effect of the reclassification of NHS Trusts

As announced on 2 July 2003, the ONS has decided that NHS Trusts previously classified as public sector corporations should be reclassified as central government. This will be effected for 1991 onwards, coinciding with their inception.

For non-market bodies such as government, gross operating surplus is based on capital consumption, whereas for market bodies such as corporations, gross operating surplus is based on profits. The reclassification of NHS Trusts will have a small effect on GDP growth due to the basis of the gross operating surplus estimates changing as NHS Trusts are moved from being market to non-market.

The effect on GDP growth will be downward and is likely to affect growth rates by -0.1 per cent in one or two years only at the published level.

Appendix A

Effects on chained-volume growth :

	New/revised data	Updating price base year to 2001:			Overall effect on growth
		(A)	(B)	(BB03 base year)	
2000q1	No revisions (except NHS+)	No revisions	1999	1999	No revisions (except NHS+)
q2	No revisions (except NHS+)	No revisions	1999	1999	No revisions (except NHS+)
q3	No revisions (except NHS+)	No revisions	1999	1999	No revisions (except NHS+)
q4	No revisions (except NHS+)	No revisions	1999	1999	No revisions (except NHS+)
2000ann.	No revisions (except NHS+)	No revisions	1999	1999	No revisions (except NHS+)
2001q1	Revisions	No revisions *	2000	2000	A
q2	Revisions	No revisions *	2000	2000	A
q3	Revisions	No revisions *	2000	2000	A
q4	Revisions	No revisions *	2000	2000	A
2001ann.	Revisions	No revisions	2000	2000	A
2002q1	Revisions	Revisions	2000	2001	A and B
q2	Revisions	Revisions	2000	2001	A and B
q3	Revisions	Revisions	2000	2001	A and B
q4	Revisions	Revisions	2000	2001	A and B
2002ann.	Revisions	Revisions	2000	2001	A and B
2003q1	Revisions	Revisions	2000	2001	A and B
q2	Revisions	Revisions	2000	2001	A and B
q3	Revisions	Revisions	2000	2001	A and B
q4	Revisions	Revisions	2000	2001	A and B
2003ann.	Revisions	Revisions	2000	2001	A and B
2004q1	Revisions	Revisions	2000	2001	A and B
q2	Revisions	Revisions	2000	2001	A and B

Effects on chained-volume levels (£ million or indices):

	New/revised data	Updating price base year:		Re-referencing :			Overall effect on levels	
		(A)	(B)	(BB03 base year)	(BB04 base year)	(C)		(BB03 reference year)
2000 q1	No revisions (except NHS+)	No revisions	1999	1999	Revisions	2000	2001	C (and NHS+)
q2	No revisions (except NHS+)	No revisions	1999	1999	Revisions	2000	2001	C (and NHS+)
q3	No revisions (except NHS+)	No revisions	1999	1999	Revisions	2000	2001	C (and NHS+)
q4	No revisions (except NHS+)	No revisions	1999	1999	Revisions	2000	2001	C (and NHS+)
2000ann.	No revisions (except NHS+)	No revisions	1999	1999	Revisions	2000	2001	C (and NHS+)
2001 q1	Revisions	No revisions *	2000	2000	Revisions	2000	2001	A and C
q2	Revisions	No revisions *	2000	2000	Revisions	2000	2001	A and C
q3	Revisions	No revisions *	2000	2000	Revisions	2000	2001	A and C
q4	Revisions	No revisions *	2000	2000	Revisions	2000	2001	A and C
2001ann.	Revisions	No revisions	2000	2000	Revisions	2000	2001	A and C
2002 q1	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q2	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q3	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q4	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
2002ann.	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
2003 q1	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q2	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q3	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q4	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
2003ann.	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
2004 q1	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C
q2	Revisions	Revisions	2000	2001	Revisions	2000	2001	A, B and C

Notes

* Very small changes to quarterly growth in 2001 are possible, due to benchmarking, but annual growth for 2001 will be unchanged.

NHS+ indicates that although, in general, periods prior to 2001q1 will not be open to revisions, the effects of the reclassification of NHS Trusts will be taken back to 1991.

Appendix B

Why could there be revisions to quarterly, but not annual, growth estimates for 2001?

In summary, because quarterly growth in 2001 will, for the first time, be linked onto a reference year and will need to be benchmarked. The cubic splining method used for benchmarking may lead to very small revisions to the quarterly path. This is explained in more detail below.

The general case:

1. The first step in producing annually chain-linked volume measures (CVMs) is to calculate a volume estimate for each year valued using the prices of the previous year (PYPs).
2. CVMs are compiled by linking together the PYPs for successive years.
3. CVMs of annual growth are calculated using linking derived from the ratios of annual estimates. CVMs of quarterly growth, on the other hand, are calculated using linking derived from the ratios of estimates for quarter four of each year.
4. The use of different linking factors for annual and quarterly estimates leads to slightly different estimates of growth.
5. The annual estimates are the benchmark, with which the quarterly estimates must be aligned. So, quarterly CVMs are brought into line (benchmarking) using cubic splining methods.

The 2004 Blue Book case:

Prior to the 2004 Blue Book revisions, that is, during 2003 Blue Book compilation:

6. CVM series needed to be referenced to a particular year, and 2000 was chosen, that is, 2000=100 for indices, and CVMs in £ million terms are expressed in the prices of 2000.
7. So, the CVM series have fixed base tails with base year, and reference year, of 2000, that is, the fixed base tails start with growth into 2001.
8. Growth into 2000, and all previous years, must be linked onto the fixed base tails.
9. This means that quarterly growth into 2000, and all previous years, must be benchmarked (since any quarterly linking requires benchmarking). But growth into 2001 does not need to be benchmarked as it is not derived using any linking factors.

During 2004 compilation:

10. The reference year, and base year for the fixed base tail, are updated to 2001, so that steps 6 to 9 above apply, with 2001 replacing 2000, and 2002 replacing 2001.
11. So, quarterly growth into 2001 will now be linked and will thus need to be benchmarked. The cubic splining method may lead to very small revisions to the quarterly path.