

Revisions to Quarterly Estimates of GDP

P B Kenny, Central Statistical Office

Introduction

An earlier article ("Revisions to quarterly estimates of Gross Domestic Product", *Economic Trends* No 381, July 1985) described analyses of the revisions to estimates of the measures of GDP during the five years after first publication. The main conclusion was that the revisions to the first estimates of growth were more often upward than downward, though by no means always upward. There were indications that upward revisions were more prominent in the expansion phase of the economic cycle, and that there were likely to be downward revisions when the rate of inflation was rising rapidly.

It seems natural to inquire whether the systematic effects in the revisions to the aggregates can be traced to particular components. Such a conclusion could give more information about the causes of systematic revisions, and might eventually lead to changes in the method of calculation which would eliminate the systematic effects. This article describes a further analysis of the components of GDP (E) and GDP (I), using broadly the same approach as in the previous article. It is shown that the mean revision, the effect of the business cycle and the effect of inflation can all be partitioned between the various components, and that generally only a few of the components contribute significantly to the overall effects.

In addition to these further analyses, most of the tables contained in the July 1985 article have been updated in the light of the results which have been published in the intervening two years. The tables in Annex A are updates of the correspondingly numbered tables in the earlier article; the conclusions drawn from these updated tables are considered in a short section at the end of this article.

In carrying out this update, we have looked again at the treatment of results for 1981Q2 and 1981Q3, where the usual first estimates of imports and exports were not available because of a civil service strike. Estimates of GDP (E) and GDP (A) for these quarters were not published until October 1982, and the early estimates of GDP (I) were marked as dubious because of doubts about the GDP deflator. In the earlier work the missing values were replaced by the rough estimates made at the time, but not published, and these quarters were included in the analyses. Further consideration has shown that these estimates are very rough, and in some cases they can cause these quarters to behave very differently from quarters not so affected. To avoid any possible bias in the results, these two quarters have been excluded from all analyses of GDP (A), GDP (E) and constant price GDP (I) in this article; this applies to the new regression analyses as well as the updated tables.

The background to the estimation of GDP and the sources and timing of revisions is given in the earlier article, and will not be repeated here. Some of the technical points have been explored further, and the necessary background is recapitulated below.

Adjustment for Re-basing

As mentioned in the earlier article, it is found that changes in the growth rates of constant price estimates at the time of re-basing are often larger and more erratic than at other times. Since re-basing occurs at predictable times, it seems sensible to separate

the revisions into parts due to re-basing and parts due to the "ordinary" revision process, and to use the properties of the ordinary revisions to provide a guide to future revisions of figures now being published.

Estimating the proportion of the revisions which should be attributed to re-basing is not straightforward. In the earlier article it was assumed that the ordinary revision could be estimated by taking the average of the revisions at non-rebasing Octobers, and that the difference between this average and the actual revision in a re-basing October was due to re-basing. One consequence is that any extra methodology changes or definitional changes which occur at a re-basing time are attributed to re-basing.

Two articles published in *Economic Trends* in May 1979 and December 1983 sought to estimate directly the effects of re-basing, by constructing series on the old basis up to the October at which the re-based series first appeared. This method was applied in the present exercise to see how well it performed. It was found that it did not reduce the variability of the revisions appreciably, and often increased it, while the method of the July 1985 article usually reduced the variability. Since the principal object of allowing for re-basing is to remove the effect of erratic revisions, it was decided that re-basing adjustments should use the same method as in the July 1985 article.

Regression Approach

The earlier article showed that revisions to successive quarterly estimates are positively correlated, and this needs to be taken into account if the significance of the various effects is to be validly assessed. Some of the positive correlation arises because, as mentioned above, the amount of revision depends on factors, such as the stage of the cycle or the rate of change of inflation, which are themselves serially correlated. However, even when these factors are allowed for there remains some positive correlation.

One method proposed for analysing revisions in the presence of such influences is to carry out a regression of the revision on the identified factors in a manner which allows for serial correlation. One well-known technique is Cochrane-Orcutt regression, which assumes a simple first-order autoregression in the residuals. This technique was shown to work well with the GDP aggregates.

An exploratory analysis of the components showed that there is a serial correlation in most cases, and that there is also some dependence on the stage of the cycle. It therefore seems desirable to carry out a similar analysis to that already performed for the aggregates, and so discover which components contribute most to the significant effects found at the aggregate level.

As a preliminary, we have to consider what variables to analyse. For the aggregates we chose the revision in the growth rate of a quarter compared with four quarters previously. For the components this same quantity cannot always be calculated, it will often be highly erratic and it does not necessarily indicate how much effect the component has on the aggregate. It was found that a simple manipulation of the data could be used to measure how much of the revision in the growth rate of the aggregate is contributed by revisions to each component. If the components tabulated represent a complete breakdown of the aggregate, then the sum of the contributions from the components will equal the total change in the aggregate. It was therefore decided that all the

analyses would be based on the contributions of the components to changes in the aggregate growth rate. (The algebraic definition of the contributions to change is given in Annex B.)

If it were possible to carry out regressions of a set of components and of their aggregate on the same set of explanatory variables using ordinary least squares regression, it would be found that each regression coefficient for the aggregate would be the sum of the corresponding coefficients for the components. Thus any significant effects in the aggregate regression could be allocated to the components. The same is not true if Cochrane-Orcutt regression is used, principally because the regressions for the components may lead to different estimates of the serial correlation coefficients. However, if the first-order transformation used by the Cochrane-Orcutt method is applied with a single common serial correlation coefficient we can retain the adding-up property. Having analysed the aggregate and all the components using the Cochrane-Orcutt method, therefore, a compromise serial correlation coefficient was sought which would as far as possible leave all components and the aggregate with non-significant serial correlation in the residuals.

It should be mentioned that, because of the method of linking together series on different price bases at a re-basing, the published components of constant price GDP (E) do not always add to the published total for revisions more than five years after first publication. This means that the calculated contributions to revisions to the growth rate over five years do not necessarily add to the calculated revision to the growth of GDP (E). The discrepancies are small, but it seemed desirable to eliminate them and preserve the adding-up property. To ensure this, wherever a discrepancy was found a simple pro rata adjustment was made to each component.

Regression Results

The results are given in Tables 1, 2 and 3 and have been calculated for revisions five years after first publication over the range 1971Q2 to 1981Q1. Initial regressions using the Cochrane-Orcutt method indicated that a value for the serial correlation coefficient of 0.3 would leave the residuals close enough to being uncorrelated for each series. In each table the column headed a is the constant term in the regression (ie the mean effect), b_1 is the coefficient of the cycle variable and b_2 is the coefficient of the inflation variable. The relevant t value is shown in brackets under each coefficient.

Components of Constant Price GDP (E)

Before re-basing adjustment, the mean effect for aggregate GDP (E) is significant as are the cyclical variable and the inflation variable. After re-basing the mean effect is reduced from just under 0.9 per cent to just under 0.7 per cent but is still significant. The cyclical effect is little changed and still significant while the inflation variable is no longer significant.

Half of the mean effect before re-basing adjustment comes from the Balance of Payments component but this effect becomes non-significant - and much reduced - after the re-basing adjustment is made. The contribution to the mean effect from Fixed Capital Formation is significant both before and after the re-basing adjustment is made - accounting for between a third and a half of the effect in each case. None of the other components produces a significant effect on the mean revision - though Consumers' Expenditure, approaching significance with a negative effect before adjustment, becomes positive and non-significant after adjustment.

The cyclical dependence of revision to GDP (E) comes mainly from Fixed Capital Formation which has the only significant coefficient - both before and after re-basing adjustment. In the contraction phase there is, on average, a small negative revision

while in the expansion phase it contributes on average just under a half of the total upwards revision.

The inflation effect on revisions to GDP (E) before re-basing adjustment comes mainly through Stockbuilding, which is the only component with a significant coefficient. After re-basing adjustment the coefficient for Stockbuilding is smaller but still significant, while the aggregate effect has become non-significant.

The regressions with the largest residual standard deviations, and hence the main contributions to variability in revisions of the aggregate, are those for Stockbuilding and Balance of Payments. This is true before and after re-basing adjustment.

Components of Current Price GDP (I)

The components which contribute most to the overall mean revision are Company Profits and Rent and Income from Self-Employment, though the statistical significance of the Company Profits term is doubtful because of serial correlation problems. Together these two components account for more than four-fifths of the overall mean revision, most of the remainder being accounted for by Income from Employment.

The cyclical variable approaches significance for the aggregate. This appears to come from the Company Profits component but the effect disappears when a better allowance is made for serial correlation. We must conclude therefore that the almost significant cyclical effect for constant price GDP (I) reported in the July 1985 article is influenced by cyclical effects in the deflator.

The inflation variable is not significant for the aggregate. It is statistically significant but numerically very small for the Gross Trading Surplus of General Government Enterprises. The effect is positive, as is the effect for Rent and Income from Self-Employment, which appears significant when a better allowance for serial correlation is made. Again the significant negative effect seen for constant price GDP (I) must be due to the deflator. The largest single contribution to variability comes from Company Profits followed by Income from Employment and Stock Appreciation.

Updated Tables of Mean Revisions

The tables in Annex A update the correspondingly numbered tables in the original article, with appropriate changes to the span of years covered. The inclusion of extra periods in the analyses has generally had a small and probably non-significant effect on the mean revisions. To facilitate comparison, the final column of each table from the previous article is also included in Tables A1 to A4.

In Tables A1 and A2, the mean revisions to GDP (E) and particularly GDP (I) are reduced by including data to 1981Q4, while the mean revision to GDP (O) is increased; the effect on the average measure is a slight reduction. The pattern of mean revisions and their standard deviations increasing with the passage of time since first publication is still visible, and the changes from the earlier article are generally small.

Tables A3 and A4 now start in 1980Q1, a year later than tables 3 and 4 of the earlier article, so as to focus on revisions in the most recent period. Comparing Table A3 with Table A1, the indications are that in the 1980s revisions of GDP (O) over the first two years have been twice as large as in the 1970s, while revisions of GDP (E) have been halved and those of GDP (I) have been rather lower; the net effect on GDP (A) has been a slight increase. Comparing Table A4 with Table A2 shows that, after allowing for re-basing effects, the revision of GDP (O) in the 1980s is still nearly double that of the 1970s, while the mean revisions of GDP (E) and GDP (I) are small and negative. The overall effect on GDP (A) is to halve the mean revision over the first two years

The significance of all these changes is doubtful because of the short period covered by Tables A3 and A4.

In interpreting Tables A3 and A4 it should be remembered that there is a strong cyclical effect in the mean revision, which is confirmed by Tables A5 and A6 and by the regression analyses. The long-run figures in Tables A1 and A2 cover periods with roughly equal numbers of expansion and contraction quarters, so that the cyclical effect will average out. However, Tables A3 and A4 cover a period with 5 contraction quarters and 13 or 15 expansion quarters, so that the means in these tables will be increased by the predominance of the expansion periods. This is certainly true for Table A3. It may be true also for Table A4, though the smoothing effect of the re-basing adjustment may confuse the issue. Put another way, there is an indication that, comparing similar stages of the cycle, mean revisions of GDP (A) and GDP (E) in the 1980s are lower than mean revisions in the 1970s. The numbers of quarters are too small to be confident about the significance of this effect.

Table AA shows the updated ranges within which two-thirds and nine-tenths of the revisions are expected to lie. For constant price GDP (A) the ranges are slightly narrower than in the previous article, but in no case has a limit been revised by more than 0.1 percentage points. For current price GDP (A) the ranges are slightly wider than before, and for the deflator slightly narrower. In some cases the limits have changed by 0.2 or 0.3 percentage points.

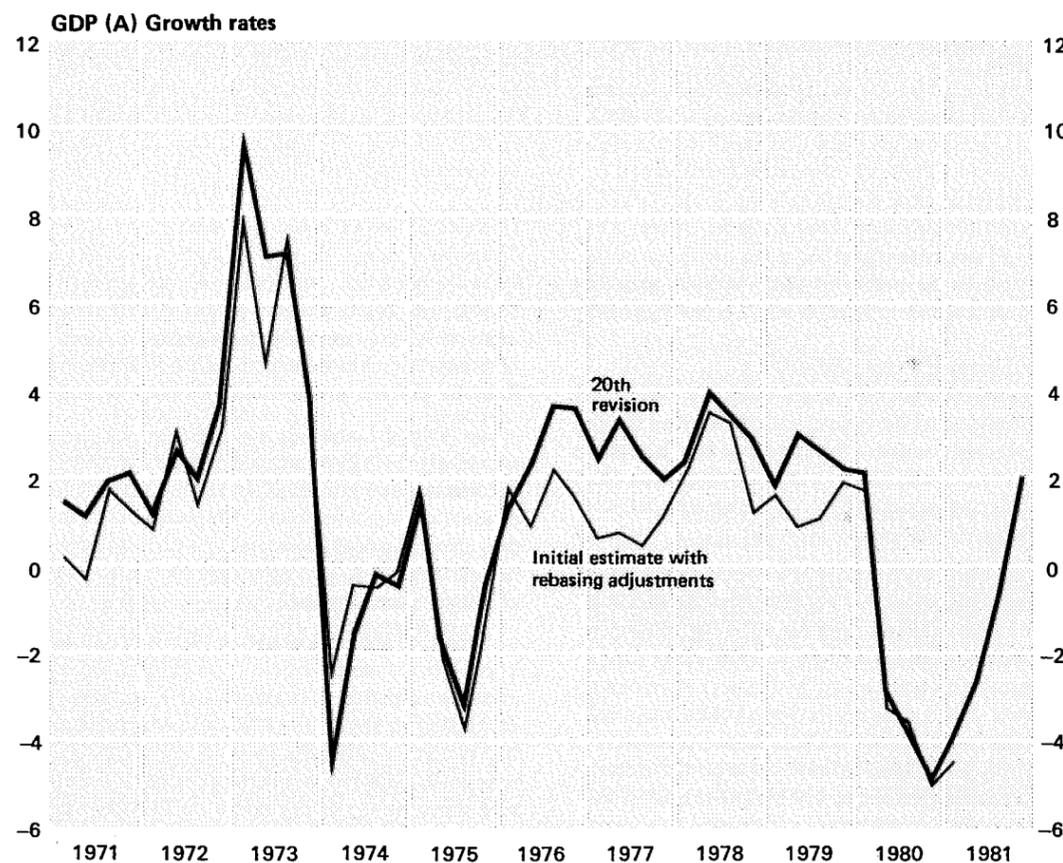


Chart 1 compares the updated series for GDP (A) as first estimates (but allowing for re-basing effects) and as measured after five years. The additional data from 1980Q1 onward confirm that the average revision in the contraction phase of the cycle is very small.

Conclusion

The analysis given here has updated and extended that given in the earlier article. As far as the extension is concerned, the regression analyses have shown that it is possible to allocate the significant effects in the aggregates to components in a way which is consistent with general expectations of the main source of revisions. Thus for GDP (E) we have shown the importance of Fixed Capital Formation for the mean revision and for the cyclical effect, and the importance of Stockbuilding for the inflation effect. For GDP (I) we have shown that Company Profits and Rent and Income from Self-Employment contribute most of the mean revision.

The updating of the tables from the earlier article has produced few substantial revisions to the long-run tables. There is some indication that revisions to GDP (A) have been smaller on average in the 1980s than in the 1970s.

As pointed out in the earlier article, there is no guarantee that the history of past revisions provides the best guide to future revisions of current estimates. However, in the absence of other information the ranges in Table AA may give an indication of potential revisions.

Table 1

REVISIONS TO COMPONENTS OF GROWTH OF GDP (E) AT CONSTANT PRICES

1971Q2 TO 1981Q1

Unadjusted for re-basing, serial correlation = 0.3

	a	b ₁	b ₂	R ²	s.d.	Durbin-Watson
Consumers' Expenditure	-0.21 (-1.56)	0.23 (1.93)	-0.04 (-1.10)	0.37	0.58	1.31
Exports	0.20 (1.72)	0.09 (0.88)	-0.02 (-0.46)	0.18	0.50	1.75
Imports	-0.25 (-1.52)	-0.08 (-0.52)	0.05 (0.94)	0.12	0.71	2.19
Balance of Payments	0.44 (2.44)	0.16 (1.01)	-0.06 (-1.13)	0.12	0.79	2.35
Government Consumption	0.03 (0.39)	0.07 (0.88)	0.04 (1.52)	0.17	0.38	1.76
Fixed Capital Formation	0.34 (3.18)	0.40 (4.24)	-0.01 (-0.45)	0.52	0.46	1.72
Stockbuilding	0.26 (1.27)	-0.04 (-0.22)	-0.20 (-3.16)	0.32	0.91	2.25
Adjustment to Factor Cost (negative)	-0.02 (-0.19)	0.14 (1.98)	0.02 (0.82)	0.21	0.35	1.94
GDP (E)	0.88 (2.65)	0.68 (2.27)	-0.30 (-2.98)	0.45	1.46	1.88

Definition of regression coefficients:

- a is the constant term (mean effect)
- b₁ is the coefficient of the cyclical variable
- b₂ is the coefficient of the inflation variable

Table 2

REVISIONS TO COMPONENTS OF GROWTH OF GDP (E) AT CONSTANT PRICES

1971Q2 TO 1981Q1

Adjusted for re-basing, serial correlation = 0.3

	a	b ₁	b ₂	R ²	s.d.	Durbin-Watson
Consumers' Expenditure	0.06 (0.49)	0.15 (1.44)	0.02 (0.47)	0.24	0.52	1.69
Exports	0.13 (1.03)	0.14 (1.25)	0.02 (0.51)	0.11	0.55	2.07
Imports	0.01 (0.04)	-0.01 (-0.07)	0.02 (0.57)	0.01	0.62	2.43
Balance of Payments	0.12 (0.82)	0.15 (1.12)	-0.00 (-0.11)	-0.14	0.66	2.81
Government Consumption	-0.00 (-0.02)	0.06 (0.72)	0.04 (1.45)	0.03	0.37	2.25
Fixed Capital Formation	0.32 (2.92)	0.34 (3.38)	0.00 (0.10)	0.45	0.48	1.46
Stockbuilding	0.20 (1.15)	0.09 (0.57)	-0.13 (-2.40)	0.22	0.78	2.44
Adjustment to Factor Cost (negative)	0.05 (0.63)	0.09 (1.20)	0.01 (0.36)	-0.02	0.37	2.62
GDP (E)	0.66 (2.36)	0.69 (2.79)	-0.09 (-1.03)	0.36	1.21	1.88

Definition of regression coefficients:

- a is the constant term (mean effect)
- b₁ is the coefficient of the cyclical variable
- b₂ is the coefficient of the inflation variable

Table 3

REVISIONS TO COMPONENTS OF GROWTH OF GDP (I) AT CURRENT PRICES

1971Q2 TO 1981Q1

Unadjusted for Re-basing, serial correlation = 0.3

	a	b ₁	b ₂	R ²	s.d.	Durbin-Watson
Income from Employment	0.27 (1.45)	0.16 (0.99)	0.09 (1.53)	0.27	0.81	2.05
Company Profits	0.57 (2.27)	0.50 (2.19)	-0.07 (-0.87)	0.39	1.11	1.18
Public Corporation Gross Trading Profits	0.10 (1.48)	-0.06 (-0.94)	-0.01 (-0.34)	0.09	0.29	1.99
Rent and Income from Self-Employment	0.61 (5.54)	0.02 (0.23)	0.06 (1.84)	0.34	0.48	1.01
Stock Appreciation	-0.12 (-0.75)	-0.12 (-0.86)	-0.08 (-1.69)	0.08	0.71	2.28
Gross Trading Surplus of General Government Enterprises	-0.00 (-0.27)	0.01 (0.84)	0.01 (2.53)	0.14	0.07	2.06
GDP (I)	1.43 (4.43)	0.51 (1.79)	0.00 (0.03)	0.27	1.41	1.57

Definition of regression coefficients:

- a is the constant term (mean effect)
- b₁ is the coefficient of the cyclical variable
- b₂ is the coefficient of the inflation variable

TABLE A1: MEAN REVISIONS TO GROWTH RATES
(DATA FROM 1971Q1 TO 1981Q4) (a)

Revision					Previous Article
	1	4	8	20	20
GDP (A)					
Mean	0.08	0.21	0.43	0.74	0.81
Std. dev	0.62	0.90	0.89	1.33	1.36
GDP (E)					
Mean	0.02	0.24	0.50	0.94	1.01
Std. dev	0.99	1.58	1.50	1.89	2.02
GDP (I)					
Mean	0.00	0.21	0.45	0.87	1.07
Std. dev	0.85	1.37	1.52	2.08	1.99
GDP (O)					
Mean	0.09	0.23	0.45	0.53	0.46
Std. dev	0.33	0.55	0.63	0.90	0.95

TABLE A3: MEAN REVISIONS TO GROWTH RATES
(DATA FROM 1980Q1 TO 1984Q4) (a)

Revision					Previous Article
	1	4	8	8	8
GDP (A)					
Mean	0.12	0.17	0.54	0.57	
Std. dev	0.47	0.59	0.74	0.73	
GDP (E)					
Mean	0.13	0.14	0.24	0.53	
Std. dev	0.78	0.85	0.77	1.14	
GDP (I)					
Mean	-0.08	-0.29	0.37	0.45	
Std. dev	0.64	1.05	1.74	1.82	
GDP (O)					
Mean	0.15	0.59	0.91	0.78	
Std. dev	0.27	0.30	0.37	0.37	

(a) calculations for GDP (A), GDP (E) and GDP (I) exclude 1981Q2 and 1981Q3

TABLE A2: MEAN REVISIONS TO GROWTH RATES
ADJUSTED FOR REBASING
(DATA FROM 1971Q1 TO 1981Q4) (a)

Revision					Previous Article
	1	4	8	20	20
GDP (A)					
Mean	0.10	0.20	0.36	0.62	0.71
Std. dev	0.52	0.72	0.76	1.00	1.04
GDP (E)					
Mean	0.03	0.15	0.33	0.64	0.67
Std. dev	0.83	1.32	1.33	1.45	1.54
GDP (I)					
Mean	0.04	0.21	0.41	0.72	1.06
Std. dev	0.76	1.28	1.46	2.11	2.00
GDP (O)					
Mean	0.11	0.28	0.44	0.61	0.52
Std. dev	0.31	0.41	0.42	0.62	0.65

TABLE A4: MEAN REVISIONS TO GROWTH RATES
ADJUSTED FOR REBASING
(DATA FROM 1980Q1 TO 1984Q4) (a)

Revision					Previous Article
	1	4	8	8	8
GDP (A)					
Mean	0.04	-0.02	0.19	0.23	0.23
Std. dev	0.35	0.49	0.66	0.59	0.59
GDP (E)					
Mean	0.01	-0.14	-0.15	0.07	0.07
Std. dev	0.65	0.85	1.26	1.63	1.63
GDP (I)					
Mean	-0.17	-0.46	-0.10	0.07	0.07
Std. dev	0.53	0.82	1.14	1.26	1.26
GDP (O)					
Mean	0.13	0.52	0.73	0.59	0.59
Std. dev	0.26	0.33	0.32	0.21	0.21

TABLE A5: MEAN REVISIONS TO GROWTH RATES BY CYCLICAL PHASE
(DATA FROM 1971Q1 TO 1981Q4) (a)

Revision	Expansion				Contraction			
	1	4	8	20	1	4	8	20
GDP (A)								
Mean	0.20	0.55	0.70	1.41	-0.04	-0.09	0.18	0.12
Std. dev	0.76	1.03	1.02	1.02	0.43	0.65	0.67	1.30
GDP (E)								
Mean	0.08	0.65	0.86	1.67	-0.03	-0.12	0.17	0.28
Std. dev	1.12	1.88	1.68	1.47	0.85	1.17	1.25	2.01
GDP (I)								
Mean	0.15	0.69	0.65	1.66	-0.13	-0.23	0.27	0.15
Std. dev	0.98	1.40	1.70	1.89	0.70	1.22	1.35	2.03
GDP (O)								
Mean	0.10	0.36	0.73	1.08	0.09	0.12	0.22	0.08
Std. dev	0.37	0.61	0.61	0.68	0.31	0.48	0.56	0.83

TABLE A6: MEAN REVISIONS TO GROWTH RATES BY CYCLICAL PHASE AFTER REBASING ADJUSTMENT
(DATA FROM 1971Q1 TO 1981Q4) (a)

Revision	Expansion				Contraction			
	1	4	8	20	1	4	8	20
GDP (A)								
Mean	0.26	0.52	0.61	1.17	-0.04	-0.08	0.12	0.13
Std. dev	0.57	0.68	0.83	0.93	0.43	0.64	0.62	0.78
GDP (E)								
Mean	0.10	0.51	0.75	1.31	-0.03	-0.17	-0.05	0.03
Std. dev	0.82	1.44	1.39	1.42	0.85	1.15	1.18	1.22
GDP (I)								
Mean	0.24	0.73	0.67	1.48	-0.13	-0.26	0.18	0.03
Std. dev	0.78	1.17	1.75	2.16	0.70	1.21	1.14	1.84
GDP (O)								
Mean	0.14	0.37	0.56	0.85	0.09	0.21	0.33	0.41
Std. dev	0.32	0.50	0.44	0.64	0.31	0.32	0.39	0.54

(a) calculations for GDP (A), GDP (E) and GDP (I) exclude 1981Q2 and 1981Q3

TABLE AA: RANGES FOR REVISIONS TO GROWTH RATES (AFTER ALLOWING FOR REBASING EFFECTS)

	Two-Thirds Range		Nine-Tenths Range	
GDP (A) - Constant Prices				
First Publication	-0.3	1.6	-1.0	2.3
After 1 Year	-0.4	1.2	-0.9	1.8
After 2 Years	-0.4	0.9	-0.8	1.3
After 3 Years	-0.2	0.7	-0.6	1.1
After 4 Years	-0.2	0.4	-0.4	0.6
GDP (A) - Current Prices				
First Publication	0.3	2.6	-0.6	3.4
After 1 Year	0.1	1.8	-0.6	2.4
After 2 Years	-0.4	1.2	-1.0	1.7
After 3 Years	-0.4	0.9	-0.8	1.3
After 4 Years	-0.4	0.5	-0.7	0.8
GDP Deflator				
First Publication	-0.8	2.3	-1.9	3.3
After 1 Year	-0.7	1.6	-1.5	2.4
After 2 Years	-0.9	1.0	-1.5	1.6
After 3 Years	-0.7	0.6	-1.2	1.1
After 4 Years	-0.6	0.3	-0.9	0.6

DEFINITION OF COMPONENTS OF GROWTH

If an aggregate A is measured at times 0 and 1, we define the percentage growth rate over that period as:

$$G_1 = 100 \cdot \frac{A_1 - A_0}{A_0}$$

If A is made up of components a, b, c and d, say, where:

$$A_i = a_i + b_i + c_i + d_i$$

then we can write the growth rate G as:

$$G_1 = 100 \cdot \frac{(a_1 + b_1 + c_1 + d_1) - (a_0 + b_0 + c_0 + d_0)}{A_0}$$

$$= 100 \cdot \frac{a_1 - a_0}{A_0} + 100 \cdot \frac{b_1 - b_0}{A_0} + 100 \cdot \frac{c_1 - c_0}{A_0} + 100 \cdot \frac{d_1 - d_0}{A_0}$$

In this form each term on the right-hand side shows the contribution of one component to the aggregate growth rate G_1 . The regression analysis of revisions to growth rates reported in this article is based on revisions to these components of growth rates, which can be derived in the obvious way from data on the revisions to the levels of the components.

(Note: For simplicity, this Annex is written in terms of growth rates calculated from successive values of a variable. In fact the growth rates analysed in the article are calculated from values four quarters apart. It is also necessary to ensure that a_0 and a_1 , for example, refer to values published at the same date, so that a_0 will have had four more revisions than a_1 .)

Index of sources

Data given on page 5 may be more recent than that shown elsewhere in the publication.
United Kingdom balance of payments: National income and expenditure. In addition to the series indexed below, further detailed statistics are included in the regular quarterly articles (see inside back cover).

	Page	Source	Further statistics
Average earnings	540	Department of Employment	Monthly Digest of Statistics Employment Gazette
Balance of payments	548	Central Statistical Office	Financial Statistics Quarterly articles in Economic Trends
Banking		Bank of England	Financial Statistics
Bank loans, advances and acceptances	62,64		
British government securities (long dated) 20 years yield	66		
Building societies		Bank of England Building Societies Association	Financial Statistics
Advances on new dwellings	20		
Average prices of new dwellings on mortgage (see also Housing)	20		
Commitments on new dwellings	20		
Recommended share rate (see also Interest rates)	66		
Capital account summary, analysis by sector	58	Central Statistical Office	Financial Statistics
Car registrations and production (see also Motor vehicles)	12,32		
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Coal (see also Energy)	24		
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ANNEX B