Inflation-adjusted sectoral saving and financial balances

This article[1] presents revised and updated[2] estimates of sectoral saving and financial balances adjusted for the effects of actual price inflation on net monetary assets and liabilities,[3] together with estimates of the ex ante *inflation gains and losses accruing to each sector based on a measure of implicit long-term market expectations. In recent years a lower rate of inflation has led to a greater convergence of these two estimates. The article also presents alternative figures for the* ex post *and* ex ante *adjustment for inflation based on net monetary positions for each sector derived from balance sheet data as opposed to cumulative flows.[4]*

Methodology

It has been argued in previous issues of the *Bulletin,* and elsewhere, that conventional measures of sectoral income as presented in the national accounts should be adjusted for the effects of inflation. To arrive at a comprehensive measure of income, which might be defined as the amount that an individual can consume without changing the real value of his or her stock of wealth, it would be necessary to consider changes in the value of non-monetary assets and liabilities, in addition to the effects of inflation on the real value of monetary assets and liabilities considered here. The effect of inflation on provisions made for the maintenance of physical capital (depreciation at replacement or current cost and stock appreciation) are already allowed for in the national accounts. Non-monetary items are defined as those assets whose value moves broadly in line with inflation, at least in the longer term. Although the gains and losses on such assets may have a significant impact on economic behaviour, it may be argued that an estimate of inflation gains and losses on monetary assets alone is nevertheless worthwhile. For example, monetary assets may be more widely held, the capital gains and losses more frequently realised and accrued gains and losses subject to less uncertainty.

In previous articles in this series, sectoral net monetary positions have been calculated on the basis of flows cumulated from a mid-1978 stock figure. However, using balance sheet data published by the Central Statistical Office (CSO) it is possible to derive alternative estimates of net monetary assets/liabilities for each sector. In this article, *ex ante* and *ex post* measures of the inflation erosion of net monetary asset values are presented on the basis of both the cumulated flows method (method A) and the balance sheet approach (method B). The implications for saving and financial balances for each sector of the *ex ante* and *ex post* inflation-induced gains and losses based on method A are shown: and accumulated flows of net monetary assets by sector are also deflated by the price index to yield the real stock in each year.

Nominal interest payments and receipts may be regarded as comprising two elements; an inflation compensation element, which can be thought of as partial redemption of the debt, and a 'true' or 'real' interest component. The inflation compensation element has previously been derived by applying either the actual rate of inflation, as measured by the consumers' expenditure deflator, or an expected inflation rate to the nominal value of the outstanding stock of net monetary assets. For the component of net monetary assets denominated in foreign currencies some adjustment is also made for movements in the exchange rate, measured by the value of sterling against a basket of currencies weighted according to the composition of the SDR. Expected inflation is measured by an implicit market expectation derived from the difference between the nominal and real yields on representative unindexed and indexed long-term government securities respectively. The nominal yield was the gross redemption yield on a medium-coupon stock and the real yield was that on an index-linked stock of approximately the same maturity, around 35 years at the beginning of the period.[5] (The choice of maturity length reflects the problem that for short-dated stock changes in the yield due to changes in inflation expectations may be confused with movements along the yield curve.) The resulting measure of expected inflation is therefore of a long-term nature since the proxy is some weighted average of expectations up to the redemption date. Hence the *ex post* measure shows greater variability than the *ex ante* estimate of the erosion of the value of net monetary assets (Chart 1). The proxy for expected inflation needs to be treated with caution since it depends on the coupon and

(1) Written by N O Kennedy of the Bank's Economics Division.

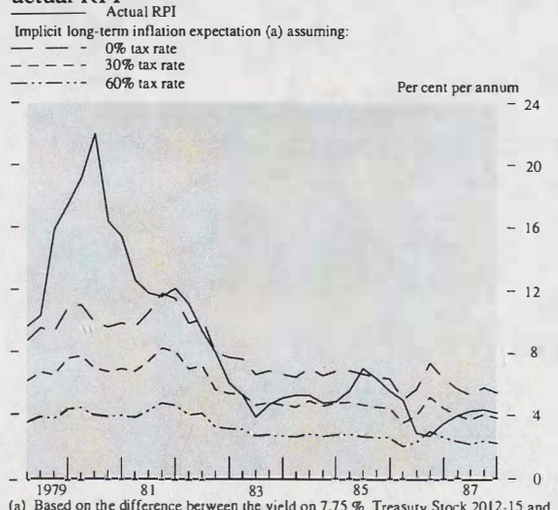
(2) Figures were last published in the May 1988 *Bulletin*, pages 232–5, and are based on the methodology set out in " 'Real' national saving and its sectoral composition" by C T Taylor and A R Threadgold, Bank of England ***Discussion paper***, No 6.

(3) Monetary items are defined as assets and liabilities that are fixed in amount by contract or statute in terms of units of currency regardless of changes in the price level.

(4) Estimates of sectoral gains and losses on net monetary assets for the United Kingdom based on balance sheet data have also been constructed by Cukierman and Mortensen, 'Monetary assets and inflation-induced distortions of the national accounts—conceptual issues and correction of sectoral income flows in five EEC countries', and Connolly, 'Monetary assets and inflation-induced distortions of the national accounts: the case of the United Kingdom', *Studies in Banking and Finance*, Vol 1, North Holland, 1985.

(5) Prior to 1982, the real rate was taken to be 2½% in the absence of a market measure. This assumption was used by Miller M, 'Measuring the stance of fiscal policy', *Oxford Review of Economic Policy*, Vol 1, No 1, 1985.

Chart 1
Implicit long-term market inflation expectations and actual RPI



(a) Based on the difference between the yield on 7.75 % Treasury Stock 2012-15 and that on 2.50% Treasury Index-Linked 2016.

the tax rate assumed. Moreover, the implicit inflation expectation relates to the RPI rather than the consumers' expenditure deflator, since index-linked gilts are indexed to the RPI. For all these reasons the *ex post* and *ex ante* measures are not strictly comparable. Estimates of *ex post* and *ex ante* measures of erosion are shown in Table A where assets and liabilities are valued at nominal or face values. These are then used to adjust the conventional measures of income and saving. For the nation as a whole, the measurement of income and saving is relatively unaffected since the combined external net monetary position of UK domestic sectors is close to balance. The main effect of inflation is on the individual sectors of the economy. For example, the public sector makes inflation gains on its net monetary liabilities largely at the expense of the personal sector.

Estimates of sectoral net monetary assets based on balance sheet data published by the CSO are shown in Table B. Since balance sheet figures are only available at end-year, they are converted to mid-year estimates by averaging. They differ quite markedly in some cases from stock figures derived from cumulating flows. Differences between estimates of the net monetary assets of each sector derived from these two measures are shown in Table C. The differences partly reflect the problem that stock and flow statistics are not fully consistent in the national accounts, but partly also timing differences since, as explained above, the balance sheet data are averages of end-year stocks whereas the cumulative flow data include flows up to the second quarter. For the domestic economy as a whole, method A yields smaller net monetary positions than those derived from method B. The net monetary position of the domestic economy as a whole has been increasingly negative on the basis of method B, while the figures derived from method A show little change. While on the basis of method A the personal sector's holdings of net monetary assets have grown strongly over the period, growth is less marked on estimates provided by method B. The difference between the two methods in 1987 amounts to around £44 billion. This difference is accounted for to a large extent by the growth of personal sector holdings of equity in life assurance and pension funds assets during the year (a proportion of which is held in monetary assets). These rose strongly in the first three quarters of the year, and fell in the fourth quarter, giving a rather different net monetary position on the basis of cumulating flows in each quarter to the balance sheet method.

Table A
Inflation losses/gains on real value of net monetary assets/liabilities by sector: 1979–87
£ billions; *percentages in italics*

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Sectoral net monetary assets(a) (mid-year estimates)									
Personal sector	91.5	100.5	112.6	122.0	152.5	153.8	166.5	163.2	190.9
Company sector	−15.1	− 15.1	− 12.6	− 24.9	− 45.9	− 38.4	− 37.6	− 22.2	− 58.3
Public sector	−87.2	− 98.9	−107.5	−109.6	−115.0	−123.4	−133.0	−138.5	−138.9
Total domestic sector	−10.8	− 13.5	− 7.5	− 12.5	− 8.4	− 8.0	− 4.1	2.5	− 6.3
Overseas sector	10.7	13.4	7.5	12.5	8.4	8.0	4.1	− 2.5	6.3
Change in consumers' expenditure deflator Q4 on Q4 (per cent)	*15.9*	*13.1*	*10.6*	*6.8*	*4.4*	*4.7*	*5.1*	*2.9*	*3.8*
Ex post gains (+) and losses (−) on net monetary liabilities(b)									
Personal sector	−14.8	− 13.1	− 12.0	− 8.6	− 6.6	− 8.2	− 8.4	− 6.7	− 6.9
Company sector	2.6	1.9	2.1	2.0	2.3	3.3	0.5	3.2	0.1
Public sector	14.0	12.6	12.1	7.7	5.3	6.9	6.3	6.3	4.4
Total domestic sector	1.8	1.4	2.2	1.1	1.0	2.0	− 1.6	2.8	− 2.4
Overseas sector	− 1.7	− 1.4	− 2.2	− 1.1	− 1.0	− 2.0	1.6	− 2.8	2.4
Change in deflator for foreign currency assets Q4 on Q4 (per cent)	*23.4*	*24.1*	*− 3.4*	*1.1*	*− 5.3*	*− 8.8*	*12.9*	*− 8.4*	*12.6*
Ex ante gains (+) and losses (−) on net monetary liabilities(c)									
Personal sector	− 6.2	− 7.0	− 8.6	− 7.7	− 7.4	− 7.5	− 7.8	− 6.7	− 7.2
Company sector	1.1	1.0	1.7	1.8	2.5	3.1	0.3	3.1	0.3
Public sector	5.7	6.6	8.8	6.9	5.9	6.3	5.8	6.3	4.5
Total domestic sector	0.6	0.6	1.9	1.0	1.0	1.9	− 1.7	2.7	− 2.4
Overseas sector	− 0.7	− 0.6	− 2.0	− 1.0	− 1.0	− 2.0	1.7	− 2.7	2.4
Implicit market inflation expectations (per cent)	*6.7*	*7.0*	*7.5*	*6.2*	*4.8*	*4.6*	*4.5*	*4.2*	*3.9*
Change in actual RPI (per cent)	*13.3*	*18.0*	*11.9*	*8.5*	*4.7*	*5.0*	*6.1*	*3.4*	*4.1*

(a) At nominal or face value.
(b) Notional losses and gains between the sectors may not sum to zero because of rounding.
(c) Based on the difference between the yield on 7.75% Treasury Stock 2012-15 and 2.5% Treasury Index-Linked 2016, assuming a constant income tax rate of 30%.

Table B
A balance sheet approach to losses/gains on real value of net monetary assets/liabilites by sector: 1979–87
£ billions

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Sectoral net monetary assets(a) (mid-year estimates)									
Personal sector	80.5	94.4	102.9	114.1	127.9	137.9	144.5	145.7	146.7
Company sector	−15.0	−21.7	− 23.7	− 29.0	− 34.6	− 44.3	− 51.9	− 60.6	− 62.6
Public sector	−71.7	−79.8	− 86.3	− 95.7	−110.2	−120.0	−127.7	−129.8	−129.8
Total domestic sector	− 6.2	− 7.1	− 7.1	− 10.6	− 16.9	− 26.4	− 35.1	− 44.7	− 45.7
Overseas sector(b)	6.2	7.1	7.1	10.6	16.9	26.4	35.1	44.7	45.7
Ex post gains (+) and losses (−) on net monetary liabilities									
Personal sector	−10.9	−15.2	− 11.8	− 10.1	− 6.3	− 7.2	− 7.7	− 6.3	− 6.1
Company sector	2.1	3.4	3.2	2.7	2.2	3.7	1.3	5.2	1.0
Public sector	9.6	12.6	10.4	8.6	5.7	6.9	6.4	6.0	3.9
Total domestic sector	0.8	0.8	1.8	1.2	1.6	3.4	—	4.9	− 1.2
Overseas sector(b)	− 0.8	− 0.8	− 1.8	− 1.2	− 1.6	− 3.4	—	− 4.9	1.2
Ex ante gains (+) and losses (−) on net monetary liabilities									
Personal sector	− 6.0	− 6.4	− 8.3	− 6.1	− 5.9	− 6.6	− 6.4	− 6.3	− 6.0
Company sector	1.2	1.4	2.4	1.7	2.1	3.6	0.9	5.3	1.0
Public sector	5.2	5.1	7.5	5.3	5.4	6.4	5.4	6.1	3.8
Total domestic sector	0.4	0.1	1.6	0.9	1.6	3.4	− 0.1	5.1	− 1.2
Overseas sector(b)	− 0.4	− 0.1	− 1.6	− 0.9	− 1.6	− 3.4	0.1	− 5.1	1.2

(a) At market value.
(b) Equals erosion of total domestic sector plus errors and omissions.

Differences also arise from the basis of valuation used. Method A, both in this article and in previous Bank work, involves the valuation of assets at nominal or face value whereas method B evaluates asset stocks at market value. For most monetary assets and liabilities the nominal and market values are identical at all times, but for some securities, such as debentures and marketable government debt, these need only coincide at the redemption date. For example, when interest rates rise, the difference between the two will vary. This is illustrated for public

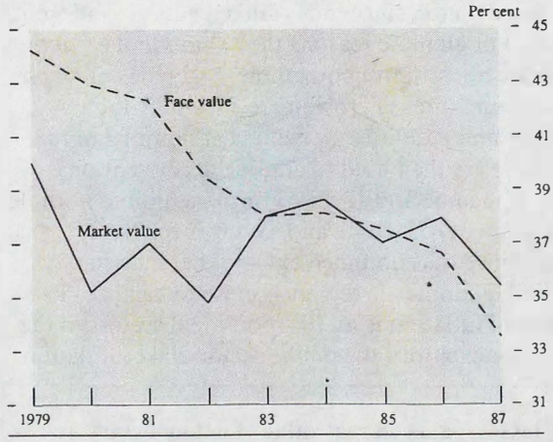
Table C
Differences between alternative estimates of net monetary assets based on method A and method B: 1979–87(a)
£ billions

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Sectoral net monetary assets									
Personal sector	11.0	6.1	9.7.	7.9	24.6	15.9	22.0	17.5	44.2
Company sector	− 0.1	6.6	11.1	4.1	−11.3	5.9	14.3	38.4	4.3
Public sector	−15.5	−19.1	−21.2	−13.9	− 4.8	− 3.4	− 5.3	− 8.7	− 9.1
Total domestic sector	− 4.6	− 6.4	− 0.4	− 1.9	8.5	18.4	31.0	47.2	39.4
Overseas sector	4.5	6.3	0.4	1.9	− 8.5	−18.4	−31.0	−47.2	−39.4

(a) Table A *minus* table B.

sector net monetary liabilities in Chart 2. Furthermore, although the balance sheet data published by the CSO, in principle, comprise a better overall measure of sectoral asset stocks since they take revaluations into account, there is no distinction between domestic and foreign currency elements, so that previous attempts[1] to construct a measure of inflation erosion using this method have neglected the effects of exchange rate movements on asset values. Although for the personal and public sectors the amount of assets/liabilities denominated in foreign currency terms has been very small (generally less than 5%), the impact on the company and overseas sectors has been more significant. Consequently, foreign currency stocks derived from method A are also used in the

Chart 2
Public sector net monetary liabilities as a percentage of GDP



calculation of net monetary assets even in the balance sheet method. This is not wholly satisfactory since foreign currency securities are evaluated at face value rather than market value. A less important difference between the two measures of net monetary assets is the treatment of company securities. In the balance sheet approach it is not possible to distinguish between 'fixed interest' and other securities, so that both ordinary and preference shares are excluded.

From the viewpoint of maintaining the real value of monetary assets at each point in time up to the redemption date the inflationary loss comprises two elements; the change in the market value and the market-price-based depreciation (last period's market value multiplied by the current inflation rate). It has been shown elsewhere[2] that the undiscounted sum over time of these two components of the inflationary loss is equal to the sum of inflation-induced losses on the face value of monetary assets, where this is converted to prices ruling at

(1) See footnote 4 on page 246.
(2) "'Real' national saving and its sectoral composition" by C T Taylor and A R Threadgold. Bank of England *Discussion paper* No 6.

the time of redemption. Method B approximates both elements of the adjustment, the change in the market value and the loss of purchasing power of the stock, by evaluating the inflation-adjustment on the mid-year stock. The timing of inflationary losses tends to be somewhat different between the two methods. Adjustment on the basis of the market value tends to concentrate the inflationary loss in the periods during which inflation is highest, whereas the nominal value approach tends to allocate the adjustment more evenly through the period to redemption. Comparisons of the *ex post* and *ex ante* erosions for each sector derived from these two alternative methods are shown in Chart 3.

Table D sets out conventional or unadjusted saving and financial balances for each of the domestic sectors valued at current prices, taken from the national accounts, together with alternative *ex post* inflation-adjusted figures based on method A and method B. Inflation-adjusted saving is the difference between income (after adjusting for losses/gains on net monetary assets) and consumption at current prices. Inflation-adjusted financial surpluses or deficits are calculated by deducting net capital spending (including stockbuilding) from inflation-adjusted saving.

Table E shows the net monetary assets for each sector drawn from method A and deflated by the consumers' expenditure deflator in the fourth quarter of each year, where 1985 is the base year.

Recent developments

As can be seen from Table A, the UK economy as a whole returned to being a net monetary debtor in 1987. On the basis of method A, the size of the net balance fell to minus £6.3 billion, with the increase in the liabilities of the company sector exceeding the increase in the net monetary assets of the personal sector. Personal sector net monetary assets have grown consistently since 1979 on both methods in nominal terms. On the basis of the face value method, a rise remained even after deflating by consumer prices. According to estimates of sectoral net monetary positions using the balance sheet data, however, the total domestic sector has increasingly been a net monetary debtor in recent years, though the size of this position remained relatively constant in 1987 at around £45 billion.

The rise in the consumers' expenditure deflator decelerated from a peak of 15.9% in 1979 to 2.9% in 1986, but was back up to 3.8% in 1987. The deflator for foreign currency assets has varied more than the domestic currency deflator from year to year owing to the variability of the exchange rate. In 1986 the measure fell by 8.4%, while in 1987 it rose by around 12.6%. The sharp

Chart 3
Inflationary gains (+) or losses (-) on net monetary assets

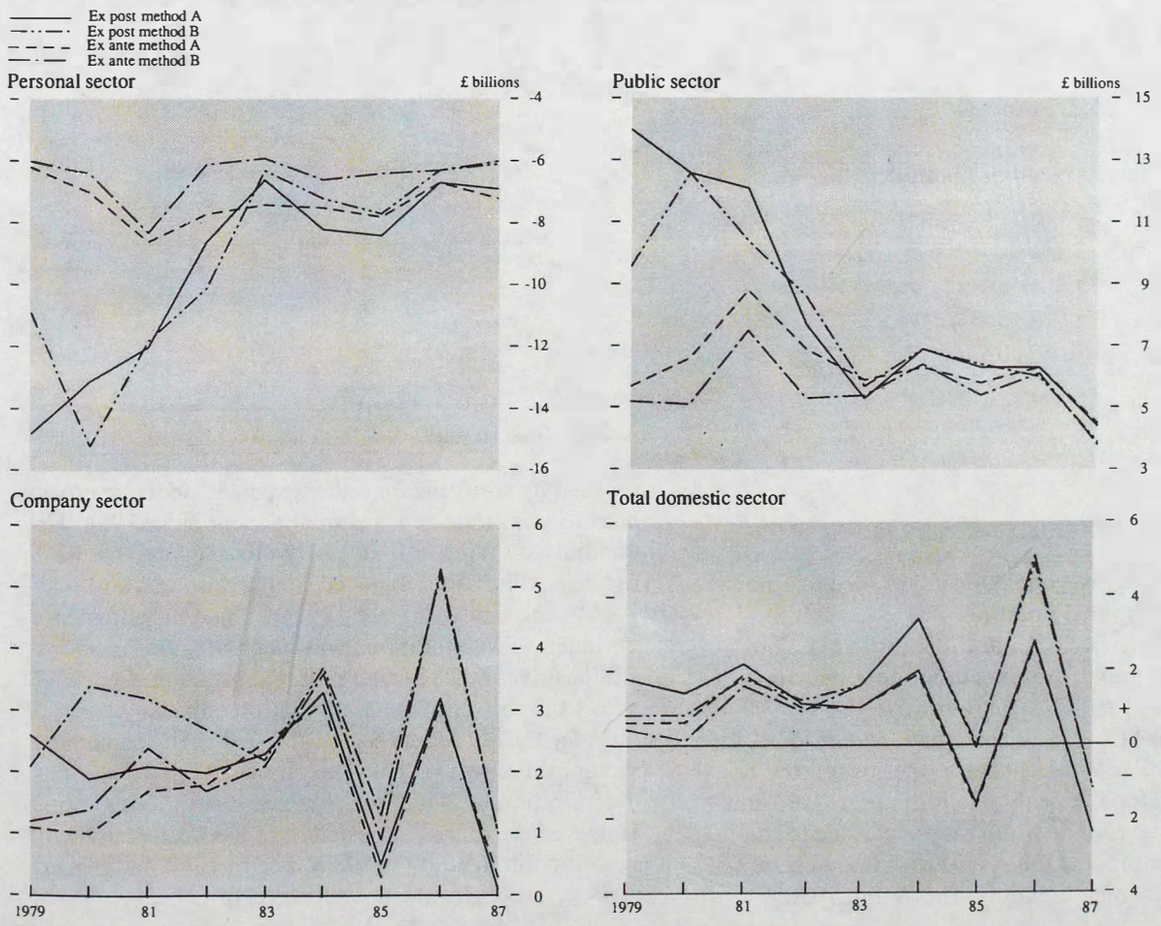


Table D
Inflation-adjusted saving and financial balances: 1979–87[a]

£ billions

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Personal sector									
Saving:(b)(c)									
Conventional	11.6	15.7	15.3	15.5	13.9	15.6	13.3	8.0	2.4
Ex ante adjusted	5.4	8.7	6.7	7.8	6.5	8.1	5.5	1.3	– 4.8
Ex post adjusted	– 3.2	2.7	3.3	6.9	7.3	7.4	4.9	1.3	– 4.5
Financial balance:									
Conventional	8.0	12.8	12.7	10.9	8.1	9.7	7.8	0.6	– 6.8
Ex ante adjusted	1.8	5.8	4.1	3.2	0.7	2.2	—	– 6.1	–14.0
Ex post adjusted	– 6.7	– 0.3	0.7	2.3	1.5	1.5	– 0.6	– 6.1	–13.7
Company sector									
Saving:									
Conventional	9.1	4.3	4.1	6.5	11.6	15.3	16.7	17.2	24.4
Ex ante adjusted	10.2	5.3	5.8	8.3	14.1	18.4	17.0	20.3	24.7
Ex post adjusted	11.7	6.2	6.2	8.5	13.9	18.6	17.2	20.4	24.6
Financial balance:									
Conventional	– 0.4	– 0.4	1.0	2.5	6.8	5.8	6.1	6.8	8.2
Ex ante adjusted	0.7	0.6	2.7	4.3	9.3	8.9	6.4	9.9	8.5
Ex post adjusted	2.2	1.5	3.1	4.5	9.1	9.1	6.6	10.0	8.3
Public sector									
Saving:									
Conventional	– 5.3	– 7.0	– 6.6	– 6.2	– 6.9	–10.7	– 7.2	– 6.7	– 4.2
Ex ante adjusted	0.4	– 0.4	2.2	0.7	– 1.0	– 4.4	– 1.4	– 0.4	0.3
Ex post adjusted	8.6	5.6	5.5	1.4	– 1.6	– 3.8	– 0.9	– 0.4	0.2
Financial balance:									
Conventional	– 8.6	–10.3	– 7.8	– 7.6	–10.2	–13.0	– 9.5	– 7.9	– 4.9
Ex ante adjusted	– 2.9	– 3.7	1.0	– 0.7	– 4.3	– 6.7	– 3.7	– 1.6	– 0.4
Ex post adjusted	5.4	2.3	4.3	—	– 4.9	– 6.1	– 3.3	– 1.6	– 0.5
Total domestic sector									
Saving:(d)									
Conventional	15.4	13.0	12.8	15.8	18.6	20.2	22.8	18.5	22.6
Ex ante adjusted	16.0	13.6	14.7	16.8	19.6	22.1	21.1	21.2	20.2
Ex post adjusted	17.1	14.5	15.0	16.8	19.6	22.2	21.2	21.3	20.3
Financial balance:(e)									
Conventional	– 1.0	2.1	5.9	5.8	4.7	2.5	4.4	– 0.5	– 3.5
Ex ante adjusted	– 0.4	2.7	7.8	6.8	5.7	4.4	2.7	2.2	– 5.9
Ex post adjusted	0.9	3.5	8.1	6.8	4.5	4.5	2.8	2.3	– 5.9

(a) Inflation adjustment based on method A.
(b) After providing for stock appreciation and capital consumption at replacement cost and plus net capital transfers.
(c) For the household sector:

£ billions

Saving:									
Conventional	3.7	6.3	4.6	4.1	1.6	1.8	0.1	– 4.1	– 9.1
Ex ante adjusted	—	2.5	– 0.2	1.2	– 1.1	– 1.0	– 2.5	– 6.4	–10.7
Ex post adjus ed	– 5.9	– 2.3	– 3.1	– 0.9	– 2.2	– 2.7	– 4.4	– 7.0	–11.5

(d) Equals dis-saving of overseas sector plus errors and omissions.
(e) Equals financial deficit of overseas sector plus errors and omissions.

Table E
Sectoral real net monetary assets/liabilities[a][b]

£ billions at 1985 consumer prices

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Personal sector	140.3	135.5	136.8	138.4	165.8	159.0	163.9	154.0	173.5
Company sector	– 23.2	– 20.4	– 15.3	– 28.3	– 49.9	– 39.7	– 37.0	– 20.9	– 53.0
Public sector	–133.7	–133.4	–130.6	–124.3	–125.1	–127.6	–130.9	–130.7	–126.2
Total domestic sector	– 16.6	– 18.3	– 9.1	– 14.2	– 9.2	– 8.3	– 4.0	2.4	– 5.7
Overseas sector	16.6	18.3	9.1	14.2	9.2	8.3	4.0	– 2.4	5.7

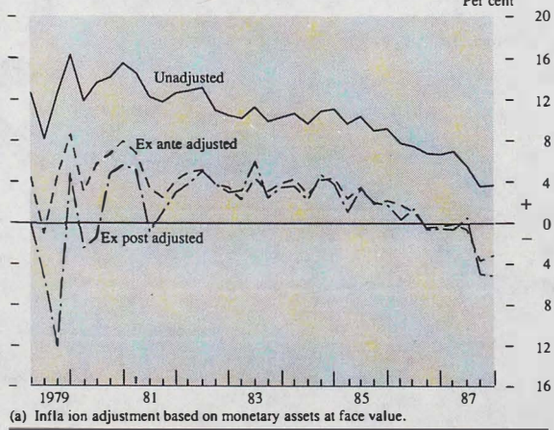
(a) Based on method A.
(b) Notional losses and gains between he sectors may not sum to zero because of rounding.

rise in the foreign currency deflator in 1987 led to a small inflationary loss for the domestic sector as a whole, similar to that which occurred in 1985. From a peak of 7.5% in 1981, the implicit market inflation expectation of retail price inflation fell for six consecutive years to 3.9% in 1987. This was below the actual increase in the RPI in that year and similar to the change in the consumers' expenditure deflator. Consequently the expected erosion of net monetary assets was similar in magnitude to the actual erosion for most of the period with the exception of the periods of very high inflation in 1979 and 1980.

As a large net holder of monetary assets, the personal sector saw a large erosion of their real value over the period 1979–87, though as inflation fell the rate of erosion also fell. Since personal sector net monetary assets based on balance sheet data are less positive the inflation loss has been smaller, although declining inflation over the period has led the two measures to converge more closely. In several years the actual erosion based on method B exceeded that based on method A; this may reflect, in part, the different intertemporal distribution of inflationary gains and losses between the two methods. In 1986, on the basis of method A, the expected erosion was equal to the actual erosion of asset values for the personal sector, and exceeded the actual erosion in 1987, with both actual and expected erosion increasing slightly. In contrast, using method B, both expected and actual erosion fell in 1987, and expected erosion by slightly more.

Conventionally measured personal sector saving fell substantially in 1987 following declines in the two previous years. After adjustment for the inflationary loss on net monetary assets, personal sector saving still shows a strong decline on either method, since there was little change in the rate of inflation between 1984 and 1987. Chart 4 compares the conventional and inflation-adjusted saving ratio (both *ex ante* and *ex post*) for the personal sector using method A. The personal sector saving ratio is

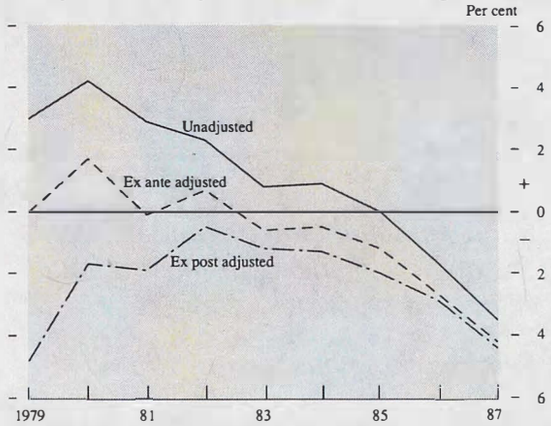
Chart 4
Unadjusted and adjusted personal saving ratio[a]



(a) Infla ion adjustment based on monetary assets at face value.

reduced by adjusting for either expected or actual erosion, but the measures show a similar decline since 1984. The unadjusted saving ratio in 1987 amounted to 5.0% while the *ex post* inflation-adjusted saving ratio was around – 1.7%, the first year since 1979 in which the adjusted saving ratio was negative. However, the saving ratio was still positive in 1987 using expected inflation. Chart 5 shows the conventional and inflation-adjusted saving ratio for the household sector (defined as the personal sector excluding LAPFs). This shows a similar deterioration to that of the personal sector saving ratio. However, the *ex post* adjusted ratio has been consistently negative throughout the 1980s, and in 1987 was around – 4.4%, although still above its level of 1979.

Chart 5
Unadjusted and adjusted household saving ratio[a]



(a) Inflation adjustment based on monetary assets at face value.

Estimates of company sector net monetary liabilities given by method A rose over the whole period though net monetary liabilities declined between 1984 and 1986. This fall was reversed in 1987 when net liabilities rose to around £58 billion, the highest level since 1979. A much more gradual rise in company net monetary liabilities is apparent from the figures derived from balance sheet data, to a peak of £62.6 billion in 1987. Both adjusted and unadjusted measures of company sector saving have risen over the period, to reach over £24 billion in unadjusted terms in 1987. Although the company sector has positive net monetary liabilities, in recent years changes in the value of foreign currency denominated assets have had an increasing effect on the overall inflationary gain, reducing its size. For the private sector as a whole, unadjusted saving rose between 1979 and 1984 but has since fallen, from around £31 billion in 1984 to £26.8 billion in 1987. On an *ex post* adjusted basis, saving of the private sector has fallen from around £26.0 billion in 1984 to £10.9 billion in 1987. According to method B, inflation erosion in the private sector has been generally smaller, so that inflation-adjusted saving would be slightly higher on this basis.

For the public sector, outstanding net monetary liabilities rose consistently between 1979 and 1987, though more strongly when measured at nominal value. The actual and expected erosion of net monetary liabilities continued to fall in 1987, following a decline in earlier years due to lower inflation. Until 1987, unadjusted saving in the public sector was negative, but after accounting for inflationary gains saving was positive in the early 1980s and again in 1987. The conventional measure of the PSBR was in surplus in 1987 by £1.5 billion or 0.4% of GDP (shown in Table F). This was a continuation of the trend since 1983 of lower borrowing requirements. The inflation-adjusted PSDR was even higher, at £5.9 billion in 1987, or 1.6% of GDP.

Table F
Public sector borrowing requirement: 1979–87
£ billions, *percentages in italics*

	1979	1980	1981	1982	1983	1984	1985	1986	1987
Unadjusted PSDR (borrowing –)	–12.6	–11.8	–10.5	–4.9	–11.6	–10.3	–7.5	–2.4	1.5
As a percentage of national income at market prices[a]	*– 7.1*	*– 5.8*	*– 4.7*	*–2.0*	*– 4.3*	*– 3.6*	*–2.4*	*–0.7*	*0.4*
Public sector notional gains on net monetary liabilities[b]	14.0	12.6	12.1	7.7	5.3	6.9	6.3	6.3	4.4
Adjusted PSDR (borrowing –)	1.4	0.8	1.6	2.8	– 6.3	– 3.4	–1.2	3.9	5.9
As a percentage of adjusted national income at market prices[a]	*0.8*	*0.4*	*0.7*	*1.1*	*– 2.3*	*– 1.2*	*–0.4*	*1.1*	*1.6*

(a) National income plus general government income from net indirect taxes. The inflation-adjusted estimate also includes the notional gains on net external liabilities.
(b) From Table A, *ex post* estimates.

Conclusions

Inflation adjustments derived from *ex ante* and *ex post* measures of inflation are both of interest for economic analysis. As inflation has fallen during the 1980s, actual erosion of net monetary asset values has been lower. Moreover, in recent years the comparative stability of inflation has led to smaller unanticipated gains and losses. With lower inflation, the patterns of inflationary gains and losses for individual sectors, and for the nation as a whole, are not much affected by the choice between alternative methods of adjustment. As conventionally measured, personal and household sector saving has declined very sharply since around 1984. A lower rate of inflation means that agents have to set aside fewer resources to compensate for the loss in value of net monetary assets. For the personal sector both actual and expected erosion is much lower than during the period 1979–81, and has been relatively constant since around 1984. Consequently the decline in the saving ratio remains, even after adjusting for the effects of inflation.