

# MONETARY POLICY REVIEW

October 2001

South African Reserve Bank

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Monetary Policy Review

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# Monetary Policy Review

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## Introduction

Since the publication of the first *Monetary Policy Review* in March, there have been significant developments in monetary policy. Apart from the technical adjustment of 100 basis points in early September 2001, the repo rate has been reduced in South Africa on two occasions, by 100 basis points in July and by 50 basis points in September. This in turn led to equivalent reductions in the commercial banks' prime lending rates. In July 2001 the inflation rate as measured by the overall consumer price index excluding mortgage interest cost (CPIX) declined to the top end of the inflation target, and if this trend continues, the target of between 6 and 3 per cent on average for 2002 will be attained.

Domestic factors have remained conducive to continued declines in inflation. There is little pressure coming through from domestic expenditure growth, capacity utilisation rates are not a cause for concern and increases in unit labour cost are lower than the inflation rate.

Monetary policy internationally has also seen major changes. Most major central banks have eased their monetary policy stances, a trend that was evident even before the tragic events in the United States in September. This trend was intensified and more co-ordinated after these events. These changes were made in the face of a deepening global downturn, with its threat of recession.

International developments have had mixed effects on the inflation outlook in South Africa. On the negative side, crises in Zimbabwe, Argentina and Turkey also impacted negatively on the rand, with potential inflationary consequences. In the aftermath of the attacks on New York and Washington, further pressure was placed on the rand. During 2000 the decline of the rand against the US dollar did not have a strong effect on inflation. The current scenario of the rand weakening against most major currencies may yet pose further challenges to monetary policy.

On the positive side, however, it appears that the international slowdown is putting downward pressure on the oil price. Whether or not this trend will be sustained is yet to be seen, particularly in view of the uncertainty surrounding the US response to the terrorist attacks. A lower oil price would reduce a significant source of external pressure on inflation.

In this *Monetary Policy Review* developments in inflation and the factors that impact on inflation are reviewed. Recent monetary policy developments are also assessed. Finally the outlook for inflation as well as the inflation forecast is presented. In addition three issues are discussed in the boxes. The first addresses the lags in monetary policy, with a focus on the time lag between a change in the repo rate and its impact on prices. The second box reviews real interest rate developments in South Africa, where trends in real interest rates are compared with those internationally. The third box provides a brief description of the new operational procedures for monetary policy.

## Box 1 Lags in the impact of monetary policy changes in South Africa

1. This box is based on the South African Reserve Bank Occasional Paper No 16, September 2001 "The monetary transmission mechanism in South Africa" by M M Smal and S De Jager.

When the Reserve Bank changes its official interest rate, the repo rate, it sets in motion a complex process which over time affects economic activity and inflation via other interest rates, asset prices and credit channels. Economists refer to this process as the 'transmission mechanism of monetary policy'. There is considerable uncertainty about the length of this mechanism, however; as Milton Friedman famously noted, monetary policy lags tend to be 'long and variable'. This box presents results from a simulation model illustrating the magnitude and time path of the effects of a change in the repo rate.<sup>1</sup>

Using a simulation model with a three-year time frame, the repo rate was increased by 100 basis points for four consecutive quarters before being returned to the baseline (Figure B1.1) and the impact of this change on economic activity investigated. A second scenario was also considered where the repo rate was set according to a Taylor-type monetary policy reaction function rule. The fixed repo scenario allows for the interest rate differential and purchasing power parity to capture the trend in the real exchange rate. The adapted Taylor-type rule in addition allows the repo rate to adjust to changes in domestic inflation (actual from target) and the output gap (actual from potential), each with a fixed weight of 0,5. Figure B1.1 shows that as output and inflation start to

Figure B1 Simulated effects of a change in the repo rate

Figure B1.1 Simulated adjustments to the repo

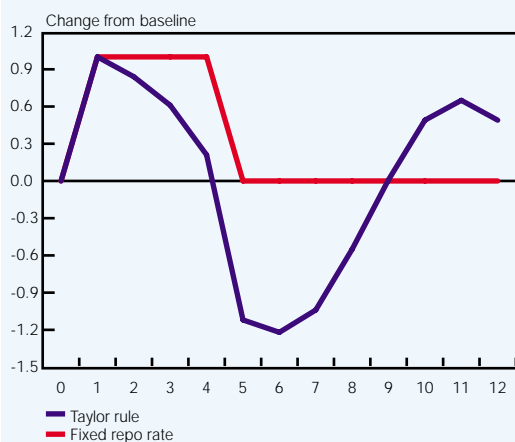


Figure B1.2 Simulated results: real exchange rate

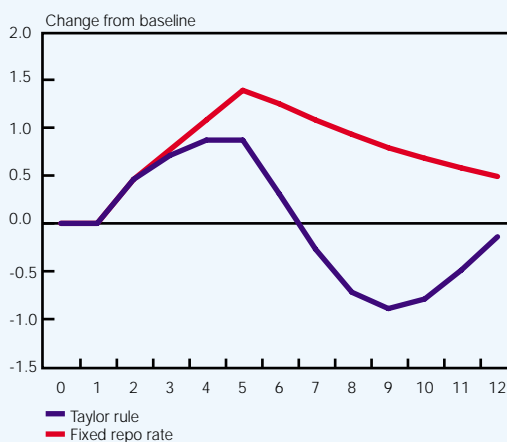


Figure B1.3 Simulated results: real gross domestic product

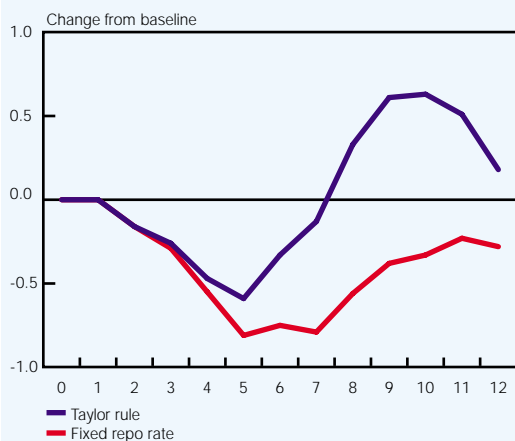
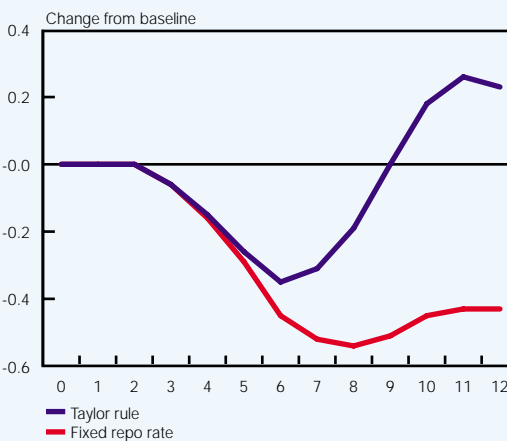


Figure B1.4 Simulated results: rate of inflation



fall in response to the initial 100 basis point increase, there is scope for the repo rate to adjust downward under this second scenario.

In the simulation model, the increase in the repo rate initially causes the real exchange rate to appreciate as capital inflows are attracted. In both scenarios, the real exchange rate appreciation peaks after five quarters and then reverts to the baseline scenario. In Figure B1.2 the magnitude and duration of the effect are smaller under the Taylor-rule scenario as the repo rate adjusts downward.

Together, the interest rate and exchange rate changes result in a decline in both real output and the inflation rate. As Figure B1.3 illustrates, real GDP falls from the first quarter when the policy change is implemented to the fifth quarter, or for about 15 months, before returning to the baseline. The increase in the repo rate takes longer to have its full impact on inflation in this simulation, with the change in the inflation rate only peaking after six to eight quarters or 18 to 24 months (Figure B1.4). As expected, the magnitude and duration of the effect of the interest rate change are again smaller in both graphs under the Taylor-rule scenario where the repo rate is adjusted as its impact on output and inflation becomes evident.

In conclusion, a change in monetary policy takes time to achieve its full impact on economic activity. It should be noted that the assumptions made mean that the results of the simulation cannot be used to infer the magnitude of interest rate changes required to achieve a desired reduction in inflation over a specific period of time. Nevertheless, the results do suggest that a change in the repo rate will take around 5 quarters to have its maximum impact on output and between 6 to 8 quarters to have its maximum impact on inflation in South Africa.

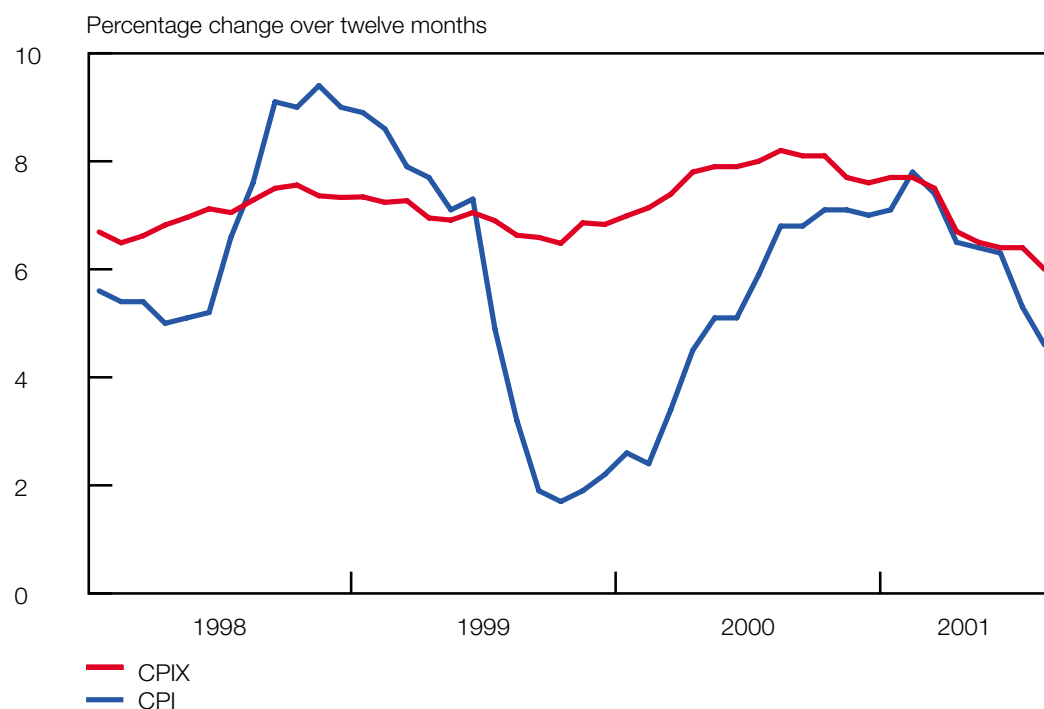
## Recent developments in inflation

This section analyses recent trends in the main inflation indices, and reviews developments in the primary factors impacting on inflation in South Africa.

### The evolution of indicators of inflation

The CPIX (i.e. the consumer price index excluding mortgage interest cost for metropolitan and other urban areas) measure of inflation was 6,0 per cent for the twelve-month period to August 2001, significantly down from the 6,4 per cent measured for the twelve months to July 2001. Figure 1 shows that CPIX inflation has trended downward from August 2000, when it was 8,2 per cent, and that this downward movement has gathered momentum since February 2001 when a figure of 7,7 per cent was recorded. After a small increase in January 2001, inflation measured in terms of the overall consumer price index for metropolitan areas (CPI) has fallen at a faster rate than that measured by the CPIX, slowing from 7,8 per cent in February 2001 to 4,6 per cent in August. This faster decline was brought about by the interest rate changes effected by the Reserve Bank.

Figure 1 Consumer price inflation: CPIX and CPI



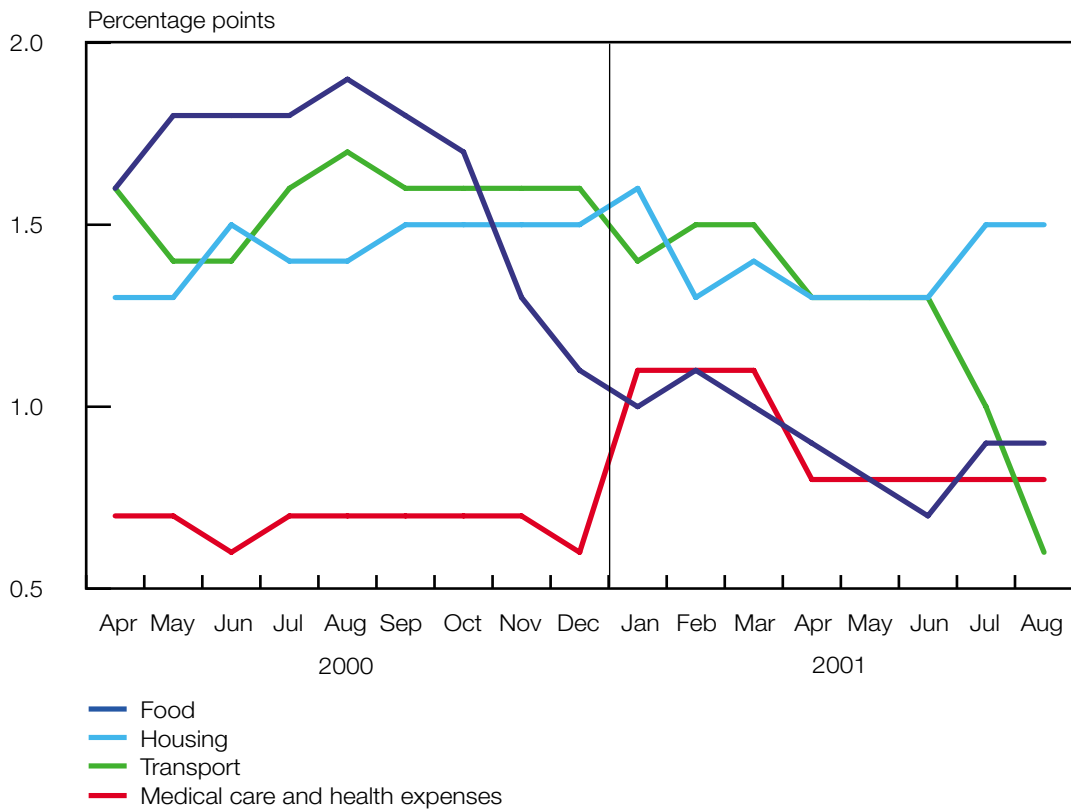
Source: Statistics South Africa

Figure 2 shows that the weighted contributions from the *food* and *transport* components that initiated the downward trend in CPIX inflation continued well into 2001. From contributing 1,9 percentage points to total CPIX inflation of 8,2 per cent in August 2000, the contribution of the *food* component was just 0,7 percentage points to a total of 6,4 per cent in June 2001. Although the *food* component's contribution increased slightly to 0,9 percentage points after this, the contribution of the *transport* component declined sharply and this maintained the downward momentum in total CPIX inflation. The contribution of *transport* fell rapidly to 1 percentage point (to the total of 6,4 per cent) in July and 0,6 percentage points (to the total of 6,0 per cent) in August 2001. In August 2000 *transport* contributed 1,7 percentage points to the total of 8,2 per cent. This turnaround can be attributed to the declines in the petrol price of 5 cents per litre on 4 July 2001 and 26 cents per litre on 1 August 2001 (including the removal of an 8 cents per litre levy).

The contribution of *medical care and health expenses*, that played a part in the temporary increase in CPIX inflation in January 2001, has since stabilised at a lower level of 0,8 percentage points, although the contribution of *housing* (excluding mortgage interest costs) has risen to a higher level since July 2001 largely because of increases in assessment and property rates and taxes.

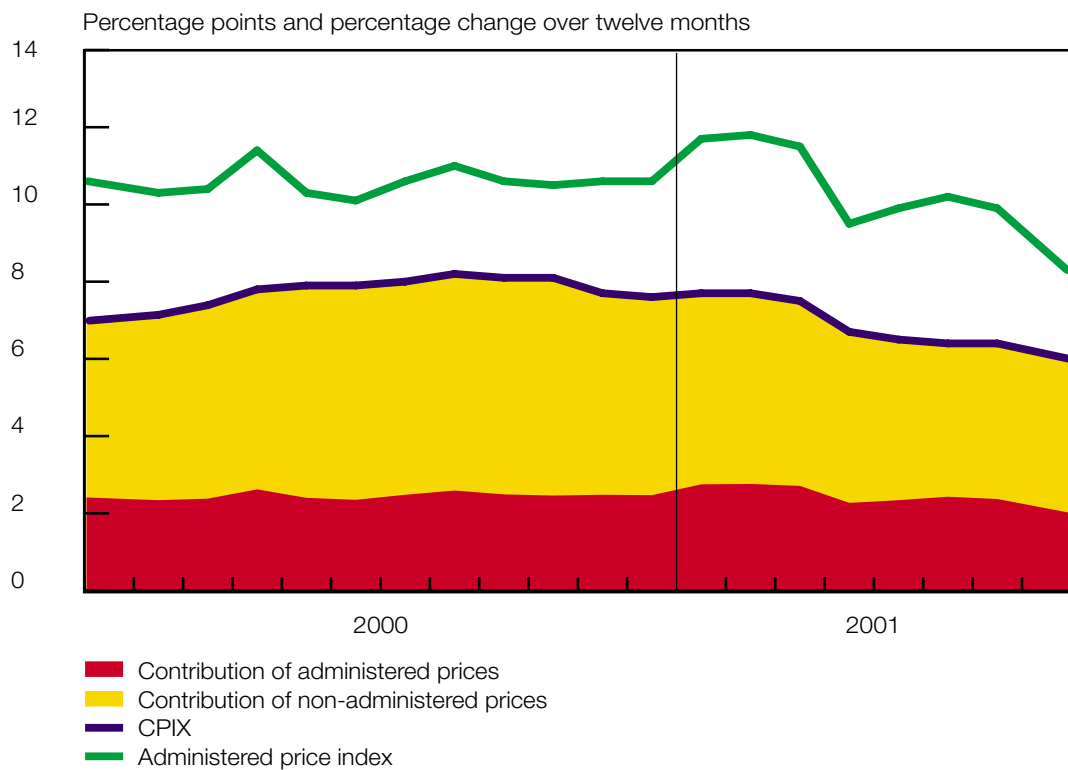
In recent years there has been an increased focus on the role played by administered prices in the inflation process. Figure 3 shows that in the period since January 2000 inflation measured in terms of the administered price index (see Box 3, *Monetary Policy Review*, March 2001) has consistently been above that measured by the CPIX. The shaded areas under the line depicting CPIX inflation, that show the contributions in percentage points to total CPIX inflation, suggest however that the contribution of the administered price index has been relatively constant over the period and has in fact declined slightly in 2001. In August, administered prices contributed 2,0 percentage points to overall CPIX inflation of 6 per cent.

Figure 2 Contributions to CPIX inflation



Source: Statistics South Africa

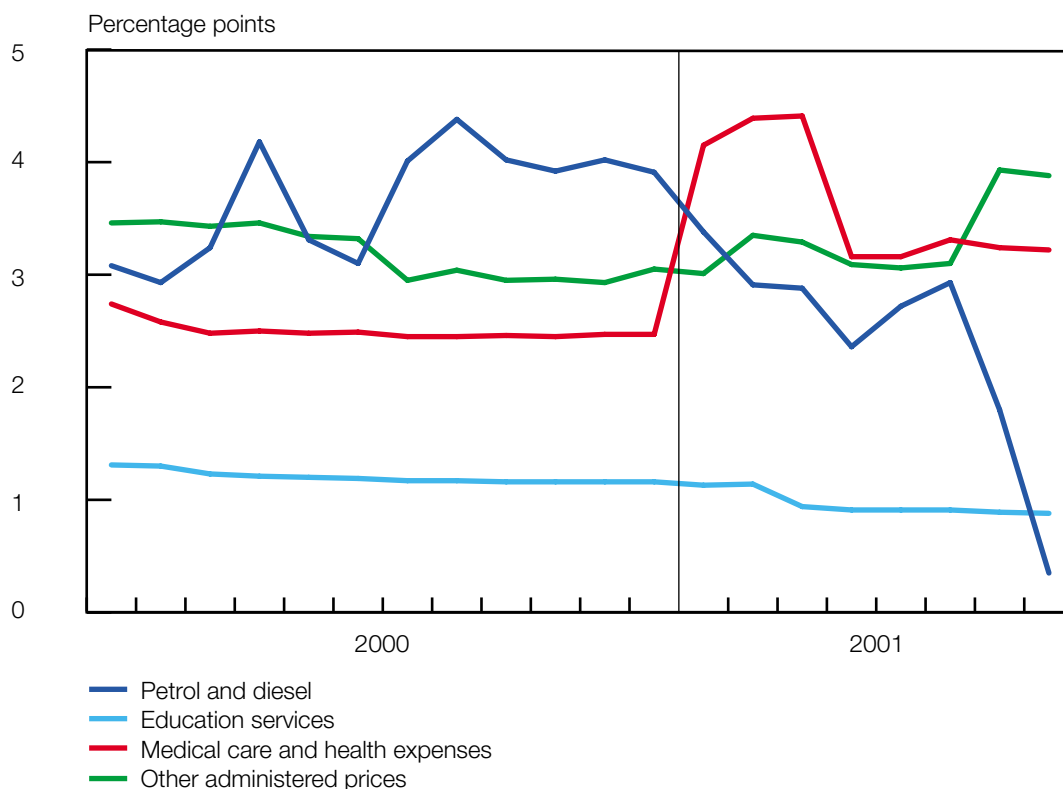
Figure 3 Consumer price inflation: Administered prices and CPIX



Source: Statistics South Africa and SARB calculations

Figure 4 shows the contributions of the various components of the administered price index to inflation measured by the index. What is clearly evident here is the significance of recent fluctuations in petrol and diesel prices for overall administered price inflation. When the twelve-month change in administered price inflation increased to 11,4 per cent in April 2000, it was driven by increases in the contribution of petrol and diesel prices which reached 4,2 percentage points in that month. The decline in their contribution which followed later in the year was initially offset by an increase in the contribution of medical care and health expenses, which rose from around 2½ percentage points in 2000 to 4¼ percentage points in the first three months of 2001. Once the contribution of these medical care and health expenses had moderated to around 3 percentage points thereafter, the fall in petrol and diesel prices resulted in their contributing less than ½ percentage point to overall administered price inflation of 8,3 per cent in August.

Figure 4 Contributions to the administered price index

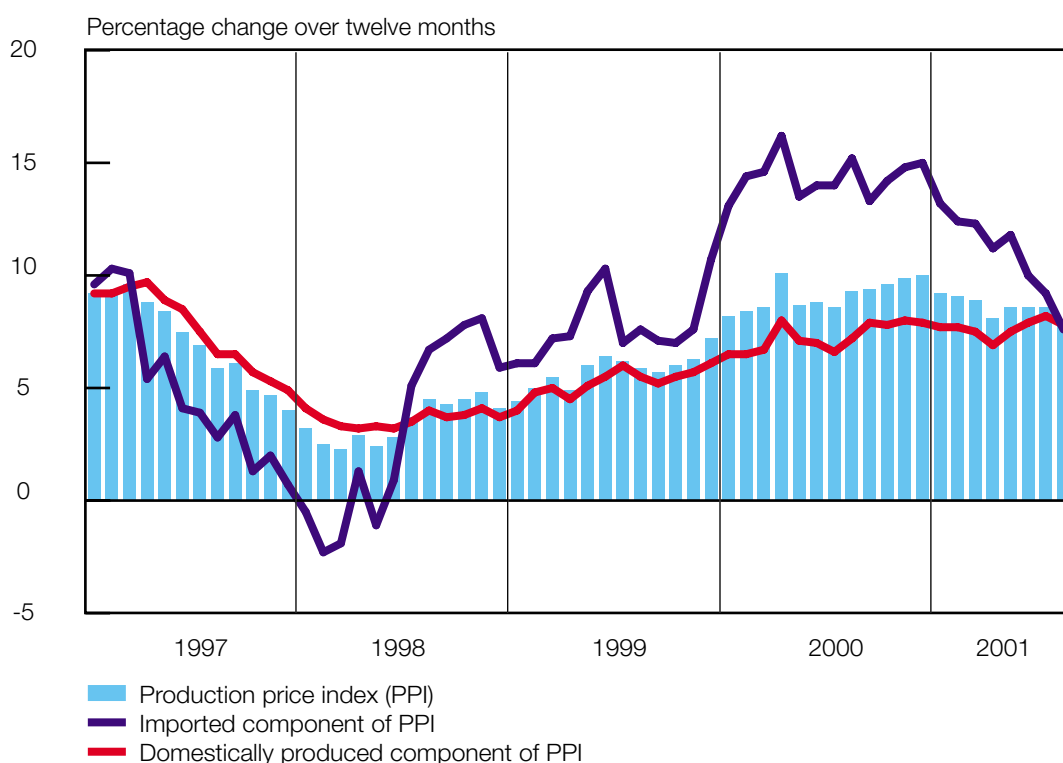


Source: Statistics South Africa and SARB calculations

The upward trend evident in production price inflation since early 1998 was reversed in 2001. As Figure 5 shows, the twelve-month percentage change in the production price index (PPI) declined from 10,0 per cent in December 2000 to 7,9 per cent in August 2001, helped by a moderation of inflation in the imported component of the index. Inflation for this component, which has a weight of 27 per cent in the total PPI, declined from 15,0 to 7,6 per cent over this period.

A major factor contributing to this decline in inflation for the imported component was the reduction in world crude oil prices that fell sharply from September to December

Figure 5 Production price inflation



Source: Statistics South Africa

2000 before stabilising within the range set by the Organisation of Petroleum Exporting Countries (OPEC) producers. In rand terms, the benefits of this fall for the PPI were partially offset by the subsequent weakening of the exchange rate. Nevertheless, the contribution of *mining and quarrying* (which includes crude oil prices as part of *other minerals*) to the imported component of the PPI fell from 8,5 percentage points to a total of 15,0 per cent in December 2000, to 1,5 and 0,5 percentage points in July and August, respectively (inflation measured by the imported component of the PPI was 9,2 per cent in July and 7,6 per cent in August).

As Figure 5 shows, price inflation measured in terms of the domestic component of the PPI has not fallen in tandem with that in the imported component. Although it fell gradually from 8,0 per cent year-on-year in August last year to 6,9 per cent in April, it then rose again to 8,2 per cent in July before falling again to 7,8 per cent in August. The main contributors to the recent increases in the domestic components have been the *agriculture* and *food at manufacturing* components of the index.

### Factors affecting inflation

Monetary policy decisions are made on the basis of developments and expected developments in a number of variables. These variables are also the main drivers in the Bank's econometric models, whose forecasts contribute to the decision-making process. Some of the main factors affecting inflation are discussed below.



### *International economic developments*

At the time of the publication of the previous *Monetary Policy Review*, the extent of the global downturn was not yet evident, and there was still some hope that there would be a quick V-shaped recovery in the United States. It was also generally anticipated at the time that the impact on the euro area would not be too severe, given the high degree of intraregional trade in the area. The expectation was therefore that although South Africa could not avoid some fall-out from the US downturn, the economy would be insulated to some extent if economic activity in the euro area remained relatively robust. Not only was the US downturn more severe than expected, but its repercussions were more widespread, as can be seen in Table 1. By the beginning of September, the US Federal Reserve was arguing that the US economy appeared to be bottoming out, although there were as yet no clear signs of the start of the recovery. However, the attacks on New York and Washington are likely to intensify the downturn or at the very least, delay the recovery further.

By the end of the second quarter of 2001 it was evident that the slowdown was widespread. US growth (quarter on quarter and annualised), having declined to 1,3 per cent in the first quarter following a decade of unprecedented growth, was barely positive in the second quarter at 0,3 per cent. Since then, retail sales and consumer confidence have fallen sharply and registered unemployment has begun to rise significantly. By the end of August the unemployment rate had risen to 4,9 per cent, the highest level in four years.

In the euro area, following a decline in domestic demand growth, the sharp downturn in the region was evident by the second quarter, and a number of countries, including Italy, Belgium and Germany, experienced negative or zero growth. The overall growth rate for the euro area as a whole on a quarter-on-quarter basis was

Table 1 Annual percentage change in real gross domestic product and inflation rates

	Real GDP		Inflation rates	
	2000	2001 (estimate)	2000	2001 (estimate)
World .....	4,7	2,6	4,6	4,5
Advanced economies .....	3,8	1,3	2,3	2,4
USA .....	4,1	1,3	3,4	3,2
Japan .....	1,5	-0,5	-0,6	-0,7
Euro area .....	3,5	1,8	2,4	2,7
United Kingdom.....	3,1	2,0	2,1	2,2
Developing countries.....	5,8	4,3	6,0	5,9
Africa .....	2,8	3,8	13,6	12,6
Asia .....	6,8	5,8	1,9	2,8
Western hemisphere.....	4,2	1,7	8,1	6,2
Countries in transition .....	6,3	4,0	20,0	16,4

Source: IMF *World Economic Outlook* (October 2001)

0,3 per cent. The Japanese economy deteriorated further in the second quarter, contracting by 3,2 per cent. The slowdown in the US and Europe was clearly evident in the sharp decline in Japanese exports.

Emerging markets have been hard hit by these developments, with sharp reductions in growth rates in a number of Asian, Latin American and Central European countries. Most of these downturns were due to declines in exports. In the case of Asian countries, technology-based exports were particularly affected. In addition, the crises in Argentina and Turkey impacted negatively on a number of emerging-market regions, although to a lesser extent on Asia.

Table 1 also shows that international inflation pressures have been subdued, including pressures in the euro area where initially a weak euro and high oil prices had kept the inflation rate above the target for price stability. Inflationary pressures were, however, evident in a number of emerging-market economies such as Brazil and Korea where the inflation rates are above their targets. These countries will face similar challenges to those of South Africa, where a downward inflation trajectory has to be achieved at a time of declining growth and pressure on the domestic currency.

### *Oil prices*

The major threat to world inflation during 2000 was the high oil price. Oil prices fell back sharply at the beginning of 2001 and the OPEC response was to impose output quotas in order to maintain the price within a target range of between US\$22-28 for the OPEC basket of seven world crudes. The strong global downturn meant a lower demand for oil, particularly during the northern hemisphere summer. With downward pressure on prices, OPEC cut oil production quotas on 3 occasions during this year, the latest being a cut of 1 million barrels per day effective from 1 September. These cuts kept prices within the target range. From the point of view of inflation, however, the more stable conditions in the oil market meant that this was less of a concern than it was in 2000. But the oil price still impacted on inflation through exchange rate changes. Although the oil price spiked to over US\$30 per barrel in the immediate wake of the terror attacks, on fears of possible supply disruptions, it fell back quickly, and by the end of September was hovering above the US\$20 per barrel level.

### *World interest rates*

The global downturn has resulted in a significant change in the stance of monetary policies internationally. There are few central banks that have not responded by easing monetary policy and following the example set by the US. Since the beginning of the year the US has reduced rates on 9 occasions, and the Bank of England on 6 occasions. The European Central Bank initially resisted pressures to reduce rates significantly because of an inflation rate in excess of the target for price stability. Since the events in the US on 11 September, there has been a more co-ordinated reduction in official rates as part of efforts to reflate the world economy. There have, however, been a number of cases where interest rates were raised. Notable in this regard is Brazil where the inflation rate remains above the target. Table 2 shows the movement of interest rates in a number of selected countries.

Table 2 Key central bank interest rates

Per cent

Countries	1 Jan 2001	8 Oct 2001	Change since 11 Sept 2001
USA .....	6,50	2,50	-1,00
Japan - overnight call rate.....	0,25	0,00	-
- overnight discount rate .....	0,50	0,10	-0,15
Euro area .....	4,75	3,75	-0,50
United Kingdom.....	6,00	4,50	-0,50
Canada .....	5,75	3,50	-0,50
Denmark.....	4,75	3,75	-0,50
Sweden.....	4,00	3,75	-0,50
Switzerland .....	3,00 – 4,00	1,75 – 2,75	-1,00
Australia .....	6,25	4,50	-0,25
New Zealand.....	6,50	5,25	-0,50
Israel .....	8,00	6,30	-
Indonesia .....	14,53	17,59	-
Malaysia.....	5,50	5,00	-0,50
South Korea.....	5,25	4,00	-0,50
Taiwan.....	4,63	2,50	-0,75
Thailand .....	1,50	2,50	-
Brazil.....	15,75	19,00	-
Chile <sup>1</sup> .....	5,00	6,50	-
Mexico .....	18,46	11,07	-
Czech Republic.....	5,25	5,25	-
Hungary .....	11,75	11,00	-
Poland .....	19,00	14,50	-
Russia.....	25,00	25,00	-

<sup>1</sup>. The Chilean central bank began quoting its overnight interest rate in nominal terms (annualised) from 9 August 2001. Previously, the rate was quoted after taking inflation into account.

Source: National central banks

### *Exchange rate developments*

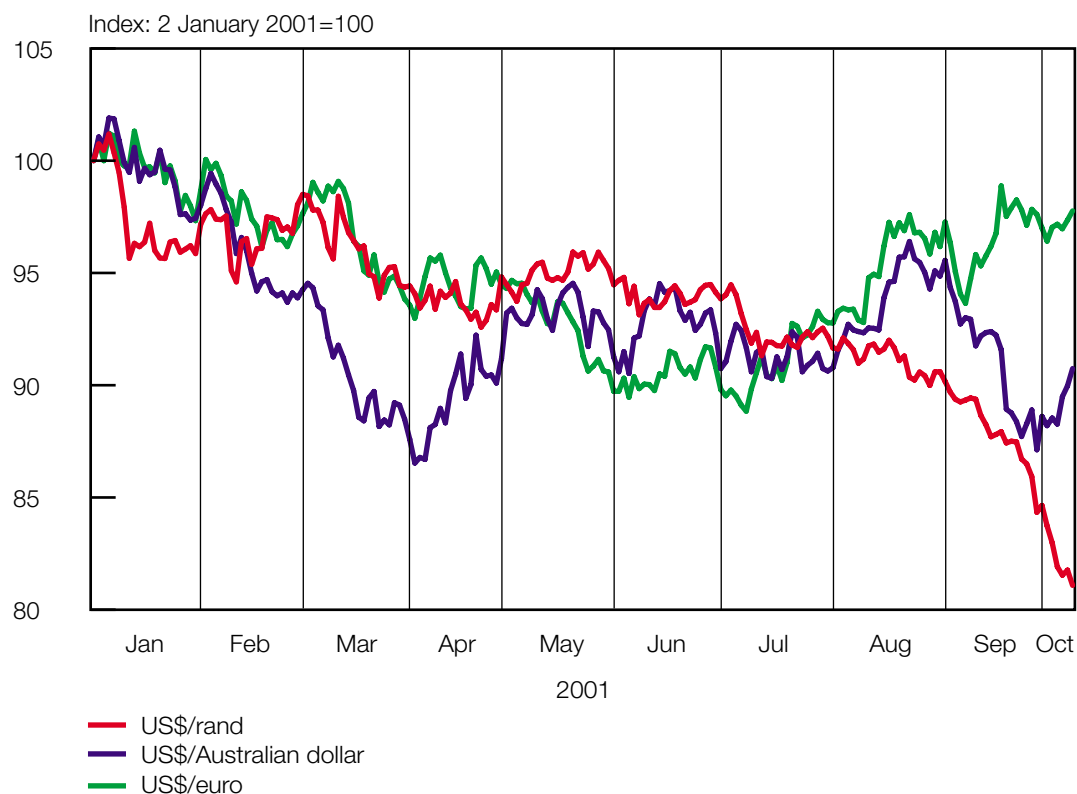
The depreciation of the exchange rate remains a cause for concern about the attainment of the inflation target. As is often emphasised by the Reserve Bank, there is no specific target for the exchange rate, and therefore no intervention is undertaken in order to influence directly the level or direction of the exchange rate. However, in line with the Bank's commitment to reducing the level of the net open forward position (NOFP), the Bank has intervened by buying dollars, particularly in June and July, related to the Anglo American/De Beers transaction. The Bank is concerned about the level and direction of the exchange rate because of the impact that these could have on the CPIX inflation rate. During 2000, when the rand's weakness was mainly against the US dollar, the exchange rate had less effect on consumer prices than had been expected. It is not clear whether this situation will persist, now that the rand has been depreciating against most of the major currencies.

During the course of this year the rand has depreciated against the US dollar, moving from around R7,60 at the beginning of the year to over R9,30 in the second week of October. Against the euro, the rand has fallen from R7,14 to over R8,60. The nominal effective exchange rate depreciated by 17,1 per cent over this period. There

was a period during the second quarter of 2001 when the nominal effective exchange rate strengthened in response to favourable balance-of-payments developments, but since the beginning of July the rand has come under continuous pressure. The rand's weakness over the past few months can be ascribed to both internal and external factors. Internal factors have included the possible delay in the Telkom restructuring, the motor industry strikes, and leads and lags in foreign payments and receipts. External factors included the deteriorating situation in Zimbabwe, and the negative sentiment towards emerging markets in general following the renewed crises in Turkey and Argentina. In the aftermath of the US attacks the rand has come under increased pressure. This occurred despite the strong export performance as well as surpluses on both the financial and current accounts of the balance of payments in the second quarter.

Figure 6 indicates that at the beginning of the year, the rand and the euro moved more or less in line against the US dollar. In May and June the rand outperformed the euro. From mid-July, however, the euro strengthened appreciably against the dollar, but the rand succumbed to emerging-market pressures and events in Zimbabwe. The Australian dollar proved to be more volatile during the year with a sharp depreciation against the US dollar in the first quarter. Although it recovered and moved in line with the euro in July and August, it depreciated strongly against the US dollar and euro in September but then recovered somewhat by the end of the month. Figure 6 shows that by early October, the rand had depreciated by about 19 per cent against the US dollar since the beginning of the year, compared with a 9 per cent depreciation of the Australian dollar against the US dollar. Other currencies that depreciated sharply against the US dollar since the beginning of the year were the Brazilian real (30 per cent) and the Chilean peso (18 per cent).

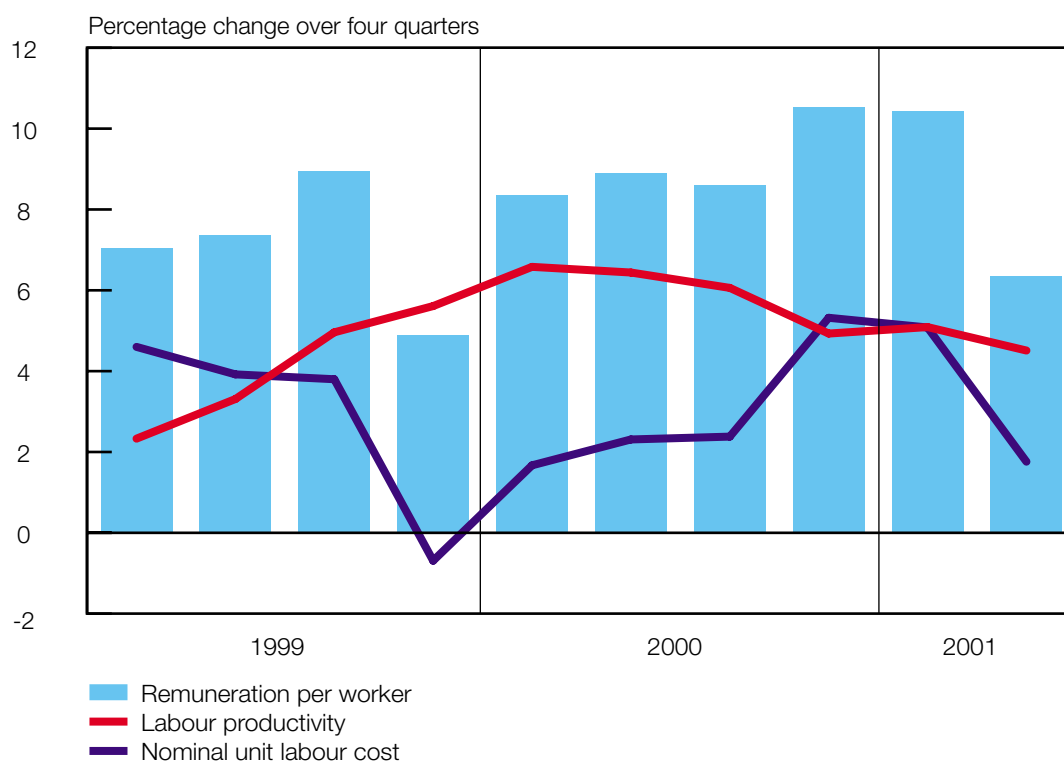
Figure 6 US dollar per rand, euro, and Australian dollar



### Labour markets

Inflationary pressures arising in the labour market have remained subdued. Figure 7 shows that nominal unit labour cost, which is an important domestic determinant of inflationary pressures, has not been a threat so far to the attainment of the inflation target. The relatively high year-on-year rates of growth of remuneration per worker in the formal non-agricultural sectors of the economy in the fourth quarter of 2000 and the first quarter of 2001 were at least partially offset by robust labour productivity growth. The rates of growth in nominal unit labour cost were 5,3 per cent and 5,1 per cent, respectively, in these quarters. When the growth in remuneration per worker fell to 6,3 per cent between the second quarter of 2000 and that of 2001, the rate of growth in unit labour cost duly declined to just 1,8 per cent. A number of important wage determinations are concluded in the second half of the year, however, and developments in the labour market will therefore continue to be monitored closely.

Figure 7 Remuneration per worker, labour productivity and unit labour cost in the formal non-agricultural sectors



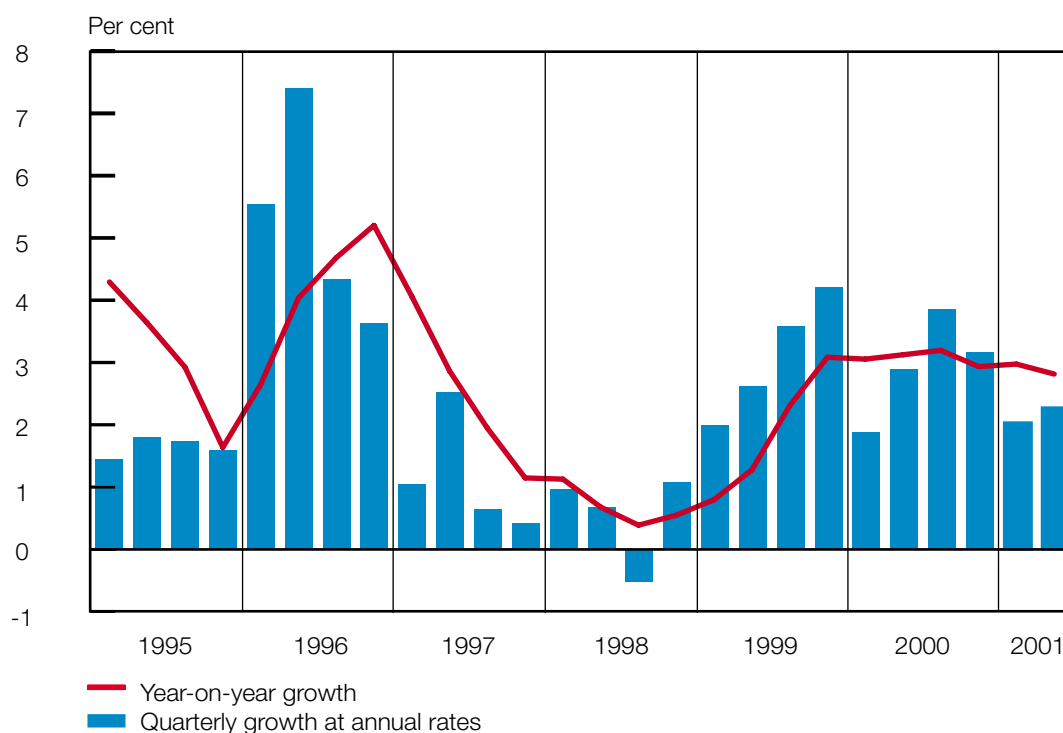
Source: Statistics South Africa

### Demand and output

As shown in Figure 8, growth in real gross domestic product (GDP) in the South African economy measured over four quarters, has remained relatively constant at around the 3 per cent level for the past seven quarters. On a quarter-on-quarter basis, however, real GDP growth was 2 per cent in the first quarter and 2,3 per cent in the second quarter. On the expenditure side, growth in real gross domestic

expenditure (GDE) measured over four quarters has slowed from 3,2 per cent in the third quarter of 2000 to 1,4 per cent and 1,1 per cent in the first and second quarters of 2001 respectively. On a quarter-on-quarter basis, real GDE growth in the second quarter of 2001 was -2,0 per cent. As the relatively slower growth of real GDE implies, however, recent GDP growth has been supported by a strong performance on the country's balance of payments with the rest of the world.

Figure 8 Real gross domestic product (seasonally adjusted and annualised)



The recent slow growth in real GDE is attributable to weak inventory investment, a slowing in final consumption expenditure by households and continued weak growth in consumption expenditure by government. The second quarter of 2001 saw a sharp cutback in the level of inventories held in the economy when an annualised quarter-on-quarter decline of 6,8 per cent was recorded. Growth in consumption expenditure by households on a quarter-on-quarter basis slowed to 2 per cent, and government consumption expenditure growth remained weak. Real gross fixed capital investment has continued to grow relatively strongly, with quarterly growth of 5 per cent in the second quarter of 2001.

The impact of these domestic demand and supply conditions on inflation has therefore been rather muted in the period under review, particularly in the light of fairly low levels of capacity utilisation. The support provided to growth in real GDP by the external sector does, however, raise questions about the sustainability of growth in the current international environment.

### *Fiscal policy*

Fiscal policy has remained supportive of the inflation-targeting process, with no undue inflationary pressures emanating from this source.

Table 3 Public finance: ratios to gross domestic product (fiscal years)  
Per cent

	1995/96	1996/97	1997/98	1998/99	1999/2000	MTEF <sup>1</sup> estimates			
						2000/01	2001/02	2002/03	2003/04
Revenue .....	22,5	23,0	23,5	24,5	24,3	24,1	23,6	23,6	23,6
Expenditure .....	27,7	28,0	27,2	27,2	26,7	26,1	26,2	25,9	25,8
Deficit to GDP ...	-5,1	-5,0	-3,7	-2,8	-2,3	-2,0	-2,5	-2,3	-2,1
PSBR <sup>2</sup> .....	5,0	5,5	4,6	3,8	2,2	2,2	1,3	2,4	2,3

Source: SARB and National Treasury (Budget Review 2001)

<sup>1</sup> MTEF - Medium Term Expenditure Framework

<sup>2</sup> PSBR - Public Sector Borrowing Requirement

National government expenditure as a proportion of GDP declined from 28 per cent in 1996/97 to 26,1 per cent in 2000/01. The continued decline in national government expenditure further underscores the low levels of final government consumption expenditure. National government revenue as a proportion of GDP increased from 22,5 per cent in 1995/96 to 24,5 per cent in 1998/99 before settling at an average of 23,6 per cent in the subsequent years. Improved tax collection arising from more efficient tax administration and higher corporate profits yielded higher-than-budgeted revenue. In the recent fiscal year, better revenue receipts combined with less-than-budgeted expenditure culminated in a lower national government deficit before borrowing and debt repayment to GDP of 2 per cent compared with 2,3 in 1999/2000.

In turn, the non-financial public-sector borrowing requirement declined to 2,2 per cent of GDP at the close of the fiscal year 2000/01, partly accounted for by a decline in the borrowing requirement of national and provincial governments. These positive circumstances eased pressure on capital market activity, with national government debt as a ratio of GDP declining from 48,1 per cent to 46,6 per cent in March 2001.

### *Monetary conditions*

A number of countries, including South Africa, have moved away from monetary-targeting frameworks. Nevertheless, to the extent that they reflect underlying expenditure trends, money supply and credit extension data do potentially provide information on the future prospects for inflation, particularly in the long run. The recent acceleration in the growth of the various monetary aggregates has therefore been closely monitored, and requires some comment.

As Table 4 shows, the year-on-year growth in all aggregates was sharply higher in July and August 2001, and the broader aggregates have been trending upward since November last year. However, these trends do not necessarily portend an increase in domestic expenditure.

In the case of the broad M3 aggregate, 31 per cent of the growth in the first eight months of 2001 was derived from an increase in deposits with a maturity of six months or longer, which is not likely to be expenditure-related. A more plausible explanation for this growth is therefore that the relative attractiveness of less risky assets has grown in response to an increasingly volatile economic environment.

Furthermore, in assessing the high growth rates reported in Table 4 for all aggregates in July and August 2001, allowance should be made for certain special factors which give an upward bias to the reported growth rates. Noteworthy in this regard are the flow of funds generated by the takeover of De Beers by Anglo

American and the 'base effect' which results from calculating growth rates on the particularly low levels of the monetary aggregates measured twelve months ago. In August there were also technical factors such as the large interest payments by government. Unless the high levels of growth in these aggregates persist, they are unlikely to result in strong inflationary pressures.

Table 4 Percentage change in monetary aggregates  
Twelve-month change

		M1A	M1	M2	M3
2000:	August.....	2,0	8,4	7,1	8,6
	September .....	7,0	14,0	7,2	8,9
	October .....	5,2	8,3	5,9	7,8
	November .....	-1,2	1,4	5,2	6,5
	December .....	1,7	3,3	6,2	7,5
2001:	January .....	0,2	7,1	7,5	9,2
	February .....	0,3	3,3	7,9	9,4
	March.....	-1,1	6,4	11,8	12,8
	April.....	3,2	7,3	11,1	12,3
	May.....	2,9	9,0	11,7	13,5
	June.....	6,7	8,6	11,1	13,9
	July.....	15,9	14,6	14,7	17,8
	August.....	15,3	16,9	16,0	18,0

The growth in credit extension by the banking sector slowed down in the first half of 2001, although this was largely as a result of a sharp reduction in the government's use of bank credit. Total year-on-year credit extension growth was around 8 per cent in July and August, although credit extension to the private sector, which had been growing at a fairly constant year-on-year rate of around 9 per cent in the first half of the year, grew by 10,4 per cent in August. Most of this private-sector credit extension was to the corporate sector, reflecting the relatively strong growth in real gross fixed capital investment mentioned earlier.

### Box 2 South African real interest rates: a comparative perspective

This box provides a brief analysis of the trend of official South African short-term real interest rates, compared to official foreign rates. The standard form of expressing the real interest rate is based on the Fisher equation, in terms of which the real interest rate  $r$ , is approximately equal to the nominal interest rate  $i$  minus the expected inflation rate over the period  $\pi^e$

$$r \cong i - \pi^e$$

Theoretically, in an open economy, if capital is perfectly mobile and real exchange rates converge to their equilibrium levels, these *ex ante* real interest rates should move together in the long run. To the extent that real interest parity fails to hold, a risk premium or discount can be said to exist, reflecting exchange rate or political uncertainties, administrative restrictions or regulations, cyclical differences or other considerations.

The general view is that the equilibrium real interest rate changes over time as the fundamentals of productivity and thrift change. The equilibrium real interest rate also depends on the global relationship between saving and investment and therefore the 'appropriate' real rate cannot be seen in isolation from the global average. However, monetary policy can impact on the real interest rate in the short to medium term.

Abstracting from the problems of measurement, the movement of South Africa's real interest rates is compared. In the 1950-69 period, as Table B2.1 shows, South African real interest rates were relatively



low, but positive, with the short-term real interest rate averaging 1,15 per cent. South Africa's average short-term real interest rate over this period was lower than that in most countries surveyed.

Between 1970 and 1979, inflation rates increased relative to nominal bond yields in most countries, resulting in lower measured real rates. In South Africa, in line with the experience of other countries, the increases in inflation appear to have been sufficiently large (and unexpected) to generate negative real interest rates. This period was one of high inflation, generated in part by the oil crises, as well as continued controls on capital movements.

Finally, since 1980, an era of positive real interest rates has again emerged. The early 1980s saw higher real rates in the US in particular and periods of financial market liberalisation in various countries which resulted in significantly higher interest rates. Contrary to the international trend, short-term real interest rates in South Africa remained negative on average in the 1980s. This, however, masks a high degree of volatility in the real interest rate with real rates fluctuating between a range of +10 per cent and -10 per cent. Towards the end of the 1980s high interest rates were needed to cope with the effects of financial sanctions.

The average rates for the 1990s show that South African real interest rates were not significantly different from those prevailing in a number of other countries. However, as can be seen in the various graphs (Figure B2.1), the pattern for the period from 1995 was significantly different from most of the other countries.

Some of the factors that have contributed to this divergence include:

- the abolition in 1995 of the financial rand which had provided partial insulation to South African rates; other countries liberalised at earlier times, which accounts for the higher rates of Australia and New Zealand in the early 1990s;
- the 1996 rand crisis which resulted in tighter monetary policy;
- the tight monetary policy reaction to the sharp depreciation of the rand following the Asian and Russian crises in 1998.
- the higher risk premium implicit in South African real rates. This would be applicable more to long-term rates.

During 1999 short-term rates declined as the Reserve Bank's repo rate was reduced. By the end of 2000 rates had reached the levels prevailing around the time of the abolition of the financial rand in 1995. Short-term real interest rates still appeared to be high in both an international and historical context although the differential between South Africa's short-term real interest rates and those of other countries has declined.

A simple Taylor rule would suggest that the further the current inflation rate is from the target (and the higher real economic activity is), the higher the real interest rate should be. When the current inflation rate exceeds the target, the nominal rate has to be raised by more than the expected increase in inflation in order to make the nominal interest rate increase equivalent to an increase in the real interest rate (subject to the degree of deviation from potential output). Countries that are at or around their target can therefore have lower real rates and have more flexibility to adjust rates. It is significant for example that South Africa's real rates are similar to those of Mexico where the inflation target is still to be achieved. Thus although real rates have come down from the highs of 1998, current rates reflect to a certain extent the Reserve Bank's overriding commitment to the inflation target. The experience of countries such as Canada, New Zealand and Australia has shown that real interest rates can be maintained at lower levels once the inflation targets have been achieved. However, these countries did experience higher short-term real rates in the phase of adjustment of the inflation rate to the target.

Table B2.1 Short-term real interest rates since 1950<sup>1,2</sup>

Period averages, per cent per annum

	SA	US	Germany	France	UK	Japan	Australia	NZ	Canada
1950-69 .....	1,15	1,19	2,04	-0,63	-	2,21	-	1,54	1,49
1970-79 .....	-3,18	-0,25	1,10	-0,28	-7,96	-3,09	-2,86	-3,26	0,74
1980-89 .....	-0,77	2,70	3,49	3,62	4,17	2,02	4,38	3,37	4,76
1990-2000 .....	5,56	1,64	3,19	4,37	3,85	0,80	4,40	6,23	3,94

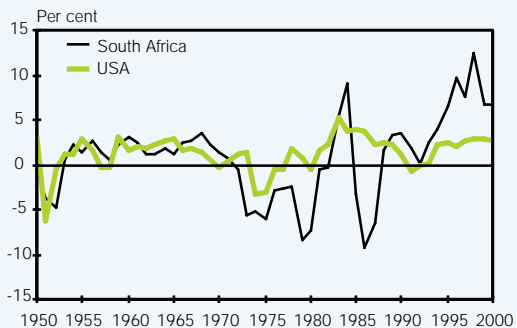
Source: IMF *International Financial Statistics*

<sup>1</sup> The headline CPI is used in these calculations

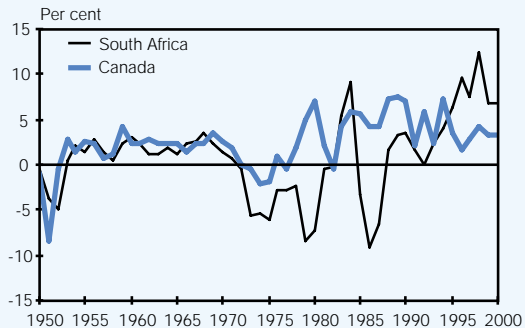
<sup>2</sup> Short-term rates are the rates controlled by the central bank

Figure B2.1 Comparative short-term real interest rates

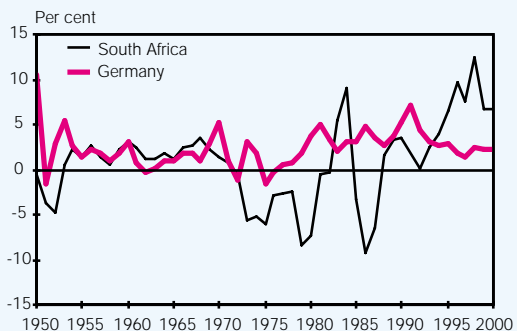
South Africa and USA



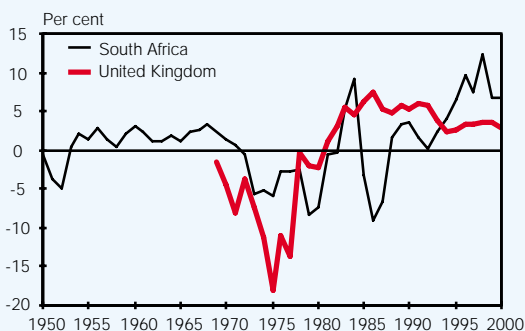
South Africa and Canada



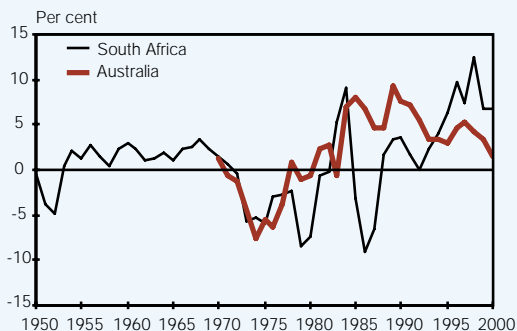
South Africa and Germany



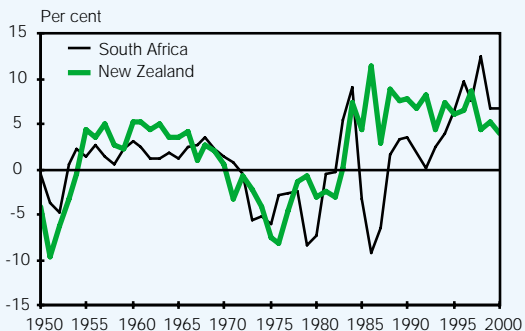
South Africa and United Kingdom



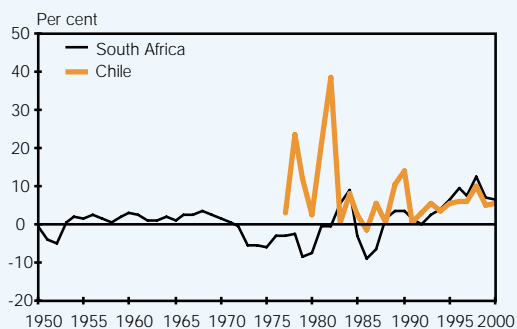
South Africa and Australia



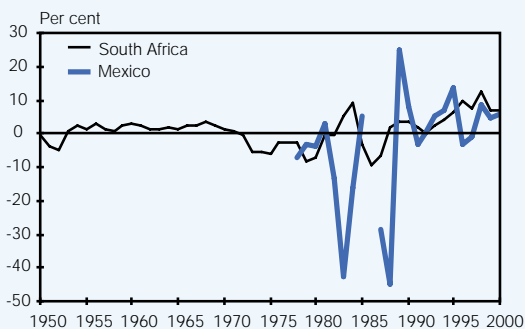
South Africa and New Zealand



South Africa and Chile



South Africa and Mexico



## Monetary policy

During 2000, the Reserve Bank faced the challenge of implementing the new inflation-targeting framework against a backdrop of an unstable and changing international environment. The high and rising international oil prices meant unavoidable increases in domestic fuel prices and transport costs. For most of 2000 the United States economy seemed to be on an endless upward spiral. The resulting strong dollar, reinforced by higher US interest rates, meant that the rand came under pressure as it moved for the most part in line with the weaker euro. The rand also came under pressure at times as a result of changes in sentiment towards emerging-market economies in general and the region, including events in Zimbabwe, in particular.

By contrast, domestic inflation pressures remained benign. Changes in unit labour cost remained subdued, capacity utilisation was low and there was no sign of excessive aggregate demand, although the latter appeared to be gaining momentum in the final quarter of 2000 and the first quarter of this year.

Monetary policy implementation was complicated by the fact that South Africa was, and still is, in the difficult transition phase toward attaining the target. Almost by definition countries that have not yet achieved their target have had to have relatively tighter monetary policies. It is also a period of building credibility. It is challenging enough for a central bank to maintain an inflation rate within a target range. It is far more difficult to reduce the inflation rate during periods of exogenous shocks.

By the end of 2000, the exogenous factors impacting on the inflation rate had changed significantly. Firstly the international oil prices had declined from their October highs of around US\$35 per barrel, and greater stability at lower prices resulted. Secondly the nominal effective exchange rate of the rand became more stable with the recovery of the euro against the US dollar in late October 2000. During the first few months of 2001, particularly in the second quarter, the nominal effective exchange rate of the rand remained relatively stable. Thirdly there was the sudden turnaround in the international economy, the extent of which took most observers by surprise. The US Federal Reserve was quick to respond with a series of interest rate reductions which was generally followed by most central banks.

Until June South Africa was one of the few countries which had not followed the example of US monetary policy. Although some of the external inflationary pressures had receded, the economy appeared to be heading for higher growth by the beginning of 2001, and the increase in domestic expenditure raised the potential for higher inflation pressures. Production price inflation was also stubbornly high.

However, by June it was clear that although the global slowdown was not affecting the domestic economy to the same degree as other economies, South Africa was certainly not immune to these developments. Furthermore the lack of domestic pressure on inflation continued to prevail in addition to a current account surplus and a more stable effective exchange rate.

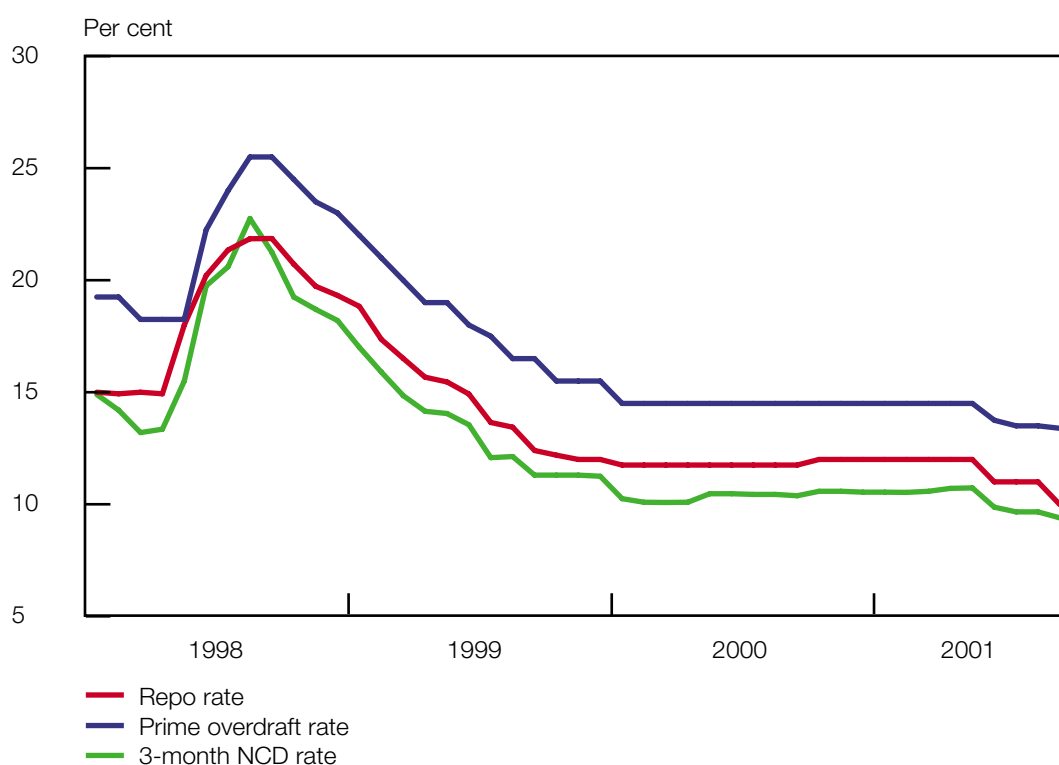
As seen above, by May 2001 CPIX inflation had declined to 6,5 per cent and all indications were that the target for 2002 would be achieved. The lower inflation rate also meant that real interest rates were rising and unless the Bank followed with lower short-term interest rates it would have implied a progressively tighter monetary policy. Given these factors, the Monetary Policy Committee (MPC) decided to reduce the repo rate by 100 basis points at its meeting in June. It was felt that the continuing lack of domestic pressures and the international environment gave scope for a non-inflationary reduction in interest rates. The reduction in the repo rate resulted in a 75 basis point reduction in the prime lending rates of the banks, and in July a further 25 basis point reduction was effected.

This reduction in the repo rate did not imply that the objective of monetary policy had changed from inflation to growth. The primary objective of monetary policy remains the attainment of price stability. The Bank's pursuit of price stability is precisely because this is the contribution that monetary policy can make to achieving sustainably high growth and employment creation in the country. However, the state of the domestic economy is one of the important determinants of inflation. A downturn in the domestic economy points to lower pressure on domestic inflation and this allows scope for an easing of monetary policy. This does not mean that the Bank's primary objective has changed, rather that the level of aggregate demand or the state of the economy is such that lower interest rates will not hinder the attainment of the inflation target. The objective is also not to achieve long-run price stability at all costs. Ideally the path to lower inflation should not result in excessively high interest rates and/or excessively sharp cyclical reductions in output.

At its meeting on 20 September 2001, the MPC decided to reduce interest rates by a further 50 basis points. This was done against the backdrop of interest rate reductions in a number of other countries following the attacks on New York and Washington. At this time, the CPIX inflation rate had declined to 6 per cent in August. Data on the real economy showed that neither output nor expenditure were putting pressure on inflation, and the expectation was that the intensified global downturn would further reduce domestic demand pressures. In addition the oil price started showing signs of weakness which, if sustained, could offset in part the negative impact of the rand depreciation.

During September the Bank also made a technical reduction to the repo rate as part of new monetary policy operational procedures. The reasons for this change and the new procedures are set out in Box 3. Figure 9 shows the changes in the repo rate over time and its impact on short-term interest rates.

Figure 9 The repo and short-term interest rates



### Box 3 Changes to the refinancing system

After consulting widely, the Reserve Bank recently introduced changes to its operational procedures in the money market. The changes, which are summarised below, were deemed necessary in order to improve the functioning of the refinancing system, provide clear monetary-policy signals and promote efficiency in the domestic money market.

The system of providing liquidity through repurchase agreements at a variable rate (the repo rate) was introduced in March 1998. The intention at the time was that the market should provide daily signals to the Reserve Bank about its underlying liquidity conditions, and that the repo rate should adjust accordingly.

In practice, however, this system did not function as effectively as had been envisaged, mainly because of inefficiencies in the money market, and in particular the interbank market. For example, the money market was dominated by a few large banks, rates tended to be inflexible and the interbank market did not always clear effectively. The repo rate did not reflect market conditions as originally intended, and monetary policy signals were sometimes perceived as ambiguous. Furthermore, the market's liquidity conditions were to a large extent determined by the Reserve Bank through its open-market operations.

To improve the functioning of the system, the following modifications to the refinancing procedures were implemented, following discussions with the banking sector:

1. A technical adjustment was made to the spread between the Reserve Bank's repo rate and the interbank call rate by lowering the Reserve Bank's repo rate by 100 basis points.
2. The Reserve Bank now calculates on a daily basis the South African Overnight Index Average (SAONIA) which will serve as a benchmark for money-market interest rates.
3. The repo rate is now fixed by the Reserve Bank in order to eliminate any ambiguity in the Bank's monetary policy signals.
4. The Reserve Bank no longer announces the estimated liquidity requirement prior to the repo auctions. Instead, the amount provided and the amount allotted in the auctions are announced shortly after the tender.
5. Weekly repo auctions with a seven-day maturity have replaced the previous daily auctions.
6. The Reserve Bank, at its discretion, now conducts daily final clearing repo, reverse repo or supplementary repo auctions to enable banks to square off their positions.
7. For purposes of calculating the minimum reserve balance to be held in an account with the Reserve Bank, the amount of vault cash that qualifies as a deduction is limited to 75 per cent of the total amount of vault cash held. This limit will be reduced by a further 25 percentage points per year over a three-year period.

## The outlook for inflation

The Bank remains of the view that the target of 3 to 6 per cent on average for 2002 will be attained. Although the upper end of the target was attained in July, it is believed that further downward movements will be more gradual. As seen in the forecast below, the increase in CPIX is expected to remain in the upper end of the range. This is subject to certain assumptions. The outlook for some of the factors that will impact on inflation and indicate the risks or uncertainties associated with these factors is discussed below.

## The international context

At the time of publishing the previous *Monetary Policy Review* there was still some hope that the US downturn would be short-lived and the impact on other countries limited, but it is now clear that this was an optimistic view. Even before the attacks on the US most forecasts for global growth had been continuously revised downwards during the year.

The IMF *World Economic Outlook* has recently revised its estimate for world growth for 2002 to 3,5 per cent. This includes projections for muted recoveries in the US and the euro area (both 2,2 per cent), the United Kingdom (2,4 per cent) and Japan (0,2 per cent). Its outlook for developing countries as a whole is a more optimistic 5,3 per cent, including 4,4 per cent for Africa. These projections were made before the events in the US and, if anything, these events will put a downward bias on these projections. A lot will depend on the nature of the US response to the terror attacks, and how consumer expenditure and sentiment will be affected. This fairly subdued scenario also implies that world interest rates are likely to remain low and in some cases are expected to decline even further. The low interest rate environment is likely to persist until there are clear signs of a sustained recovery.

Table 5 IMF projections of world growth and inflation for 2002

Annual percentage change

	Real GDP	Inflation
World .....	3,5	3,5
Advanced economies .....	2,1	1,7
USA .....	2,2	2,2
Japan .....	0,2	-0,7
Euro area .....	2,2	1,7
United Kingdom .....	2,4	2,4
Developing countries .....	5,3	5,1
Africa .....	4,4	8,0
Asia .....	6,2	3,3
Western hemisphere .....	3,6	4,9
Countries in transition .....	4,1	10,7

Source: IMF *World Economic Outlook* (October 2001)

There is no doubt that the slowdown in the Organisation of Economic Co-operation and Development (OECD) will have an unfavourable impact on emerging markets. The negative impact of the slowdown on export-oriented economies in Asia and Latin America has already been noted. Commodity prices are also expected to remain under pressure until a sustained recovery begins in the United States. The previous emerging-market crisis in 1997/98 was fairly short-lived because of the strong growth in the US and Europe. This time the engine for recovery has slowed down too, and it is unlikely that export-based economies will be able to recover until there is a recovery in the industrialised countries.

This pessimistic view of world growth means that inflationary pressures are likely to be limited for the time being. There is a danger that excessive stimulation through easier monetary and fiscal policies could result in a resurgence of inflationary pressures over time. However, it appears that many central banks are confident that the low level of economic activity gives sufficient room for non-inflationary stimulation in the short run.

Although the oil price has not been the same source of uncertainty that it was in 2000, the outlook for the oil price nevertheless remains uncertain. On the demand side there is the approach of winter in the northern hemisphere. Depending on the severity of the winter, demand could rise significantly. Counteracting this is the generally weak state of world demand. The extent and pervasiveness of the global downturn will determine the extent of the downward pressure on the oil price. More difficult to predict are supply-side developments. Much will depend on the nature of the military response of the US and other countries to the attacks in September and the ability and resolve of the OPEC countries to maintain the price within their specified range. Although the expectation is that OPEC will attempt to maintain the price within the specified range, a more generalised conflict could result in supply disruptions.

### **Outlook for domestic demand and supply**

On the domestic front, it is inevitable that the global downturn will impact negatively on the economy through the effect on export volumes and commodity prices. Mitigating this effect will be the real depreciation of the rand that will continue to make South African exports competitive and profitable in international markets. Most observers have been surprised at the resilience of exports under very negative conditions. It can therefore be expected that the current account surplus will be reduced in coming quarters.

Much will depend on changes in imports but there are no signs of strong growth in domestic expenditure. Although domestic expenditure declined sharply in the second quarter, this was mainly the result of declining inventories. Growth in consumer expenditure in fact increased slightly. Given the current subdued conditions, it is unlikely that there will be a strong spurt in expenditure that could have inflationary consequences. Output growth is also expected to be modest in the current international climate.

Most difficult to predict is the exchange rate. The majority of analysts and forecasters have been confounded by the weak performance of the rand. On the one hand, in terms of the fundamentals there seems to be no clear justification for the recent movements so a strong correction would not be surprising. On the other hand, there is also a chance that negative market sentiment could continue to maintain downward pressure on the rand.



## Surveys of inflation expectations

The results of the Bureau for Economic Research (BER) quarterly survey of inflation expectations in the South African economy suggest that inflation expectations were lower in the third quarter of 2001 than in the preceding quarter. Table 6 shows that this was the case for the CPI and CPIX inflation expectations of the financial, business and labour sectors for each of the years 2001, 2002 and 2003. Although households' expectations of headline CPI inflation in 2001 increased slightly from 6,8 to 6,9 per cent, the overall average for this measure nevertheless declined slightly from 6,5 to 6,4 per cent.

Table 6 BER surveys of inflation expectations

Per cent

	Headline CPI inflation						CPIX inflation					
	2001		2002		2003		2001		2002		2003	
BER survey for:	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2	Q3	Q2
Finance.....	6,1	6,4	5,1	5,3	5,1	5,2	6,6	6,6	5,7	5,7	5,4	5,4
Business.....	6,2	6,4	6,3	6,5	6,4	6,5	7,8	7,9	7,8	7,9	7,8	7,9
Labour.....	6,2	6,2	6,0	6,6	6,3	6,6	7,3	8,0	7,4	8,2	7,6	8,0
Average.....	6,2	6,3	5,8	6,1	5,9	6,1	7,2	7,5	7,0	7,3	6,9	7,1
Households.....	6,9	6,8	-	-	-	-	-	-	-	-	-	-
Grand average.....	6,4	6,5	-	-	-	-	-	-	-	-	-	-

Source: Bureau for Economic Research, University of Stellenbosch

Average expectations regarding the CPIX inflation measure targeted by the Reserve Bank for 2002 declined from 7,3 per cent to 7,0 per cent in these surveys. This decline was largely the result of lower expected inflation reported by trade union officials, whose expectations for CPIX inflation in 2002 declined from 8,2 per cent reported in the second quarter survey to 7,4 per cent. The expectations of the business sector declined marginally from 7,9 per cent to 7,8 per cent over the corresponding period, although those of financial sector analysts remained unchanged at 5,7 per cent.

Despite this decline for 2002 in the inflation expectations of the labour sector representatives, it is noteworthy that their outlook over the longer term differs from those of the other sectors surveyed. Table 6 shows that their expectations of inflation increase over time (from 7,3 per cent for CPIX in 2001 to 7,4 per cent in 2002 and 7,6 per cent in 2003), but those of the financial sector decline (from 6,6 per cent for CPIX in 2001 to 5,7 per cent in 2002 and 5,4 per cent in 2003) and those of the business sector remain constant at 7,8 per cent. On average, the expected trend in CPIX inflation is nevertheless downward.

The consensus forecast produced from the Reuters monthly survey of long-term forecasts for the South African economy sees CPIX inflation on a downward trend. The recent survey of economists based in South Africa, the US and the UK undertaken in September reports that the mean forecast for CPIX inflation falls from 6,6 per cent in 2001 to 5,8 per cent in 2002. The forecast for 2002 represents a mean of 11 forecasts ranging between 5,3 per cent and 6,3 per cent. The mean forecast for 2003 is 5,4 per cent.

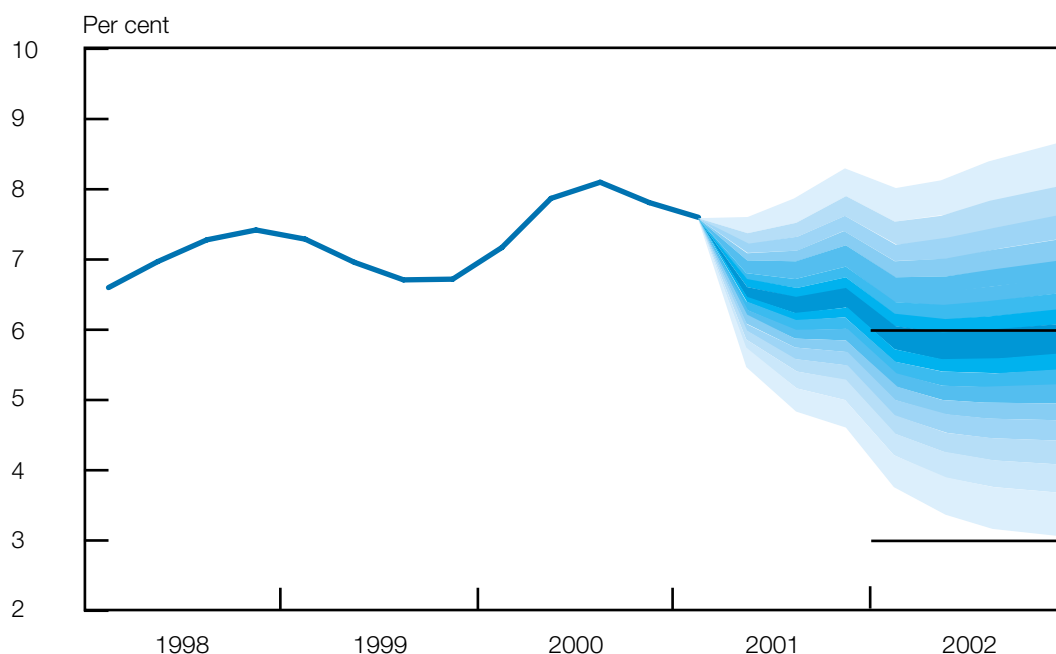


## The Reserve Bank inflation forecast

The Bank's projection for CPIX inflation over the period to 2002, which was presented to the September 2001 meeting of the MPC, is reproduced in Figure 10. The fan chart technique discussed in more detail in the March 2001 *Monetary Policy Review* is again used to indicate the uncertainties surrounding the forecast.

This projection assumed an unchanged repo rate for the forecast period. It is worth noting here that the 100-basis-point adjustment to the repo rate on 5 September was the result of technical factors, and has no influence on the results of the model. On this basis, the central projection of the forecast was that quarterly average CPIX inflation would decline to within the target range of 3 to 6 per cent in the first half of 2002, and remain within the range for the remainder of the year.

Figure 10 CPIX forecast



Note: The fan chart uses confidence bands to depict varying degrees of certainty. The darkest band of the fan chart covers the most likely 10 per cent of probable outcomes foreseen for CPIX inflation, including the central projection. Each successive band, shaded slightly lighter and added on either side of the central band, adds a further 10 per cent to the probability until the whole shaded area depicts a 90 per cent confidence interval (see Box 4 "Understanding the fan chart" on p 27 of the March 2001 *Monetary Policy Review*).

Risks were foreseen that could result in the actual inflation outcome missing this central projection on either side. Factors that could result in inflation being below the central projection include the possibility that the downturn in the US and the rest of the world would be more severe and protracted than was assumed, with a more negative effect on demand in South Africa. Upside risks include a higher-than-expected impact from the exchange rate, and the possibility of higher wage settlements relative to productivity.

## Assessment and conclusion

Since the publication of the first *Monetary Policy Review* in March, the MPC has reduced the repo rate on two occasions by a total of 150 basis points. These reductions were made possible by the steady decline in the inflation rate and the lack of strong domestic pressures on inflation. International developments have also continued to have a major impact on monetary policy. These developments have to some extent reduced pressures on domestic inflation, particularly through lower oil prices.

Despite these positive developments, there are nevertheless threats to the attainment of the inflation target. The biggest threat still remains the possible second-round effects of the depreciation of the rand. The fact that the rand has been depreciating against a basket of currencies could result in a stronger pass-through to domestic prices than was the case in 2000 when the rand's weakness was primarily in relation to the US dollar. Other risks could emanate from possible wage increases in excess of productivity growth. The wedge between production price and consumer price increases also suggests that retail profit margins are being squeezed and this cannot continue indefinitely. A further factor that will be closely watched is money supply growth that has been high in the past two months, although it is not clear if this is a sustained trend. Although these threats remain, the trend of inflation is down and the MPC is confident that the target for 2002 will be achieved without the need for a reversal of monetary policy.

Although the current inflation rate is at 6 per cent, it is premature to say that the target range has been achieved. It should be borne in mind that the target for 2002 is an average for the year. To achieve the appropriate average the inflation rate will need to be maintained below 6 per cent on a sustained basis.