



Monetary Policy Review

May 2004



South African Reserve Bank

Monetary Policy Review

May 2004



South African Reserve Bank

© South African Reserve Bank

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the publisher. The contents of this publication are intended for general information only and are not intended to serve as financial or other advice. While every precaution is taken to ensure the accuracy of information, the South African Reserve Bank shall not be liable to any person for inaccurate information or opinions contained in this publication.

Enquiries relating to this *Review* should be addressed to:

Head of Research
Research Department
S A Reserve Bank
P O Box 427
Pretoria 0001
Tel. 27-12-3133668/3944

E-mail: sarbrsh@resbank.co.za

<http://www.reservebank.co.za>

ISSN: 1609-3194

Contents

Monetary Policy Review

Introduction.....	1
Recent developments in inflation.....	4
The evolution of indicators of inflation.....	4
Factors affecting inflation.....	8
Monetary policy.....	21
The outlook for inflation.....	25
International outlook.....	25
Outlook for domestic demand and supply	28
Indicators of inflation expectations	29
The Reserve Bank inflation forecast	31
Assessment and conclusion.....	32

Monetary Policy Review

Introduction

In September 2003 the inflation rate as measured by the consumer price inflation excluding mortgage interest cost for metropolitan and urban areas (CPIX) moved to within the inflation target of 3 – 6 per cent, and it has remained within the range since then. CPIX inflation continued its downward trend until December 2003 when it reached a low of 4 per cent, before turning moderately upwards in subsequent months. This rate was 4,8 per cent in February 2004 before declining to 4,4 per cent in March. The turnaround in the inflation trend since December 2003 was not unexpected, as a combination of base effects and exogenous factors such as higher food and energy prices were expected to push the measured inflation rate higher. Despite the upturn in inflation, the twelve-month rate of increase in the CPIX is expected to remain within the target range over the forecast period. This positive outlook is due in part to the sustained recovery in the exchange rate of the rand.

The monetary policy response to the improvement in the inflation outlook was reflected in a significant decline in short-term interest rates during the second half of 2003. By the time of the publication of the *Monetary Policy Review* in November of 2003, the repurchase (repo) rate had been reduced by a total of 500 basis points. At the December Monetary Policy Committee (MPC) meeting, the repo rate was lowered by a further 50 basis points and no further adjustment has occurred since then.

An important development in the inflation-targeting framework was the announcement by the Minister of Finance that the specification of the target range would be changed from an annual average to a continuous target. Previously the target had been specified as having CPIX inflation between 3 and 6 per cent on average for a calendar year. The target remains 3 – 6 per cent for year-on-year CPIX inflation, but it is now required that this be achieved continuously.

In this *Monetary Policy Review* an analysis of recent price developments, the factors that affect inflation as well as the outlook for inflation, is provided. In addition, three focus topics are presented in boxes. In the first box, the implications of the change in the specification of the inflation target are discussed. The second box presents an international comparison of inflation targeting practices, and the third box analyses the monetary policy transmission mechanism.

Box 1 Respecifying the inflation target

When inflation targeting was introduced in South Africa, the first target was specified as a calendar year average (for 2002) for CPIX inflation. Subsequent targets were also specified in terms of an average for a particular calendar year. In November 2003 the Minister of Finance announced that the calendar-year averaging would fall away and that the target would apply continuously. At the same time the Minister announced a change to the “escape clause”, which now becomes an “explanation clause”, whereby some flexibility is given to the Bank in the conduct of monetary policy within the new definition of the target. This box discusses some of the problems of the original specification, the rationale for the new specification, and then considers the question of whether a continuous target necessarily implies a stricter monetary policy.

Policy time horizons

In the conduct of monetary policy it is useful to distinguish between the control horizon and the target (or policy) horizon. The control horizon reflects the lag between a change in monetary policy and its full impact on inflation. This is determined by the structure of the economy. The target horizon is the horizon over which the policy-makers decide to focus their policy, or it is the period after which the central bank expects inflation to return to target after being hit by a shock. The target horizon is determined by the central bank. Generally the target horizon should not be shorter than the control horizon. For example, it would not be feasible to try to achieve a new target within 6 months (the target horizon) if monetary policy has a lag of say 18 months (the control horizon).

Most central banks specify a target horizon in line with their control horizon. Monetary policy should be forward looking, in line with the lag in transmission and should aim at the period over which it does have control. Although it is generally accepted that monetary policy should have a fairly constant target horizon, this could be made more flexible if circumstances require. For example, the Bank of Norway specifies the inflation target of 2,5 per cent over time: "A substantial share of the effects on inflation of an interest rate change will occur within two years. Two years is therefore a reasonable time horizon for achieving the inflation target of 2½ per cent ... If extraordinary circumstances induce the Norges Bank to apply a different time horizon than two years, the Bank will provide an assessment of this".

In South Africa the control horizon is estimated to be between 18 and 24 months. That is, the full effect of a monetary policy change is felt after this time. It should be noted however that this does not mean that the effects are only felt at the end of the period. It is estimated that about half the impact on inflation is felt after about nine months. Therefore the focus of policy is not only on the end point, but on the expected trend of inflation in future.

Why respecify the target?

The main problem with specifying the target as a calendar year average is that it introduces a variable target horizon and excessive variability of interest rates (and output) can be the result. As a particular calendar year-end gets closer, the target horizon in effect gets shorter, and there is more pressure to act in order to achieve the target for that particular calendar year. Eventually the target horizon gets shorter than the control horizon, and it is clear that monetary policy can no longer impact on a particular calendar year and has to look beyond it. A rolling average or a continuous target is more forward looking and allows monetary policy to focus on the control period of 18 – 24 months over which monetary policy operates.

It should be noted that the Bank did not in fact operate with a variable target horizon, but the calendar year average target complicated communication. For example, in the middle of 2001, the Bank's forecasts showed that the target should be achieved on average for 2002. By September of 2001 CPIX inflation had fallen to 5,8 per cent. However soon thereafter, the rand depreciated precipitously, and it became clear that the inflationary response to this would result in the target being missed in 2002. However, given the lags in monetary policy, by this time monetary policy was in fact already aiming at 2003.

Ex post and ex ante assessment of monetary policy

There is a distinction between ex ante and ex post assessment of monetary policy. Current inflation is a reflection of past policies and exogenous factors. Whether or not current inflation is inside the target is a (ex post) test of the success of past policies, as there is little that monetary policy can do about current inflation. (With calendar year averaging, the assessment is even more backward looking or delayed.) Thus in the specification of the target as being continuous, it implies that where current inflation is relative to the target, is an ex post assessment of policy, rather than an assessment of the appropriateness of the current monetary policy stance.

In assessing the appropriateness of the stance of monetary policy ex ante, we need to consider whether the current stance is consistent with maintaining the inflation rate within the inflation

target range over the coming two years or so. In other words, is the forecast inflation trend within the inflation target band? In principle, the inflation targeting policy rule suggests that interest rates should be set on the basis of the divergence of the central forecast from the inflation target. In reality, although this rule does guide policy formulation, the MPC does not follow it in a mechanical way. The models and the forecast are an important part of the process, but not the overriding consideration. As conditions in the economy change and as expectations change, the assumptions of the forecast will be continually changing, so the forecasts themselves are continuously reassessed. The further into the future, the more uncertain things are. Uncertainty will always be greatest around the end of the forecast period. This makes it impossible to apply the rule mechanically.

What does this mean for actual implementation?

Does this mean that monetary policy has to be tightened every time the measured inflation rate moves out of the target or that the new specification implies a stricter monetary policy? As argued above, if the measured inflation moves out of the target range, the important consideration is what the future trend of inflation is expected to be. If inflation is observed to be out of the target today, then it implies that monetary policy in the past has failed to achieve the target. Because it is outside the control period, there is little monetary policy can do, other than to ensure that the current stance of monetary policy is appropriate for achieving the target over the coming control period.

Under these circumstances, if the overall inflation trend is expected to remain out of the target for an extended period of time, the MPC will be expected to react. (Indeed, unless the move outside the target was totally unexpected, the MPC is likely to have reacted already.) However, if the expectations are that the inflation rate will return to the target range within a short period of time, then the MPC will not necessarily act. In this case it implies that monetary policy is appropriate on a forward-looking basis. It goes without saying that if the inflation rate is expected to be outside the target and to remain there, then monetary policy will need to react.

Whether or not the movement outside the target should be seen as a failure of monetary policy will depend to a large extent on the causes of the deviation from the target range. If the deviation is caused by a supply-side shock, for example an oil price increase with only first-round effects, monetary policy cannot be blamed. It is only if this increase is generalised in what are called “second-round effects”, and where inflation expectations are affected, that monetary policy should have reacted. It is not always easy to determine when a shock will indeed lead to generalised inflation. This is a judgement call for the monetary authorities.

The “explanation clause” as set out by the Minister of Finance gives the Bank some flexibility in reacting to current and expected supply-side shocks. As is set out in the November 2003 *Medium Term Budget Policy Statement*, “When the economy is buffeted by a supply side shock similar to those envisaged by the original escape clause that will take inflation outside the target range (e.g. an oil price shock, a drought, a natural disaster, or financial contagion affecting the currency), at the subsequent meeting of the Monetary Policy Committee, the SARB will fully inform the public of the nature of the ‘shock’, the anticipated impact on CPIX inflation and the monetary policy response to ensure that inflation returns to the target and the time frame over which this will occur.”

Conclusion

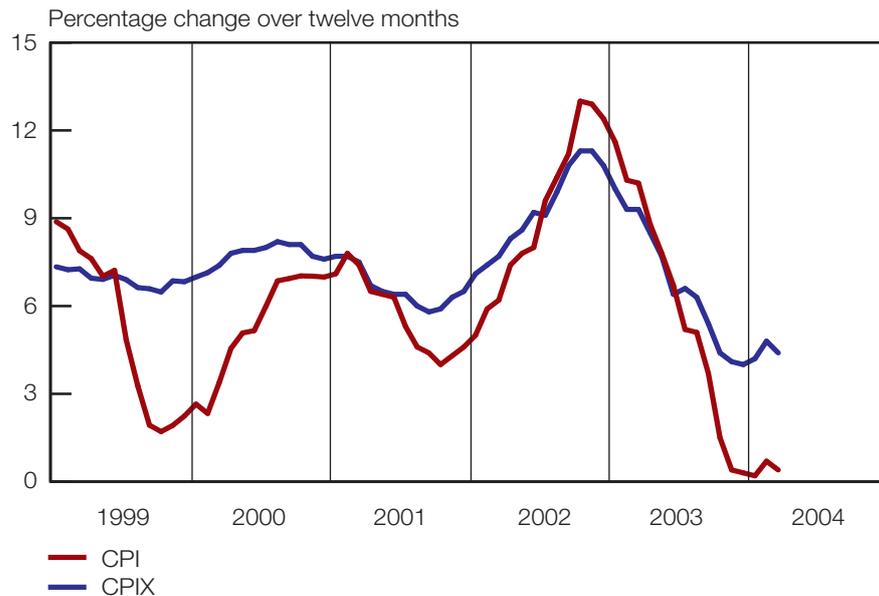
Although in principle a fixed calendar year target could lead to overactivism or undue complacency at times because of the variable time horizon it entails, this is not how the MPC behaved. Monetary policy has been consistently forward looking, but the averaging complicated the communication of monetary policy and the effective management of expectations. Although the new specification does appear to be a stricter requirement there is sufficient flexibility built into the system to accommodate this. The changes adopted in the inflation-targeting framework bring South Africa in line with international practice. Box 2 in this Review shows that most inflation-targeting countries have either adopted continuous targets or rolling averages over a number of quarters.

Recent developments in inflation

The evolution of indicators of inflation

After trending downward from the last quarter of 2002 to late in 2003, the main indicators of inflation appear to have started moving upwards. Figure 1 presents the twelve-month percentage changes in CPIX, the official measure for inflation targeting purposes, and in the headline consumer price index for metropolitan areas (CPI).

Figure 1 Consumer price inflation: CPIX and CPI



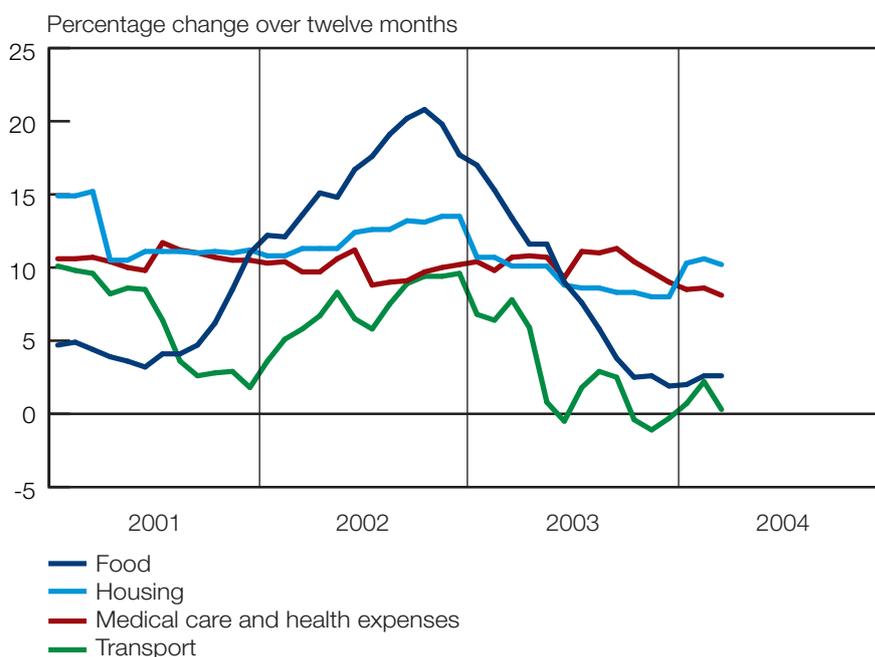
Source: Statistics South Africa

The CPIX inflation rate slowed from a peak of 11,3 per cent in October and November 2002 to 4,0 per cent in December 2003, before increasing to 4,8 per cent in February 2004. In March, CPIX inflation declined to 4,4 per cent, helped by base effects in the measurement of transport costs, a lower-than-expected increase in the education category and new favourable survey data on domestic workers' wages. In terms of the new continuous specification for the inflation target announced in November 2003, CPIX entered the 3 to 6 per cent inflation target in September 2003 (the new specification of the target is discussed in Box 1). Measured from quarter to quarter at seasonally adjusted and annualised rates, CPIX inflation fell from 13,0 per cent in the second quarter of 2002 to 1,1 per cent in the fourth quarter of 2003, and then rose to 7,5 per cent in the first quarter of 2004. The annual average CPIX inflation rate fell from 9,3 per cent in 2002 to 6,8 per cent in 2003.

Figure 1 shows that the CPI inflation rate fluctuated more than that of CPIX in the period under review, as a result of the monetary policy-induced interest rate changes included in the former index. The repo rate was increased by 400 basis points in the course of 2002, before being reduced by a total of 550 basis points in 2003. CPI inflation fell from 13,0 per cent in October 2002 to a low of 0,2 per cent in January 2004, before rising slightly to 0,7 per cent in February. The CPI inflation rate then declined to 0,4 per cent in March. Measured from quarter to quarter, the seasonally adjusted and annualised CPI inflation rate declined sharply from 14,2 per cent in the fourth quarter of 2002 to -2,1 per cent in the same quarter of 2003, and then increased to 2,0 per cent in the first quarter of 2004.

The inflation rates for some of the main components of the CPIX are shown in Figure 2 (food, housing, transport, medical care and health expenses are depicted). It is well documented that food prices, which have a weight of 25,7 per cent in the CPIX, have contributed significantly to recent trends in consumer price inflation. To date, developments in this component have largely reflected the influence of the appreciating exchange rate of the rand on import prices, overshadowing the influence of lower than normal rainfall over parts of the country in 2003 and concerns regarding shortfalls in agricultural production. In October 2002, food price inflation peaked at 20,8 per cent, contributing 5,3 percentage points to the overall CPIX inflation rate of 11,3 per cent. The inflation rate for this component has since fallen to a low of 1,9 per cent in December 2003 before rising to 2,5 per cent in March 2004.

Figure 2 Inflation rates for components of the CPIX



Source: Statistics South Africa

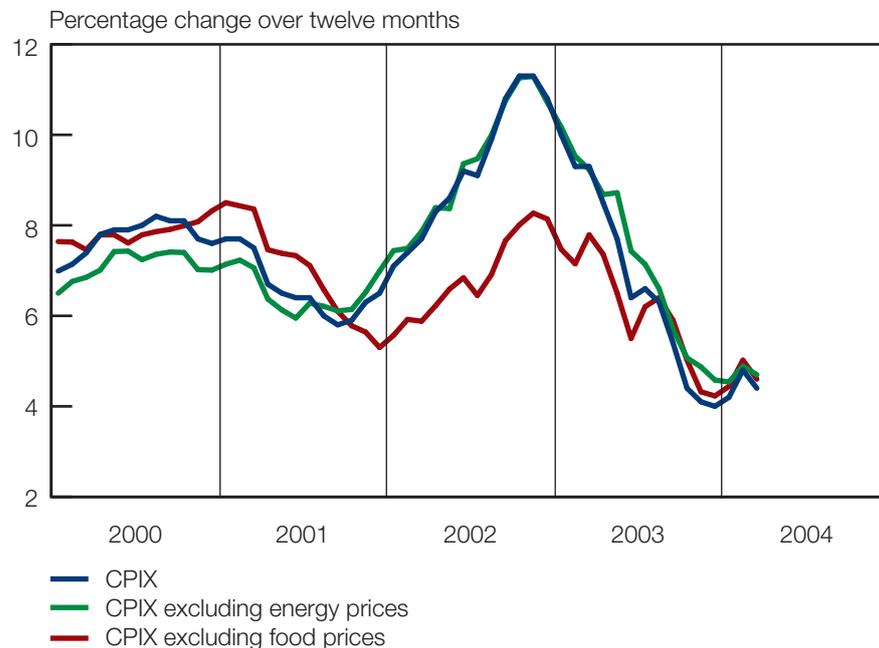
The fluctuations in the inflation rate for the transport cost component of CPIX, which comprises 15,3 per cent of the index, have also been associated with developments in the foreign exchange rate of the rand, a prime determinant of the level of the domestic crude oil price and the domestic petrol and diesel pump prices. Inflation for this component measured 9,6 per cent in December 2002, before declining to -0,5 per cent in June 2003. Subsequently it has oscillated between 2,9 and -1,1 per cent.

The inflation rates of the other components of CPIX inflation were relatively more stable. Recent inflation for the housing cost component ranged between 8,1 and 11,3 per cent, while that for medical care and health expenses declined from 13,5 per cent in November and December 2002 to 8 per cent in the corresponding months of 2003, before rising to 10,2 per cent in March 2004.

Figure 3 shows the effect of excluding energy and food prices from the CPIX measure of inflation. These components have been relatively volatile in recent times, and excluding them from the overall measure provides an indication of the underlying trends in inflation. The exclusion of energy prices from the CPIX has had little impact on the trend of inflation,

although these prices had a moderating effect on inflation in 2003. The twelve-month rate of increase in CPIX excluding energy prices fell from 10,7 per cent in December 2002 to 4,5 per cent in January 2004, before rising to 4,7 per cent in March. An examination of the inflation rate for the CPIX excluding food prices, by contrast, reveals the significant temporary effect that developments in food prices had on CPIX inflation. When food prices are excluded, CPIX inflation measured over twelve months peaked at 8,3 per cent in November 2002, compared with an 11,3 per cent peak for the overall index, before declining to 4,2 per cent in December 2003. The inflation rates for the overall index and for the indices measured after excluding energy and food prices have converged early in 2004, measuring 4,4, 4,7 and 4,6 per cent, respectively, in March.

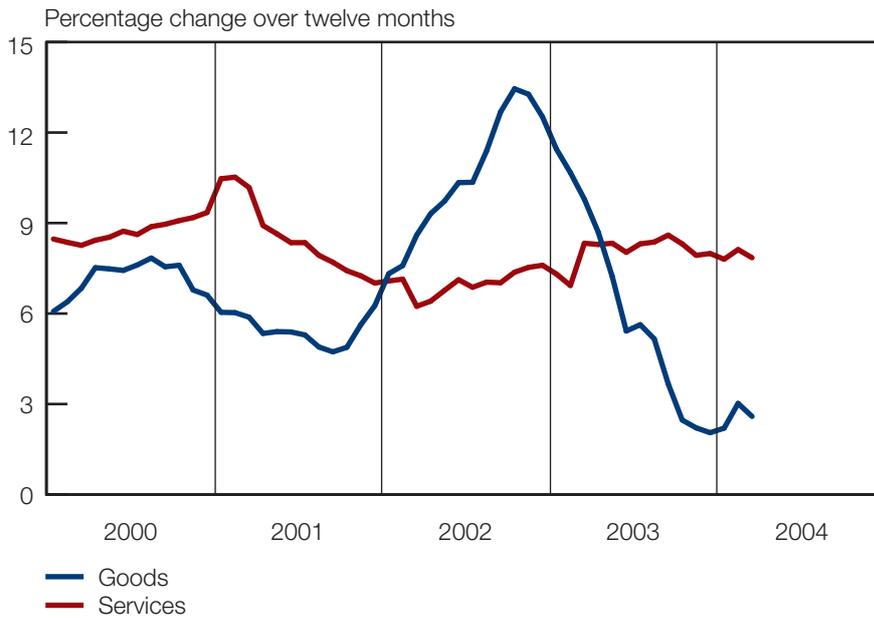
Figure 3 The effect of food and energy prices on CPIX inflation



Source: Statistics South Africa and SARB calculations

A further decomposition of inflation performance considers the goods and services components of the CPIX separately. Figure 4 shows that goods inflation, which has a larger imported component and therefore is more affected by exchange rate changes, fluctuated significantly more than services inflation, declining from a year-on-year level of 13,5 per cent in October 2002 to 2,1 per cent in December 2003. Prices of services, by contrast, have been fairly sticky, and the services' price inflation rate has exceeded the upper limit of the inflation target, although it has moderated recently. The inflation rate for this component of the index increased from 6,2 per cent in March 2002 to 8,6 per cent in September 2003, before slowing to 7,8 per cent in March 2004. Factors which have contributed to these above-target inflation rates include relatively high wage increases for domestic workers following the implementation of minimum wage legislation for domestic workers in September 2003, although this has moderated in March, and the performance of certain administered prices included in the services index.

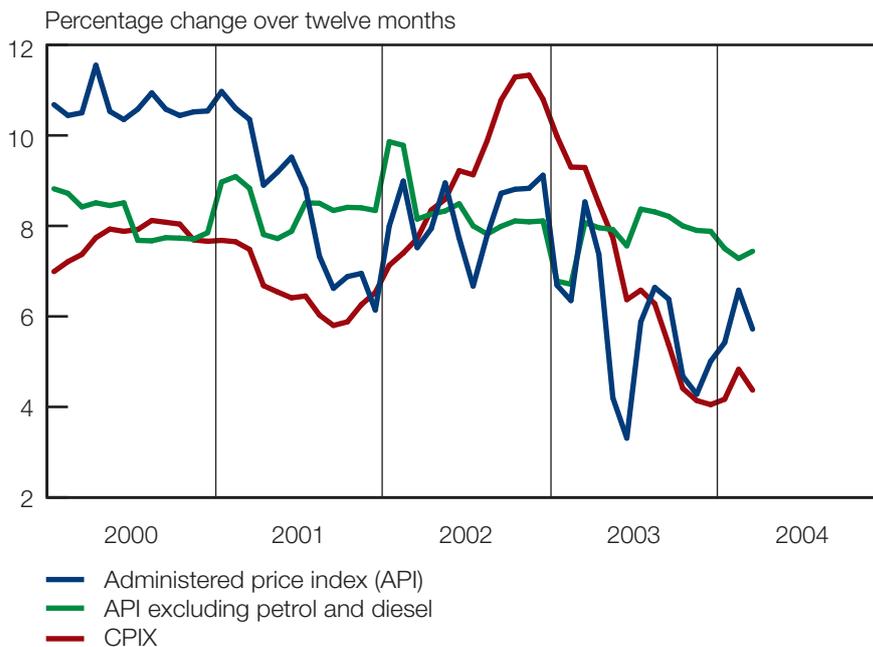
Figure 4 CPIX: Goods and services inflation



Source: Statistics South Africa

Administered prices have a significant weight in the CPIX, and their role in determining the inflation rate needs to be considered. Figure 5 reveals that increases in these prices have been relatively stable once petrol and diesel prices are accounted for, although they remain well above the upper limit of the inflation target. The year-on-year inflation rate for an index of administered prices excluding petrol and diesel declined from 8,4 per cent in July 2003 to 7,4 per cent in March 2004.

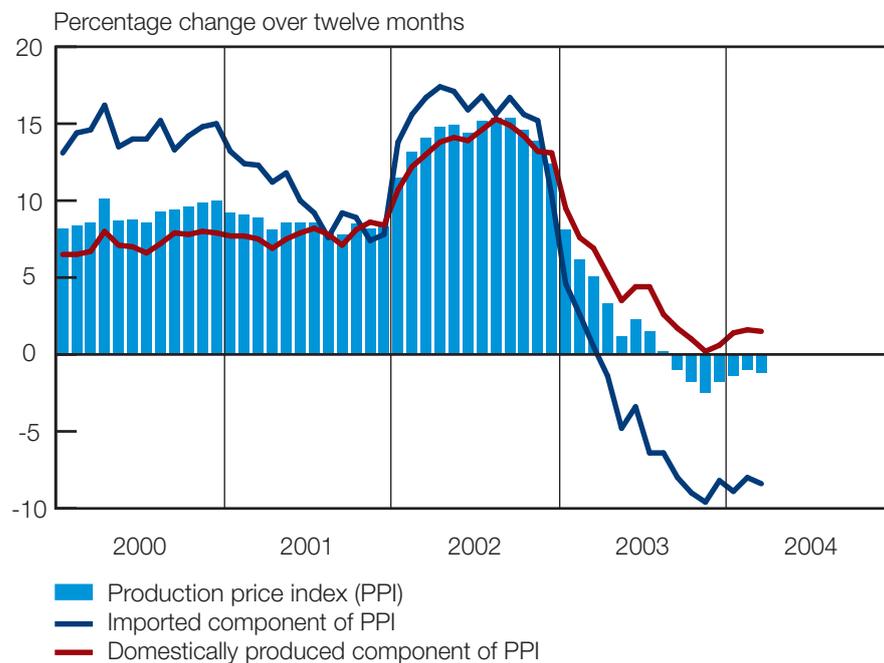
Figure 5 CPIX and administered prices



Source: Statistics South Africa and SARB calculations

The inflation rate measured in terms of the production price index (PPI) has been negative since September 2003. The rate of decline in the index slowed from -2,5 per cent in November 2003 to -1,0 per cent in February 2004 before rising slightly to -1,2 per cent in March. As Figure 6 shows, the decline in production prices has mainly been the result of developments in the prices of the imported component of the PPI. Influenced by the recovery in the external value of the rand and the low inflation rates of South Africa's main trading-partner countries, the inflation rate for this component fell below zero in April 2003 and has remained negative. It fell from 15,2 per cent in November 2002 to -9,6 per cent in November 2003, and has fluctuated between -8,0 and -8,9 per cent since then. The corresponding rate of inflation for the domestic component, by contrast, declined from 6,9 per cent in March 2003 to 0,2 per cent in November 2003, and then rose once more, recording 1,5 per cent in March 2004.

Figure 6 Production price inflation



Source: Statistics South Africa

The PPI inflation rate measured quarterly on a seasonally adjusted and annualised basis declined from 1,6 per cent in the third quarter of 2003 to -3,8 per cent in the final quarter of the year, and then showed no growth in the first quarter of 2004. The rate of decline for the imported component of the index slowed from -10,3 per cent in the second quarter to -7,0 per cent in the fourth quarter of 2003, before increasing again to -8,4 per cent in the first quarter of 2004.

Factors affecting inflation

Recent developments in some of the main drivers of inflation in South Africa are reviewed in this section. These include the external environment and the exchange rate, as well as domestic demand and output, fiscal policy and monetary conditions. The outlook for these variables, and their likely impact on inflation, are discussed later.

International economic developments¹

According to official data, the United States of America (US) economy has been in recovery from its mild 2001 recession since late in that year. However, until mid-2003 it was the weakest economic recovery recorded, with output growing at an annual rate of only 2,6 per cent in the period, less than half the usual recovery pace. Productivity growth was nevertheless surprisingly strong throughout this period, at 5 per cent per year according to the latest reading. The combination of these factors ensured that employment fell in each month from February to July 2003, a disappointing labour market performance that led many to question the sustainability of the US recovery.

¹ The quarterly growth rates referred to in this section are based on seasonally adjusted data.

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

	Real GDP	Inflation rates
	2003	2003
World.....	3,9	3,7
Advanced economies	2,1	1,8
United States.....	3,1	2,3
Japan	2,7	-0,2
Euro area.....	0,4	2,1
United Kingdom.....	2,3	1,4
Other advanced economies.....	2,2	1,8
Other emerging-market and developing countries	6,1	6,1
Africa	4,1	10,3
Central and eastern Europe	4,5	9,2
Commonwealth of Independent States	7,6	12,1
Developing Asia.....	7,8	2,7
Middle East	5,4	8,6
Western hemisphere	1,7	10,6

Source: IMF *World Economic Outlook*, April 2004

This scenario changed from mid-2003, with the second half of the year being characterised by a significant resurgence in economic growth in the US, fuelled by the cumulative effects of low interest rates, three large tax cuts, a falling exchange rate and the resumption in capital spending. Real gross domestic product (GDP) increased at an annual rate of 8,2 per cent in the third quarter of 2003, by 4,1 per cent in the fourth quarter and by 4,2 per cent in the first quarter of 2004. For the year 2003, real GDP increased by 3,1 per cent, compared with 2,2 per cent in 2002.

In the euro area, the recovery has been muted and economic growth in the fourth quarter of 2003 was weaker than expected. In addition, business and consumer confidence declined somewhat. The recovery has so far been mainly export driven, despite the appreciation of the euro, but domestic conditions are becoming more supportive. Output growth for 2003 as a whole was 0,4 per cent, below the 0,9 per cent recorded in 2002.

In contrast to the continued hesitant recovery in the euro zone, the UK recorded 2,3 per cent growth in 2003, and 2,4 per cent in the first quarter of 2004, and experienced significant employment growth. Consequently, British unemployment is the lowest of any Group of Seven country at 4,8 per cent, compared with 5,6 per cent in the US and an average of 8 per cent within the European Union. However, the biggest threat to Britain's long-term competitiveness is the fact that its productivity

growth is lower than that of the US, Germany and France. Productivity growth in the final quarter of 2003 was 1,8 per cent.

In Australia and New Zealand GDP growth remained strong throughout 2003. Australia grew by 3 per cent in 2003, and delivered unexpectedly strong growth of 5,5 per cent on an annualised basis in the fourth quarter. New Zealand's economy grew by 3,5 per cent in 2003, with final quarter year-on-year GDP growth of 2,4 per cent.

Most Latin American economies experienced improved growth in the latter part of 2003 as the region recovered from the recession of 2001 and 2002. Economic growth in Asia improved markedly in the course of 2003. Japan in particular has recently been performing better than at any time in the past decade. Japan's real GDP increased at an annualised rate of 6,4 per cent in the fourth quarter of 2003, the fastest quarterly growth rate in the past 13 years. This was the result of strong growth in exports and improved domestic demand as fixed capital formation rose sharply. The growth rate for 2003 as a whole was 2,7 per cent.

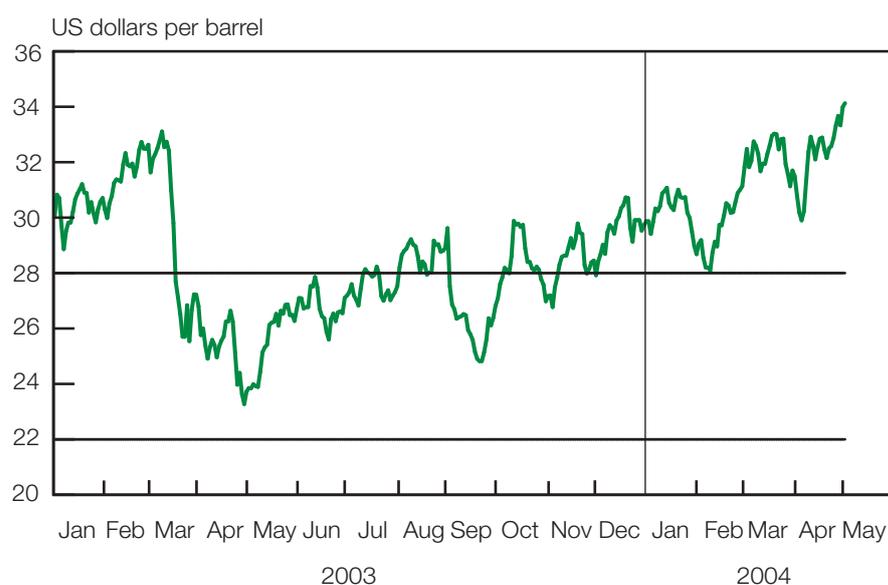
The latest information suggests that many economies in the region performed more strongly than anticipated. China, India, Thailand and Singapore showed robust growth. Much of this is a result of stronger domestic demand, though export growth made a significant contribution in most cases. China recorded real GDP growth of 9,1 per cent in 2003, its highest growth rate since 1997.

Africa experienced surprisingly resilient growth during the past year that reflects, among other things, improved macroeconomic policies in an increasing number of African countries. The region grew by 4,1 per cent in 2003, up from the 3,5 per cent recorded in 2002.

Oil prices

International oil prices measured in terms of the Organization of the Petroleum Exporting Countries (OPEC) basket have risen from just above US\$23 per barrel in April 2003 to around US\$34 per barrel early in May 2004 (Figure 7). In rand terms, the appreciation of the domestic currency has meant that the increase over the same period has been proportionately less, with a relatively flat trend and the price fluctuating in the R180 to R230 per barrel range since April 2003. The domestic price of petrol changed broadly in tandem with the price of imported crude oil: The pump price of 93 octane petrol in Gauteng declined marginally from R3,84 to R3,78 per litre between October 2003 and January 2004, but then increased to R4,08 in February and R4,17 in March. From 7 April the price rose to R4,39 per litre, partly as a result of the increase of 10 cents per litre in the fuel tax and the increase of 5 cents per litre in the Road Accident Fund levy announced by the Minister of Finance in his Budget Speech in February 2004.

Although OPEC traditionally tightens supplies early in the year in anticipation of weaker demand during the northern hemisphere summer months, most analysts had predicted that the organisation would refrain from cutting output early in 2004 as oil prices had remained above the group's preferred range of US\$22 – US\$28 per barrel since December 2003. At a meeting in Algiers in January 2004, OPEC energy ministers nevertheless agreed to reduce oil production quotas by 1 million barrels per day, starting in April 2004. Some OPEC members had been breaching quota limits and the cartel ordered members in breach of their quotas to immediately cut output by 1,5 million barrels a day. The two-stage cut will reduce OPEC's oil output by a total of 2,5 million barrels a day, or approximately 10 per cent of total OPEC production.

Figure 7 OPEC* basket price of crude oil

* Organization of the Petroleum Exporting Countries

Source: Bloomberg

The OPEC decision as well as continued low levels of crude oil inventories in member countries of the Organization for Economic Co-operation and Development (OECD), delays in restoring Iraq's oil production, and the US Energy Department's ongoing additions to their Strategic Petroleum Reserve contributed to crude prices increasing by about 15 per cent from December 2003 to March 2004 to levels around US\$34 per barrel. The oil price has also strengthened on increased political uncertainties in the Middle East, as well as concerns that the amount of proven reserves held by Western oil companies would shrink as others follow the Royal Dutch/Shell Group's lead in restating numbers.

World interest rates

Most central banks maintained or eased their monetary policy stance during the first half of 2003 as inflationary pressures remained subdued and economic growth failed to gather momentum. Although expectations of a global monetary tightening began to build in the second half of last year, Table 2 shows that countries are currently at differing stages of their interest rate cycles. Official interest rates have been raised in certain countries, some have lowered rates and still others have left them unchanged for the moment.

Monetary authorities in the UK and Australia cited the pick-up in the domestic economy, rapid growth in household borrowing and the global economic recovery as the main reasons for increasing their official interest rates in November and December 2003, respectively. Furthermore, as the world economic recovery became more broadly based and output continued to grow above trend, the Bank of England's Monetary Policy Committee became concerned in February 2004 that inflationary pressures might pick up over the next couple of years and raised its repo rate by 0,25 percentage points to 4,0 per cent. The Reserve Bank of New Zealand also raised its official cash rate in the beginning of 2004 by 0,25 percentage points to 5,25 per cent, and by a further 0,25 percentage points to 5,5 per cent on 29 April as inflationary pressures remained strong.

By contrast, a number of countries have recently lowered rates. The Bank of Canada lowered its target for the overnight rate by 25 basis points respectively in January 2004, in early March and again in April to reach a level of 2,00 per cent. Core inflation is projected to fall below 1,5 per cent in early 2004 before gradually moving back towards the 2 per cent target by the end of 2005. Lower domestic cost pressures and subdued economic activity also resulted in interest rate reductions in Hungary, Israel, Sweden and Brazil in recent months.

Finally, an important group of countries has left interest rates unchanged for the time being. The US Federal Open Market Committee, after lowering the federal funds rate to 1,0 per cent in a series of steps that ended in June 2003, has opted to keep its policy rate at this low level until the economy moves back towards higher levels of employment. Although the US economy has strengthened over the past few quarters, the labour market remains weak. The European Central Bank has also kept its policy rate unchanged at 2,0 per cent since early June 2003 as a result of its inflation outlook and its confidence that the current monetary policy stance provides sufficient support to the economic recovery in the euro area. The Bank of Japan has maintained its policy interest rate near zero, but has eased monetary policy several times during 2003 and again in January 2004 by increasing the target range for the outstanding balance on reserve accounts held by private financial institutions at the Bank of Japan.

Table 2 Key central bank interest rates

Per cent

Countries	1 Jan 2003	4 May 2004	Latest change (percentage points)	
United States	1,25	1,00	25 Jun 2003	(-0,25)
Japan	0,00	0,00	19 Mar 2001	(-0,15)
Euro area	2,75	2,00	6 Jun 2003	(-0,50)
United Kingdom	4,00	4,00	5 Feb 2004	(+0,25)
Canada	2,75	2,00	13 Apr 2004	(-0,25)
Denmark	2,75	2,00	6 Jun 2003	(-0,50)
Sweden	3,75	2,00	1 Apr 2004	(-0,50)
Switzerland.....	0,25 – 1,25	0 – 0,75	6 Mar 2003	(-0,50)
Australia	4,75	5,25	3 Dec 2003	(+0,25)
New Zealand	5,75	5,50	29 Apr 2004	(+0,25)
Israel	8,90	4,10	1 Apr 2004	(-0,20)
Hong Kong.....	2,75	2,50	26 Jun 2003	(-0,25)
Indonesia	12,93	7,42	25 Feb 2004	(-0,06)
Malaysia	5,00	4,50	21 May 2003	(-0,50)
South Korea	4,25	3,75	10 Jul 2003	(-0,25)
Taiwan	1,63	1,38	26 Jun 2003	(-0,25)
Thailand	1,75	1,25	27 Jun 2003	(-0,50)
India	6,25	6,00	29 Apr 2003	(-0,25)
Brazil	25,00	16,00	14 Apr 2004	(-0,25)
Chile.....	3,00	1,75	8 Jan 2004	(-0,50)
Czech Republic	2,75	2,00	1 Aug 2003	(-0,25)
Hungary	8,50	11,50	3 May 2004	(-0,50)
Poland	6,75	5,25	25 Jun 2003	(-0,25)
Russia	21,00	14,00	15 Jan 2004	(-2,00)

Source: National central banks

Box 2 Inflation targets: A survey of international specifications

Following the pioneering example of New Zealand, several countries have in recent years adopted inflation targeting as a framework for monetary policy. The choice of an inflation target presents a number of challenges. What price index should be targeted? At what level should the inflation target be set? Should the target be a point or a range? And what is the appropriate time horizon for monetary policy? While there are other requirements for successful inflation targeting, such as communication, institutional arrangements and so on, the cornerstone of the framework remains the target itself. This box provides a survey of the inflation targets which are specified by a number of inflation-targeting countries.

Table B2.1 conveys a sense of the variety of targets employed by inflation-targeting countries. In general, countries target either CPI or some measure of core inflation, although some make use of operational targets. In this case, CPI is sometimes retained as the officially targeted measure, mostly for its comprehensiveness, while other core measures are employed as operational targets. Canada and Sweden are examples of countries that use this arrangement.

Table B2.1 Selected economies with inflation-targeting frameworks

Country	Date adopted	Price index targeted	Current target	Horizon
Australia	April 1993 (approximately)	CPI ¹	2 – 3 per cent	Over the business cycle
Brazil	June 1999	Broad Consumer Price Index (IPCA)	5,5 (2004) and 4,5 per cent (2005) with a 2,5 per cent tolerance level	1 year ahead
Canada	February 1991	CPI ²	1 – 3 per cent, with a focus on the 2 per cent midpoint	6 – 8 quarters
Chile	September 1990	CPI	2 – 4 per cent, centered on 3 per cent	2 years
Czech Republic	December 1997	CPI ³	3 per cent with tolerance level of 1 per cent	20 months
Iceland	March 2001	CPI	2½ per cent with 1,5 per cent tolerance level	
Mexico	January 1999	CPI	3 per cent with a variability interval of 1 per cent	
New Zealand	March 1990	CPI ¹	1 – 3 per cent	Over the medium term
Norway	March 2001	CPI	2,5 per cent	2 years
Philippines	January 2002	CPI ⁴	4 – 5 per cent	2 years
Sweden	January 1993	CPI ⁵	2 per cent with 1 percentage point margin	4 – 8 quarters

Thailand	May 2000	Core CPI ⁶	0 – 3½ per cent
United Kingdom	October 1992	CPI ⁷	2 per cent with a 2 years ±1 per cent deviation triggering a public explanation

- 1 The RBA and RBNZ began using CPI instead of a core measure when mortgage interest cost was removed from CPI
- 2 Core CPI and CPIXFET are used as operational targets. Core CPI excludes the 8 most volatile components – fruit, vegetables, gasoline, fuel oil, natural gas, intercity transportation, tobacco and mortgage interest costs – and changes in indirect taxes from the CPI; and CPIXFET excludes food, energy and effects of indirect taxes
- 3 Previously used headline CPI excluding regulated prices and the direct impact of indirect taxes and subsidies
- 4 Core inflation is also considered when making monetary policy
- 5 Operational monetary policy is based on CPI excluding changes in indirect taxes, subsidies and house mortgage interest
- 6 CPI excluding raw food and energy prices
- 7 The EU Harmonised Index of Consumer Prices (HICP). Previously Retail Price Index excluding mortgage interest payments

Sources: Central bank websites, Pétursson, T.G. 2004. "Formulation of inflation targeting around the world", Central Bank of Iceland, Monetary Bulletin, 2004/1

The levels of inflation which are targeted also vary between countries. This is perhaps not surprising since the optimal level of inflation is not known with certainty. Mature inflation-targeting countries, which have inflation rates in the region of their long run levels, tend to have targets centred around 2 per cent. Economies which are on disinflation paths, by contrast, initially tend to set their targets in the neighbourhood of the inflation rates prevailing at the time of adopting inflation targeting and then adjust them downward over time. Brazil and the Czech Republic are cases in point.

Some countries set their targets as points and others as ranges or bands. Target ranges, which allow flexibility and acknowledge the uncertainty inherent in inflation forecast targeting explicitly, are specified by New Zealand, Australia, Canada, Chile, Thailand and the Philippines. Point targets, which may provide a more precise anchor for inflation expectations and a more specific target for monetary policy-makers, are preferred by Norway and the UK.

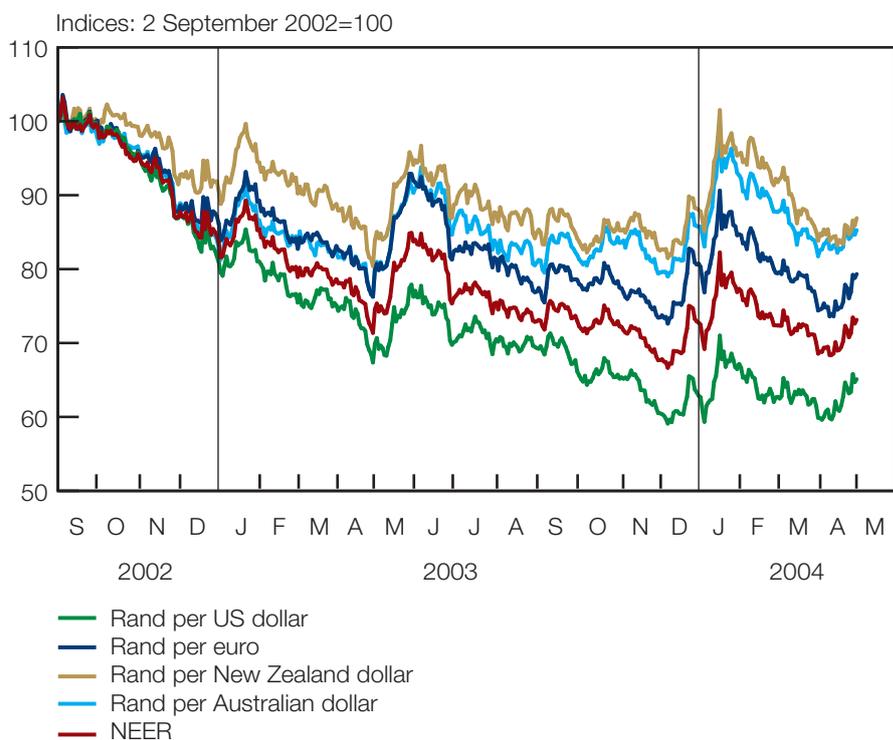
There are two aspects to consider regarding the choice of a horizon for the inflation target. The first concerns the length of time required for monetary policy to have its full impact on inflation, which is an empirical question for which the answer can vary from country to country. As argued in Box 1, the guiding principle should be that the target horizon cannot be shorter than the control horizon; if interest rates take around two years to impact fully on inflation, then the inflation target horizon should not be less than two years. The second aspect concerns the reaction function of the central bank. If the bank places more emphasis on inflation in its reaction function, the target horizon will be shorter. This forces the bank to act quickly if the target is threatened, and will result in larger output losses than would have been the case with a longer horizon. By contrast, central banks which set long horizons may be perceived to care "too much" about the output consequences of their policy decisions, and therefore risk losing credibility.

This therefore suggests that country-specific factors and policy preferences will determine the choice of target horizon. It is perhaps not surprising that in Table B2.1 countries on transition paths such as Brazil and the Czech Republic have opted for short target horizons, and established inflation targets for multi-year horizons. The standard trade-off between credibility and flexibility suggests that this would be the case.

Exchange rate developments

After the sharp depreciation experienced in 2001 and part of 2002, the exchange rate of the rand appreciated strongly against a basket of currencies between September 2002 and the beginning of May 2004 (Figure 8). The nominal effective exchange rate of the rand weakened in May – June 2003 and again in January 2004, but on each occasion strengthened once more to the April 2003 level. This behaviour of the rand has had a significant impact on the rate of inflation, as the earlier review of the main indicators of inflation illustrated.

Figure 8 Rand per US dollar, euro, Australian and New Zealand dollars and the nominal effective exchange rate of the rand (NEER)

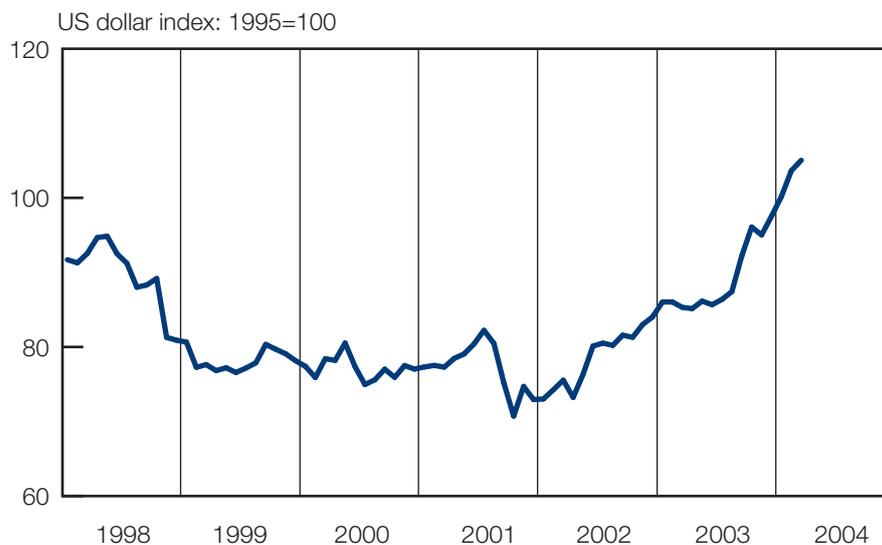


Besides the correction of the overshooting that occurred during the period of rand weakness, a number of factors help to explain this performance of the exchange rate. One reason for the appreciation of the rand is the continued weakness of the US dollar against a range of currencies. Over the period reviewed in Figure 8, for example, the rand strengthened significantly more against the US dollar than against the euro (moving from around R10,60 to R6,25 against the US dollar, and from R10,40 to R7,55 against the euro).

A further explanatory factor is the performance of commodity prices on international markets. Commodity prices, as measured by the Commodity Research Bureau (CRB) Spot Market Price Index (Figure 9), rallied strongly in the second half of 2003 and early 2004 because of the pick-up in the pace of economic activity, particularly in the United States and China, falling inventory levels for specific commodities, and the decline in the US dollar against other major currencies. In Figure 8 the rand appreciated least against the currencies of the commodity producers, Australia and New Zealand.

The rand's sustained performance has also been supported by improved international perceptions of the strength of South Africa's economic fundamentals, as evidenced for example by narrowing spreads on South African international bonds and improved credit ratings by the international credit-rating agencies. Other factors which have contributed to the continued strength of the rand include the positive, although narrowing, nominal interest rate differential between South Africa and foreign economies, and the conversion first of the negative net open foreign-currency position (NOFP) in May 2003 into a positive position, and the closing out of the Reserve Bank's oversold forward book during February 2004. This was achieved mainly through limited purchases of dollars in the market. Since February, these purchases have resulted in an increase in the foreign exchange reserves, which is expected to reduce the volatility of the rand.

Figure 9 Commodity prices: Commodity Research Bureau (CRB) Spot Market Price Index



Source: CRB

Labour markets

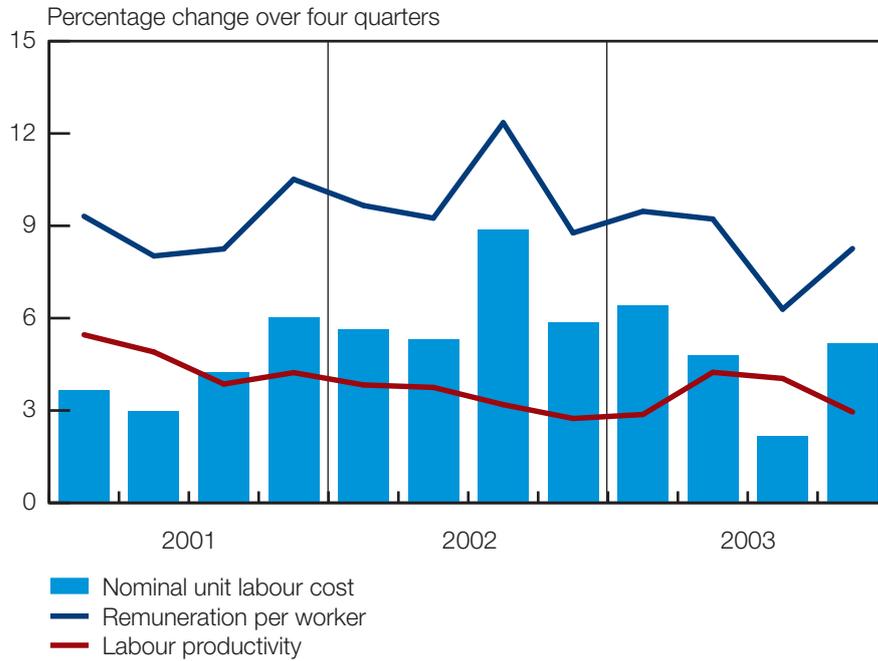
One way of assessing inflationary pressure arising from the labour market is to examine movements in nominal unit labour cost. Changes in unit labour cost are changes in money wages adjusted for changes in productivity and are derived as a differential of changes in nominal remuneration per worker and changes in output per worker. Labour cost is a major component of firms' total costs and have an important influence on output prices.

There have been positive developments in unit labour cost in the first three quarters of 2003, although these were somewhat reversed in the last quarter of the year (Figure 10). The change in unit labour cost measured year on year declined from a high of 6,4 per cent in the first quarter of 2003 to 2,2 per cent in the third quarter, reflecting a high base related to the timing of earlier salary increases. However, in the last quarter of 2003 growth in unit labour cost rose again, recording an increase of 5,2 per cent. This increase was due to a sharp increase in remuneration per worker accompanied by a slowdown in labour productivity growth. For the last three quarters of 2003, growth in unit labour cost was contained within the inflation target range.

As seen in Figure 11, the average annual wage settlement in 2003 was 8,9 per cent. This should maintain some upward pressure on unit labour cost. However, declining profitability, especially in the export sector, the lower level of measured inflation and the improved inflation outlook should moderate this year's settlements.

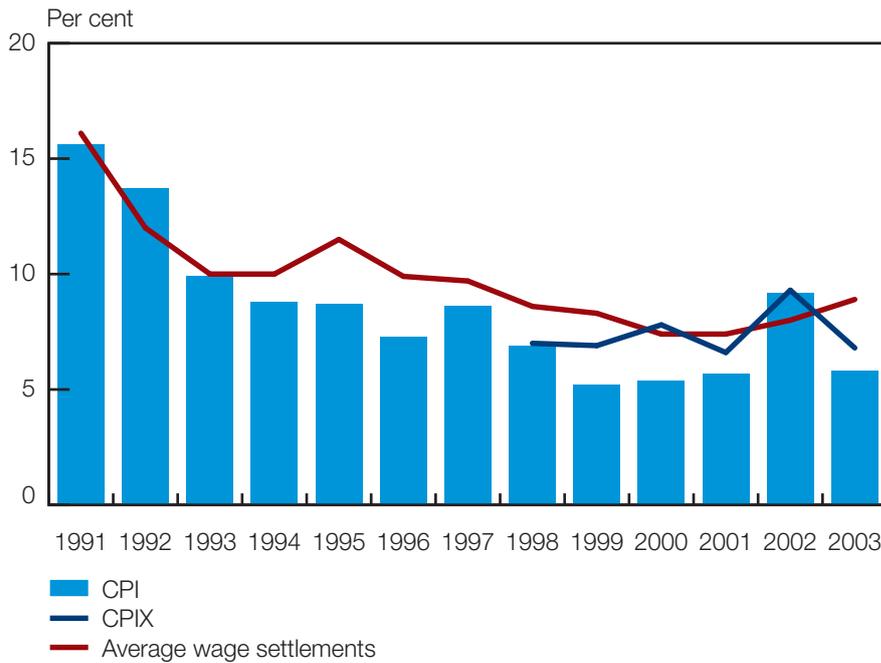
It is important to note that inflation is just one of a number of variables in the wage negotiation process. The strength of labour unions, skills shortages in some sectors and productivity gains may result in above-inflation settlements notwithstanding declines in inflation. Given its importance in the inflationary process, unit labour cost is monitored closely for monetary policy purposes.

Figure 10 Remuneration per worker, labour productivity and unit labour cost in the formal non-agricultural sector



Source: Statistics South Africa

Figure 11 Average annual inflation and wage settlements



Source: Andrew Levy Employment Publications and Statistics South Africa

Demand and output

After losing momentum in the first half of the year, growth in real GDP accelerated to 1,1 per cent in the third quarter and 1,3 per cent in the fourth quarter of 2003. Despite this slightly improved growth performance in the third and fourth quarters of 2003, the South African economy grew by only 1,9 per cent for 2003 as a whole, considerably slower than the growth rate of 3,6 per cent attained in 2002 (Table 3).

Table 3 Growth in real gross domestic product and expenditure components

Per cent

	2002	2003	2003	2003	2003	2003
		1st qr	2nd qr	3rd qr	4th qr	
Final consumption expenditure (households).....	3,2	2,6	2,9	3,9	4,2	3,0
Final consumption expenditure (government)	3,7	3,9	4,3	4,3	12,9	4,6
Gross fixed capital formation	6,1	5,1	3,0	7,3	8,3	8,4
Change in inventories (R billion).....	5,7	6,3	9,2	7,9	7,9	7,8
Gross domestic expenditure	4,7	2,5	3,7	4,7	7,2	4,2
Exports of goods and services	-0,8	-14,9	0,4	9,0	-9,1	-0,5
Imports of goods and services	3,4	-11,0	15,0	26,8	14,0	9,7
Gross domestic product	3,6	0,9	0,5	1,1	1,3	1,9

Quarterly data refer to quarter-on-quarter growth at annual rates of seasonally adjusted data

The slowdown in overall real economic growth in 2003 was due to the significant contraction in the value added by the agriculture and manufacturing sectors. The poor performance of agricultural output resulted from the adverse weather conditions that affected most of the country in 2003 and had a negative effect on both livestock and field crop production. In the case of manufacturing output, the contraction was largely due to the slow world recovery and the impact of the appreciation of the exchange rate of the rand, particularly on export-oriented subsectors.

The significant negative growth in manufacturing and agricultural output during 2003 largely offset the relatively strong growth performance in the value added by mining, construction, trade, accommodation, transport, communication, and community, social and personal service sectors. The solid performance of the construction sector was underpinned by strong demand for residential and non-residential buildings, while the trade and accommodation sectors continued to benefit from strong consumer demand for goods and services and buoyant tourism. Strength in the transport and communication sectors was mostly due to land transport and communication services.

On a quarterly basis, aggregate real gross domestic expenditure continued accelerating throughout 2003 and reached 7,2 per cent in the fourth quarter. Consequently, growth in real gross domestic expenditure for 2003 as a whole amounted to 4,2 per cent, just below the robust rate of 4,7 per cent attained in 2002.

The annual growth in real final consumption expenditure by households for 2003 amounted to 3 per cent, similar to the 3,2 per cent rate attained in 2002. The continued expansion in consumption expenditure by households was underpinned by rising consumer confidence and declining prices of various consumer items, tax reductions, interest reductions, a declining ratio of debt servicing cost to disposable income and fairly high real wage settlements. The year-to-year growth rate of total real gross fixed capital formation accelerated from 6,1 per cent in 2002 to 8,4 per cent in 2003 due to increases

in capital expenditure in the public sector in particular. Included here are Transnet's taking delivery of new aircraft and further expansion of the Coega development project. Real final consumption expenditure by general government increased by 4,6 per cent in 2003, a significant increase from the 3,7 per cent growth recorded in 2002. The ratio of final consumption expenditure by general government to GDP accordingly edged up for 2003 as a whole to 19,1 per cent compared with 18,7 per cent in 2002.

In the external sector of the economy, the volume of exports of goods and services declined by 0,5 per cent in 2003 while that of imports rose sharply by 9,7 per cent, reflecting the effect of the appreciation of the exchange rate and buoyant domestic demand.

Fiscal policy

The Budget presented by the Minister of Finance in February this year is moderately more expansionary than recent budgets, with the deficit projected to increase from 2,6 per cent of GDP in the 2003/04 fiscal year to 3,1 per cent in 2004/05 (Table 4). The deficit is projected to decline to below 3 per cent by 2006/07, which suggests a continued commitment to fiscal discipline and provides reassurance regarding the role of the fiscal deficit as a potential source of inflationary pressure.

The increase in the budget deficit is attributable to a combination of a decline in tax revenue and an increase in expenditure. The decline in tax revenue is a consequence of rand appreciation and the lacklustre growth in the global economy that has lowered the profitability of exporting firms. However, total revenue (tax revenue plus other receipts less Southern African Customs Union payments) is expected to remain stable at 24,7 per cent of GDP over the medium term. On the expenditure side, government's attempt to raise the level of economic growth, reduce unemployment and alleviate poverty has seen expenditure rising by 11,2 per cent to R368,9 billion in fiscal 2003/04. Both revenue and expenditure as a percentage of GDP are presented in Table 4.

Table 4 Public finance: Ratios to gross domestic product (fiscal years)

Per cent

	2002/03	2003/04	2004/05	2005/06	2006/07
	Actual	Budget estimates		Medium-term estimates	
National government					
Revenue	24,2	24,6	24,6	24,7	24,7
Expenditure	25,4	27,1	27,7	27,8	27,6
Deficit (-)	1,1	2,6	3,1	3,0	2,8
Total loan debt (net)	36,3	36,8	38,0	38,8	39,0
PSBR*	0,6	2,8	3,2	3,1	2,7

* PSBR: Public-sector borrowing requirement
Source: National Treasury *Budget Review* 2004

The increased budget deficit is also reflected in the larger public-sector borrowing requirement (PSBR) of 3,2 per cent of GDP, declining to 2,7 per cent in the medium term. The increase in the PSBR is due to the declining surpluses of non-financial public enterprises. After four years at relatively low levels, the PSBR increased from 0,6 per cent of GDP in 2003/04 to 3,1 per cent in the 2004/05 fiscal year, but is estimated to decline to 2,7 per cent of GDP in 2006/07.

Monetary conditions²

² Since the publication of the previous Monetary Policy Review, the Reserve Bank has revised the values of the monetary aggregates. Although negotiable promissory notes (NPNs) and negotiable certificates of deposit (NCDs) are close substitutes, the Reserve Bank's definitions of the monetary aggregates included the latter but not the former. To allow for shifts that have recently occurred between the two instruments, NPNs have been included in the revised monetary aggregates. The assessment presented in Table 5 is based on the revised data, which are explained in more detail in the March 2004 Reserve Bank Quarterly Bulletin.

The growth in the monetary aggregates has been relatively robust in 2003 and early 2004 (Table 5). The average twelve-month growth rate for M3 in 2003 was 13,0 per cent, and the aggregate grew by 14,9 per cent in February 2004 before slowing slightly to 14,0 per cent in March as increased government deposits counteracted increased net foreign assets and claims on the private sector. Quarter-to-quarter, annualised growth in seasonally adjusted M3 slowed from 19,8 per cent in the second quarter of 2003 to 6,6 per cent in the final quarter, and then rose to 18,9 per cent in the first quarter of 2004. Growth in the M2 aggregate averaged 14,7 per cent in 2003, and measured 15,0 per cent in March 2004. Measured quarterly on the same basis as M3, growth slowed from 23,5 per cent in the second quarter of 2003 to 8,7 per cent in the final quarter of the year, and then increased to 13,6 per cent in the first quarter of 2004.

Table 5 Percentage change in monetary and credit aggregates

Per cent

Period	M1A	M1	M2	M3	Total loans and advances **
Quarterly change*					
2002: 1st qr	14,4	54,2	45,6	40,1	14,1
2nd qr	16,2	21,8	17,2	21,7	9,3
3rd qr	22,5	-1,0	0,5	8,8	6,3
4th qr	-2,1	0,3	16,9	12,6	7,2
2003: 1st qr	-0,4	-1,4	14,7	11,6	12,4
2nd qr	0,8	-3,7	23,5	19,8	22,3
3rd qr	12,9	1,3	15,2	9,2	8,4
4th qr	17,1	25,1	8,7	6,6	7,2
2004: 1st qr	40,7	37,6	13,6	18,9	12,6
Twelve-month change					
2003: Jan	11,4	6,4	13,6	14,4	8,8
Feb	8,1	2,9	12,5	13,2	9,1
March	4,0	2,8	10,7	12,3	9,5
April	7,2	2,8	15,4	15,1	12,8
May	2,2	-3,9	13,6	12,1	11,7
June	4,6	-2,5	17,2	14,5	12,7
July	3,2	0,0	18,6	14,2	13,1
Aug	1,0	-2,0	15,9	12,0	12,0
Sept	2,9	-1,4	15,9	12,4	11,6
Oct	9,3	3,2	13,0	9,0	12,3
Nov	6,8	4,2	14,7	11,9	13,0
Dec	10,5	7,5	15,2	12,3	12,4
Average	5,9	1,7	14,7	12,8	11,6
2004: Jan	15,5	12,4	14,5	12,3	12,4
Feb	22,1	18,7	16,6	14,9	12,5
March	14,9	13,8	15,0	14,0	12,3

* Quarterly data refer to quarter-on-quarter growth at annual rates of seasonally adjusted data

** Total loans and advances to the domestic private sector. Investments and bills discounted are excluded

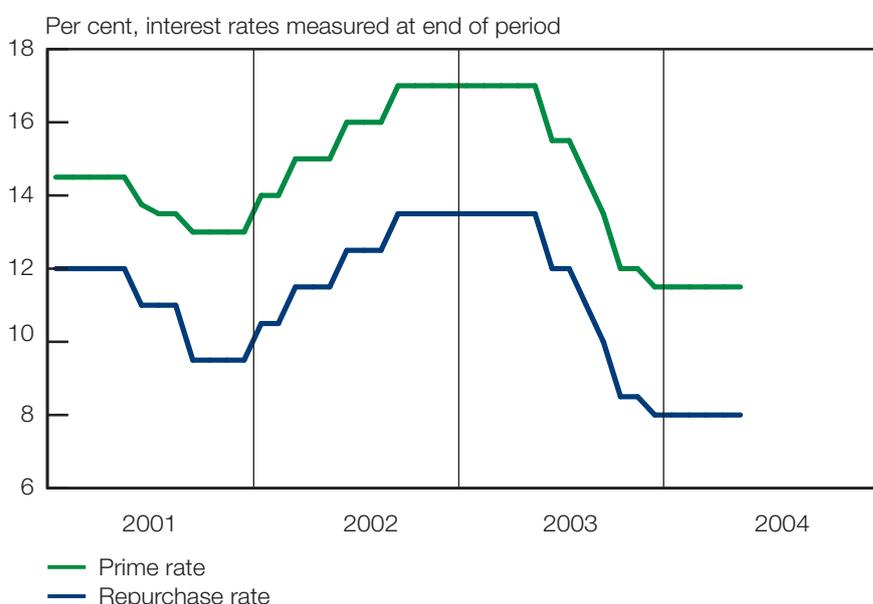
The growth in the narrower monetary aggregates M1A and M1 picked up towards the end of 2003, but nevertheless averaged 5,9 and 1,7 per cent on a year-on-year basis, respectively, in 2003. In March 2004, growth for M1A was 14,9 per cent and for M1 13,8 per cent. On a quarterly basis, the growth rate for M1 amounted to 25,1 per cent in the final quarter of 2003 and to 37,6 per cent in the first quarter of 2004. The growth rate of M1A rose by 17,1 per cent and 40,7 per cent in the same quarters.

Total loans and advances to the domestic private sector were bolstered by lower interest rates, wealth effects related to rising property prices and higher real disposable income in 2003. The twelve-month rate of increase has been around 12 per cent since April 2003, recording 12,3 per cent in March 2004. The quarter-on-quarter growth rate slowed, however, from 22,3 per cent in the second quarter to 7,2 per cent in the final quarter of 2003, before increasing to 12,6 per cent in the first quarter of 2004.

Monetary policy

Three meetings of the MPC have been held since the publication of the November 2003 *Monetary Policy Review*. In contrast to the previous meetings when the repo rate was reduced by a total of 500 basis points, the recent meetings have produced less movement in rates. In the December meeting, the repo rate was reduced by 50 basis points to 8 per cent, and since then the level of the repo rate has remained unchanged (Figure 12).

Figure 12 The repo and prime interest rates



At the time of the December meeting, CPIX inflation had declined to 4,4 per cent (for October) and there were expectations that this trend had not yet bottomed out. This positive short-term outlook was due in part to the favourable developments in the PPI where the inflation rate was negative. These developments, combined with positive base effects, were expected to maintain the downward trend of CPIX inflation in the short run.

The longer-term outlook for inflation was also seen to be positive. The world economic recovery was not expected to have an immediate or significant impact on world inflation, and the strong international commodity price increases resulting from this recovery were expected to have a positive impact on South Africa's export earnings and the exchange rate. There was, however, an expectation that the world interest rate cycle would begin to trend higher. At that point oil prices did not appear to be a major concern, and in fact the expectation was for a continued moderation in oil prices.

Most domestic indicators also pointed to a positive inflation outlook. The relatively low output growth and the low level of manufacturing capacity utilisation confirmed that

output was well below the country's growth potential. Money supply growth remained low, although credit extension was increasing at a rate of around 12 per cent per annum. Fiscal policy was expected to remain disciplined and inflation expectations had come down significantly.

Given this favourable background, there was a general expectation in the market that the repo rate would be reduced by at least 100 basis points at the December 2003 meeting. The MPC, however, felt that there were sufficient factors to justify a more modest reduction of 50 basis points. The Bank's inflation forecasting model indicated that inflation was expected to edge up in the course of 2004, although it was expected to remain below the upper limit of 6 per cent. This reversal in the expected inflation trend could be attributed to the strong growth in domestic final demand, in part as a result of the previous repo rate reductions. Other risk factors included a threat to food prices as a result of the continuing drought, uncertainties related to the exchange rate of the rand, and the possible increase in unit labour cost as a result of the high nominal wage settlements.

By the time of the February 2004 MPC meeting, the CPIX inflation rate was still below the mid-point of the inflation target range, having fallen to 4,0 per cent in December before rising to 4,2 per cent in January. As usual, however, the committee's focus was on the expected trend of inflation, which, as was the case in the previous meeting, was expected to edge up towards the upper end of the target range. The decision not to change the repo rate at this meeting was to ensure that the inflation rate would remain within the target band over the next two years. At this point inflation was projected to accelerate moderately during 2004 to close to the upper limit of the target, followed by somewhat slower rates of increase during 2005.

Positive factors identified by the MPC were similar to those that prevailed in the previous meeting, but in addition the low recommended tariff increases of some public utilities were noted. On the negative side the continued drought was seen as a major threat to the maize and grain crops, with negative implications for food prices in general. It was also emphasised that even if the effect on food prices was small, it was unlikely that the positive impact that food prices had on the lowering of the inflation rate during 2003 would occur again in 2004. Although money supply growth remained relatively subdued, the MPC continued to monitor the growth in domestic demand, which was financed to some extent by bank credit extension.

CPIX inflation had risen to 4,8 per cent (for February) by the April 2004 meeting of the MPC. Although the inflation rate appeared to be on an upward trend, the move was in fact slightly less than the Bank's inflation projections. The inflation forecast presented to the committee, which is reproduced later in this Review, was similar to that shown at the previous meeting. The central projection of the forecast shows that CPIX inflation is likely to approach the upper limit of the target, whereafter it is expected to moderate and remain within the target range.

The pressures that can be expected on CPIX were seen to be mainly related to exogenous developments, such as changes in energy prices, indirect taxes and food prices. These pressures were similar to those prevailing at the previous meeting, although the threat from food prices had dissipated somewhat. Widespread rains had improved the outlook for the maize crop, leading to a fall in these prices. Conversely, oil prices were seen to be more of a threat to inflation, although this was identified as a short-term risk only. It has been noted in the past that monetary policy does not in general react to exogenous shocks. However, if these effects result in a more generalised impact on inflation, some reaction would be called for. Any monetary policy response to these exogenous factors would depend on

how the MPC viewed the possible second-round effects. At the April meeting, the view was that the second-round effects of these increases are expected to be small.

Other factors identified by the committee as contributing to the favourable inflation outlook included the negative PPI inflation, low expected world inflation, and low levels of capacity utilisation. Utilisation of productive capacity in manufacturing was 79,6 per cent in the fourth quarter of 2003. Particularly noteworthy was the reported decline in inflation expectations, as evidenced in the latest Bureau for Economic Research survey that is reported on later in this Review.

The MPC highlighted a number of uncertainties that could impact on the inflation outlook. The higher domestic demand has had an impact on imports and therefore on the current-account deficit. Despite South Africa's terms of trade having improved as a result of the increase in commodity prices, export volumes had disappointed. Although the financial account had been comfortably financed, a widening deficit was seen as a threat to the inflation outlook through its possible impact on the exchange rate of the rand.

Also emphasised were developments in nominal unit labour cost. Although the rate of increase of these costs had declined from 6 per cent in 2002 to 5 per cent in 2003, the salaries and wages per worker still increased at a rate of 8,6 per cent. Other threats to the inflation outlook were the stronger trend in monetary growth and the threat of increased international instability which could pose a threat to low inflation and growth in emerging-market economies. The decision not to change the repo rate at this stage was in line with market expectations.

Box 3 The transmission mechanism of monetary policy

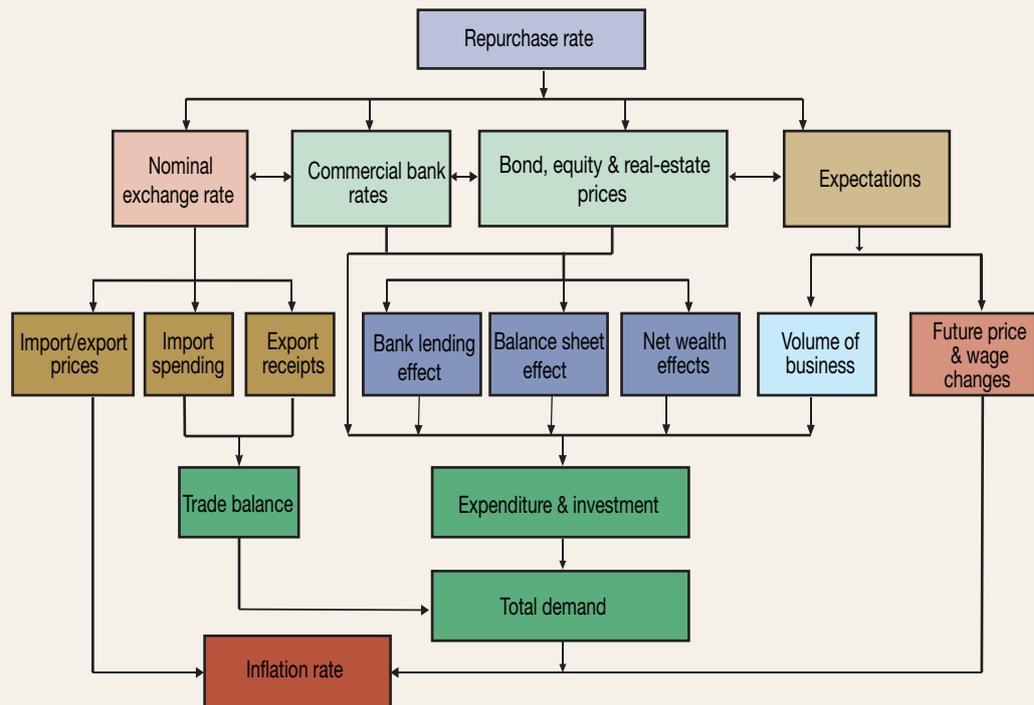
The transmission mechanism describes how changes in monetary policy affect output and inflation. Although there are a number of explanations of this mechanism, the precise channels which operate and how they coexist and evolve over time are not known with certainty. Figure B3.1 presents a stylised depiction of the key linkages in the transmission mechanism.

Economic theory suggests that in the long run, when prices are flexible, money should be approximately neutral, with changes in nominal money being reflected in nominal prices rather than in real output. It is in the short and medium term, when rigidities may prevent the full adjustment of wages and/or prices, that money will have real effects. It is within this context that the transmission mechanism is discussed.

The stylised depiction of the mechanism in Figure B3.1 serves as a useful expositional device. For the sake of simplicity, it concentrates on the major links, and omits certain interactions between the variables and does not provide quantitative information about the size and timing of effects.¹ Consider, for example, a tightening of the monetary policy stance, say in response to new forecasts of inflation above the upper limit of the target range. The instrument of monetary policy in South Africa, the repurchase (repo) rate at which the central bank refinances the liquidity requirement of the banking sector through repurchase agreements, is therefore raised. Assuming that this increase was unanticipated and that it is not expected to be reversed soon, the repercussions of this monetary policy action may be traced out in Figure B3.1.

The first stage of the mechanism involves the impact of this change in the repo rate on other interest rates and asset prices. The interest rates faced by firms and households that borrow and lend are not the repo rate itself, but the rates of the commercial banks. However, the strong link between the repo rate and commercial bank rates ensures that domestic banks adjust their rates by an amount similar to the policy change. Mahadeva and Sinclair (2001) explore econometrically the long-run relationship between official interest rates and interest rates on loans and deposits in a number of countries, and obtain coefficients of 0,935 for deposit rates and 1,006 for loan rates in the case of South Africa². So, given time, retail rates respond about one to one to the repo rate.

Figure B3.1 The monetary policy transmission mechanism



The change in the repo rate also impacts on the prices of assets such as bonds, equities and real estate. Bond prices are inversely related to long-run interest rates, which the expectations theory of the term structure suggests depend on the average of current and future expected short-term rates. The prices of equities may slip in response to the increase in interest rates as expected future returns are discounted by a larger factor. Real-estate prices will also be negatively affected by the higher mortgage interest rates, as well as being affected by yields on other asset classes.

A further effect of the change in the repo rate will be on nominal exchange rates. The increase in the repo rate, which widens the gap between domestic and foreign interest rates, would tend to make rand-denominated assets relatively more attractive. The exchange rate of the rand will therefore tend to appreciate to equilibrate expected returns on domestic and foreign assets.

The role played by the expectations of economic agents in determining the impact of monetary policy changes is difficult to restrict to a particular channel in Figure B3.1. Repo rate changes impact on expectations regarding future developments in economic variables, which in turn influence many of the channels identified in the figure. Besides the downstream effects examined below, the roles of expectations of future interest rates and exchange rates in this first stage of the mechanism have already been noted.

The second stage of the transmission mechanism depicted in Figure B3.1 focuses on the repercussions of these changes to interest rates and asset prices on aggregate expenditure and the external trade account. A direct effect from the interest rate increase to consumption expenditure (especially on durables) is identified here, as well as net wealth effects resulting from the changes to asset prices. As discussed earlier, the increase in the repo rate lowers equity and real-estate prices, and the resulting reduction in wealth will tend to decrease spending. Similarly, firms which rely on loans whose rates respond to the repo rate will be affected by the increase in this rate, and would be expected to delay their investment plans. Investment spending will also drop when equity capital becomes more expensive.

Asymmetric information in financial markets provides a basis for further effects on expenditure which operate through bank lending and the balance sheets of firms and households. The first of these implies that a tightening in monetary policy reduces bank reserves and bank deposits, thus reducing the amount of loans granted, and investment and consumer spending financed by them. The second, the balance sheet effect, is based on the view that the lower the net worth of firms and

households, the more severe the adverse selection and moral hazard problems are of lending to them and also on the fact that the fall in the value of collateral squeezes loan supply as well. The contraction in monetary policy discussed here lowers asset prices and collateral available for loans, exacerbating these problems for banks and reducing their willingness to lend.

An external effect of the exchange rate on the trade balance is also identified in Figure B3.1. If the nominal exchange rate appreciates because of the increase in the repo rate, this will impact on import spending and export receipts and hence on total demand. Imports will be relatively cheaper in domestic currency terms, stimulating import spending, while the higher foreign currency price of exports should reduce export receipts. The trade balance may therefore deteriorate, contracting total demand further. In time, however, the contraction in domestic expenditure will also impact on import spending, working in the opposite direction to this effect.

The final stage in Figure B3.1 concentrates on the impact of the various channels on inflation. All else being equal, the contraction in total demand will reduce output relative to its potential level, and this will, in turn, slow the rate of increase in the price level relative to its trend. It will also reduce the rate of wage increases in the labour market. These effects are supplemented in the figure by a direct effect for price and wage expectations to influence the inflation process, and also a direct channel for the appreciation-induced reduction in traded goods prices to pass through to lower domestic inflation. Together, these channels transmit the effect of an increase in the repo rate to ultimately lower output and inflation.

A cut in the repo rate, by contrast, say in response to new forecasts of inflation below the target range, works through the transmission mechanism to raise the inflation rate. The commercial banks' rates fall in response to the cut in the repo rate, stimulating consumption and investment spending, and bond, real-estate and equity markets strengthen, with similar consequences. The exchange rate of the rand may ease, strengthening net exports. Aggregate demand therefore expands relative to productive potential, which tends to raise pay increases and price inflation. The exchange rate pass-through effect and the impact on expectations of future wage and price increases will reinforce these effects, together raising output and ensuring inflation returns to the target range in due course.

- 1 *The October 2001 Monetary Policy Review presents a discussion of the results from a simulation model illustrating the magnitude and time path of the effects of a change in the repo rate, based on Smal, M M and de Jager, S. 2001. "The monetary transmission mechanism in South Africa", South African Reserve Bank Occasional Paper No 16, September. The results 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.*
- 2 *Mahadeva, L and Sinclair, P. 2001. "The Transmission Mechanism of Monetary Policy". Centre for Central Banking Studies, Bank of England, June.*

The outlook for inflation

The view of the MPC is that CPIX inflation will move towards the upper limit of the inflation target range before moderating and remaining within the target range. The outlook and uncertainties relating to some of the factors that are incorporated in this projection are discussed below.

International outlook

The world's economic recovery now appears to be broadly based, although the nature of the upturn differs between regions. With global GDP growth having averaged nearly 6 per cent on an annualised basis in the latter half of 2003 – the highest rate achieved since late 1999 – and the balance of risks improving, the challenge for industrial countries will be in sustaining growth and then limiting expansionary policies once recovery is well established.

The improving global outlook has resulted in the IMF revising upward its projections for world output growth (Table 6). Global GDP growth is now projected to reach 4,6 per cent in 2004 and 4,4 per cent in 2005, in both cases an increase of 0,6 percentage points on the September 2003 forecast.

Table 6 IMF projections of world growth and inflation for 2004 and 2005

Per cent

	Real GDP		Inflation	
	2004	2005	2004	2005
World.....	4,6	4,4	3,5	3,2
Advanced economies	3,5	3,1	1,7	1,7
United States	4,6	3,9	2,3	2,2
Japan.....	3,4	1,9	-0,4	-0,1
Euro area	1,7	2,3	1,7	1,6
United Kingdom	3,5	2,5	1,6	1,8
Other advanced economies.....	3,6	3,5	1,7	2,0
Other emerging-market and developing countries ..	6,0	5,9	5,7	5,0
Africa	4,2	5,4	8,6	6,7
Central and eastern Europe	4,5	4,4	6,9	5,5
Commonwealth of Independent States	6,0	5,2	10,3	8,8
Developing Asia	7,4	7,0	4,0	3,6
Middle East	4,1	5,0	8,9	8,1
Western hemisphere	3,9	3,7	6,2	5,6

Source: IMF *World Economic Outlook*, April 2004

The US economy is accelerating sharply and the IMF projections are for growth of 4,6 per cent in 2004 and 3,9 per cent in 2005. This is roughly in line with the US Congressional Budget Office's forecast that real GDP will grow by 4,8 per cent in 2004 and by 4,2 per cent in 2005, and that the unemployment rate will fall to 5,8 per cent in 2004 and 5,3 per cent in 2005. While sceptics point to ongoing imbalances in the US economy such as the large Federal budget deficit, the large current-account deficit, and very low personal saving, in the short run they are likely to be overwhelmed by the cyclical momentum.

Japan's recent growth performance has been stronger than expected, although there are concerns regarding the sustainability of growth. GDP growth is projected at 3,4 per cent in 2004 before slowing to 1,9 per cent in 2005. In Europe, there are some encouraging signs of an upturn, although the pace of recovery is likely to be moderate when it eventually gathers momentum. Growth is forecast at 1,7 per cent in 2004 and 2,3 per cent in 2005. Stronger external demand will help accelerate growth, but further appreciation of the euro could hinder an upturn.

The prospects for emerging-market economies are generally improving, though there are also considerable regional differences. Emerging Asia remains the world's fastest-growing region. China, in particular, grew at 9,1 per cent in 2003, and is anticipated to grow at 8,5 per cent and 8,0 per cent in 2004 and 2005, respectively. The regional and global effects of this growth are significant. For example, 50 per cent of South Korea's exports go to China, and for Japan that figure is 11 per cent. There are indications, however, that China could begin to rein in growth.

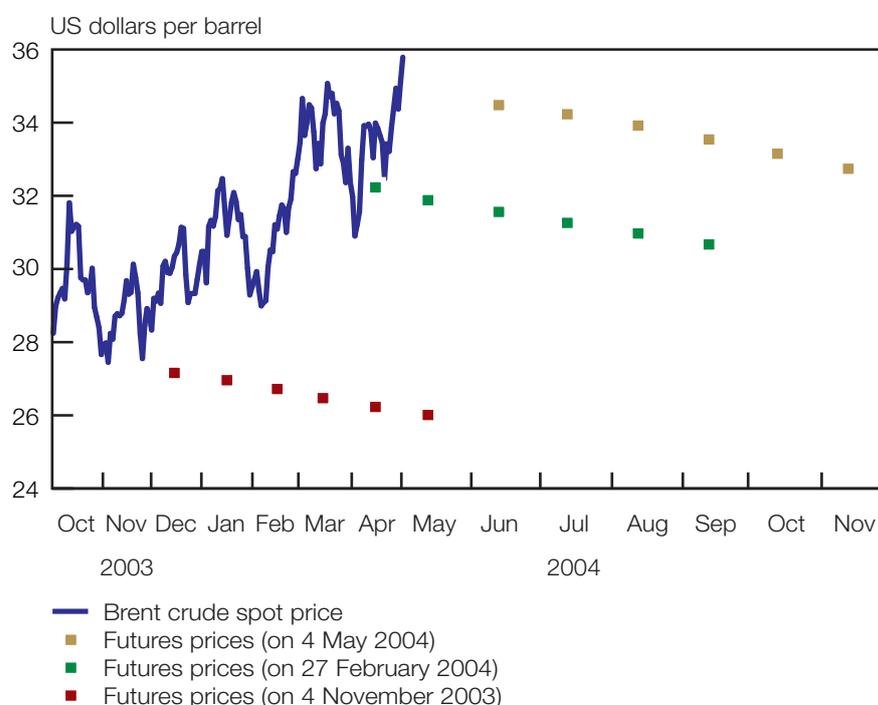
Developing countries in the Caribbean and Latin America are also expected to see an acceleration in growth. In the Middle East, relatively robust growth is anticipated, but the recent resurgence in geopolitical tensions could serve to derail the more favourable outlook. Economic growth in Africa is expected to be 4,2 per cent in 2004, rising to 5,4 per cent in 2005, although the risks to forecasts of growth tend to be significant.

The projections in Table 6 suggest that the outlook for inflation remains benign. Of the regions in the table, double-digit inflation is forecast only for the Commonwealth of

Independent States, and in this case only for 2004. The US, despite recent rapid GDP growth and the depreciation of the US dollar, still has relatively low inflation, labour markets remain relatively sluggish and productivity growth remains high. In the euro area, inflation has been relatively sticky but inflation pressures are likely to be restrained by weak domestic demand, continued wage moderation and a stronger currency. Global inflation, with very few exceptions, remains subdued.

The more rapid global recovery combined with developments in the foreign exchange markets have, however, impacted on commodity prices. As Figure 13 and the earlier discussion in this Review reveal, oil prices have risen in recent months contrary to the decline implied by futures prices in November 2003 at the time of the previous publication of the *Monetary Policy Review*. The outlook for international oil prices provided by the futures price for Brent crude oil is for slightly lower prices in the coming months, although the level of the implied prices is above those provided in November and in February.

Figure 13 Brent crude oil spot and futures prices



Source: Bloomberg

Although the higher-than-expected oil prices in recent months are likely to contribute to inflationary pressures in the months ahead, OPEC has indicated that it may raise its production quota if demand for oil does not decline as expected. A prime concern of OPEC ministers is that a glut of oil could put pressure on prices in coming months. An important factor contributing to a supply increase, however, is the fact that prices have stayed high long enough to encourage more production. At the same time that supply is growing, the increase in demand has also been significant. Oil consumption has been increasing 6 per cent per year in China and the improved growth performance of the world's biggest consumer of oil, the US, has increased demand significantly. However, in many other countries consumption has been flat or falling.

With rising global trade, buoyant financial markets and the rebounding world economy, the balance of risks to global growth has improved significantly since the release of the November 2003 *Monetary Policy Review*. Although global growth may be even higher

than projected in the short to medium term, geopolitical risks and oil prices have become increasing concerns. Furthermore, among the industrial countries, domestic demand is generally strongest in those countries with the largest current-account deficits, so that the recovery may exacerbate underlying imbalances. The most important challenges will be the orderly resolution of global imbalances and managing the eventual transition to higher interest rates.

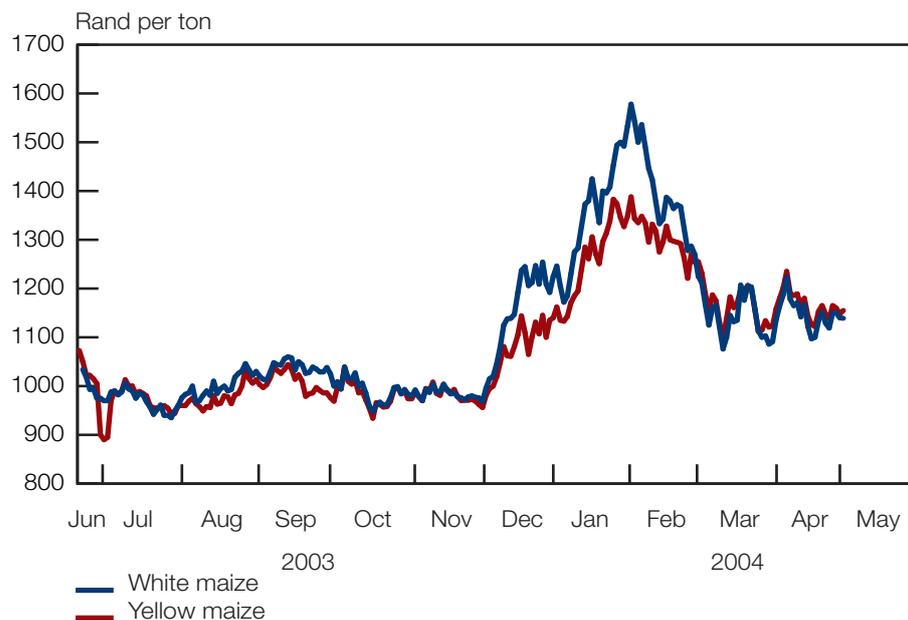
Outlook for domestic demand and supply

The latest Reuters consensus forecast, based on surveys undertaken in late March 2004, is for real GDP growth of 2,5 per cent in 2004 rising to 3,2 per cent in 2005. The forecast for 2004 is the mean of 13 individual forecasts ranging between 2 and 3 per cent, and that for 2005 is the mean of 13 individual forecasts with a low of 2,7 per cent and a high of 3,9 per cent.

Improving global growth, buoyant commodity prices and the lagged impact of interest rate cuts in the second half of 2003 are expected to lift domestic economic growth in 2004 whereas the lagging European recovery and unfavourable conditions in the local agricultural sector remain potentially serious obstacles to growth. Real final consumption expenditure by households and by government, as well as continued high levels of gross fixed capital formation, are likely to sustain relatively robust growth in gross domestic expenditure. However, declining profitability could result in a moderation in fixed investment. There is little likelihood of inflationary pressure emerging from supply constraints, as there is still considerable idle production capacity in the economy.

There have been concerns that food prices would once more provide upward pressure on inflation, although these have eased recently. While the review of the main inflation indicators showed that food price inflation has been moderate, the low rainfall experienced in many parts of the country in 2003 and forecasts for international prices raised fears that food prices would rise strongly. The South African Futures Exchange (SAFEX) futures price for white maize for delivery in July 2004, shown in Figure 14, increased sharply from around R1 000 per ton in October – November 2003 to R1 578 per ton early

Figure 14 Closing prices for white and yellow maize on SAFEX: July 2004 futures contract



Source: SAFEX

in February 2004. However, prices have subsided to around R1 100 per ton since March as rainfall figures improved late in the season and higher crop estimates were published. The government's Crop Estimates Committee estimated in April that commercial farmers would harvest 7,814 million tons of maize in 2003/04, compared with earlier forecasts of 7,023 million tons released in February and 7,672 million tons released in March 2004.

Indicators of inflation expectations

The Bureau for Economic Research (BER) at the University of Stellenbosch conducts a survey of inflation expectations on behalf of the South African Reserve Bank. The results of the survey of financial analysts, business executives and representatives of the trade union movement conducted between 25 February and 24 March 2004, are presented in Table 7. On average, these indicate a continuation of the downward trend in CPIX inflation expectations that began five quarters ago.

Table 7 BER survey of CPIX inflation expectations: 1st quarter 2004

Per cent

	2004	2005	2006
1. Finance	5,3	5,6	5,5
2. Business	6,6	6,9	7,1
3. Labour	6,1	6,4	6,6
Average 1 – 3	6,0	6,3	6,4

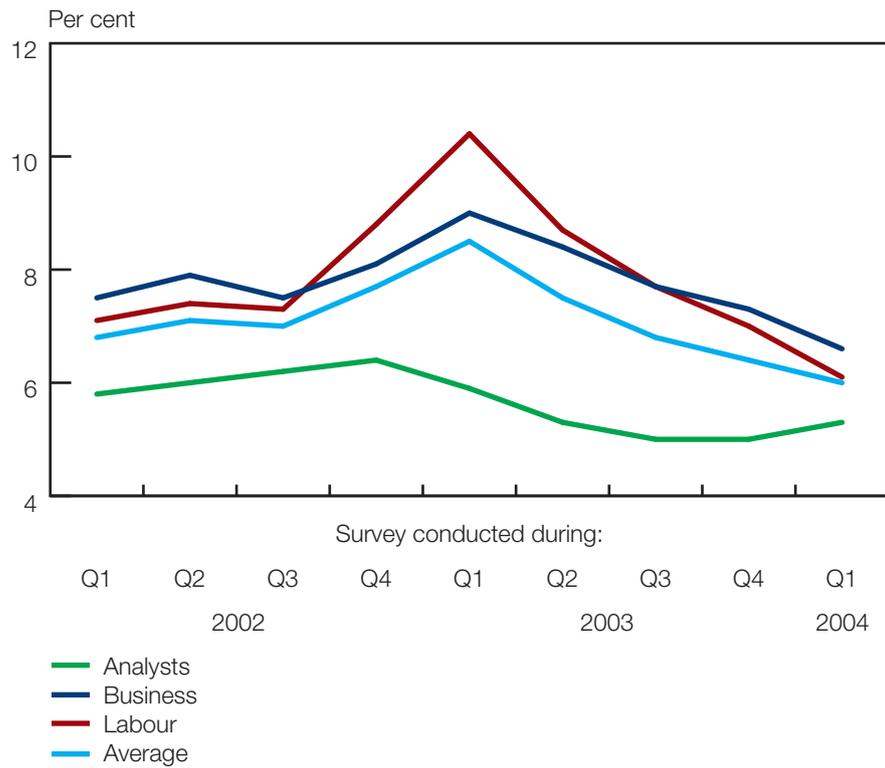
Source: Bureau for Economic Research, University of Stellenbosch

The average CPIX inflation expectation for 2004 is 6,0 per cent, rising to 6,3 per cent in 2005 and 6,4 per cent in 2006. The expectations of the various groups of respondents differ, as has been the case in earlier surveys. Financial analysts once again have the lowest inflation expectations, and anticipate average annual CPIX inflation remaining within the 3 – 6 per cent inflation target range over the next three years (the expectation is for inflation rates of 5,3 per cent, 5,6 per cent and 5,5 per cent, respectively). The expectations of business and trade unions are higher, by contrast, and their averages remain outside the inflation target range.

As Figure 15 shows, however, the expectations of business executives and trade union officials for CPIX inflation in 2004 have fallen sharply over the previous five quarterly surveys as measured inflation has declined, and have contributed most to the recent decline in overall inflation expectations. Trade union expectations for 2004, in particular, moderated from 10,4 per cent in the first-quarter survey in 2003 to just 6,1 per cent in the most recent survey, while those of business declined from 9,0 per cent to 6,6 per cent. The expectations of financial analysts, which peaked at 6,4 per cent in the fourth-quarter survey in 2002, actually rose slightly to 5,3 per cent in the most recent survey, although they remain well within the inflation target range.

The expectations of the financial sector for CPIX inflation may also be obtained from the Reuters monthly survey of long-term forecasts for the South African economy. This survey of economists based in South Africa, the US and the UK, solicits forecasts of key South African economic indicators for the current and subsequent seven quarters, and for the current and next two calendar years. The recent survey published on 5 April reports that the mean of 13 forecasts for CPIX inflation in the second quarter of 2004 is 5,2 per cent, rising to 5,9 per cent in the fourth quarter before declining once more to 5,5 per cent in the fourth quarter of 2005. The median forecasts for these periods are 5,3 per cent, 5,9 per cent and 5,5 per cent, respectively, while the mean annual forecast is 5,6 per cent for both 2005 and 2006.

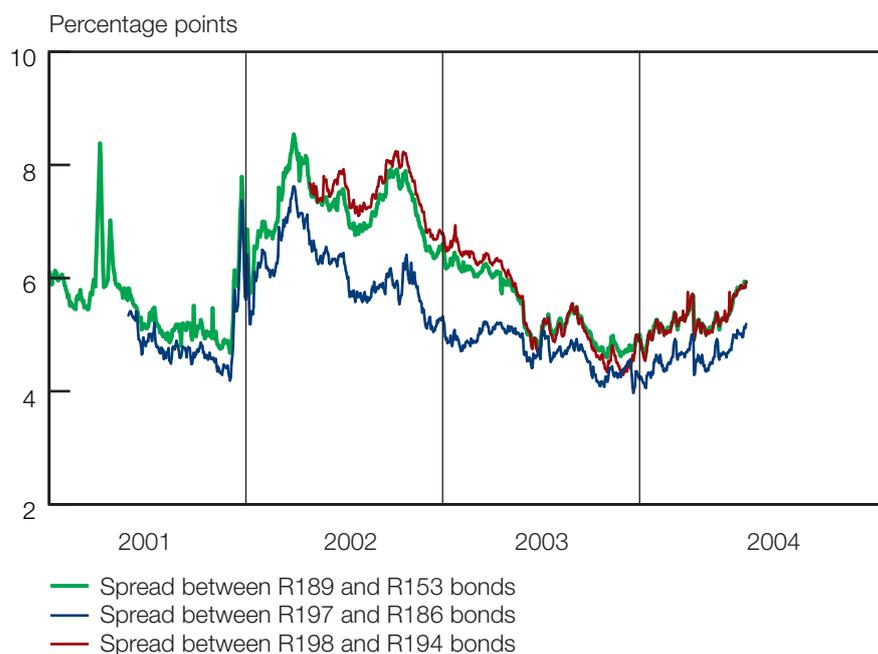
Figure 15 CPIX inflation expectations for 2004



Source: Bureau for Economic Research, University of Stellenbosch

Figure 16 shows the spreads between the yields on South African CPI inflation-linked bonds and conventional nominal bonds of similar maturity, or breakeven inflation rates. These spreads provide an indication of expected inflation over the period until

Figure 16 Breakeven inflation rates

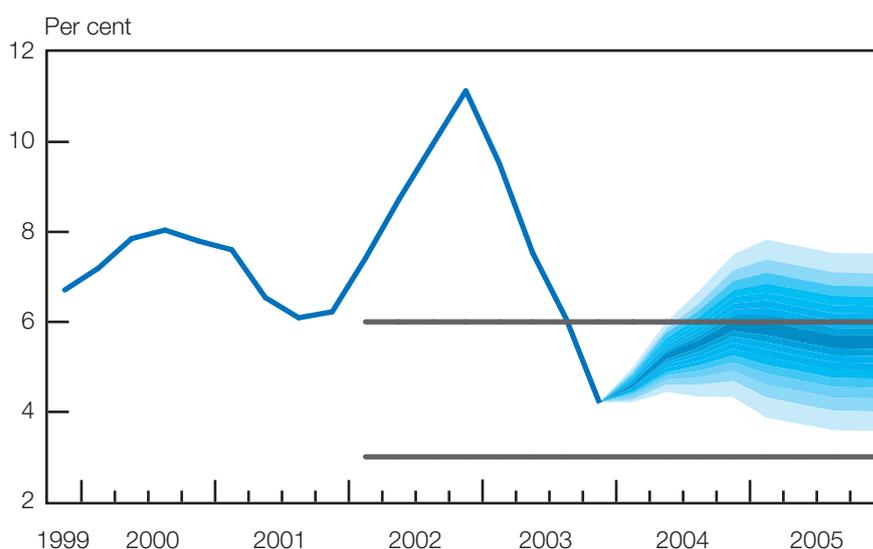


the bond matures. The inflation expectations obtained in this way from the R189 (maturing 2013) and R198 (maturing 2008) inflation-linked bonds moved from around 8 per cent in October 2002 to roughly 4½ per cent in December 2003, before increasing to about 5,9 per cent at the beginning of May 2004. The spread on the longer-dated R197 (maturing 2023) has remained lower than the others throughout, and is currently just above 5 per cent.

The Reserve Bank inflation forecast

The Bank's latest quarterly forecast for CPIX inflation is presented in Figure 17. This is the forecast that was presented to the MPC at the 21 – 22 April 2004 meeting, and incorporates recent trends in actual and preliminary data that were available at this time. The latest observed value for CPIX was for the fourth quarter of 2003, for example, although January and February data were incorporated in the forecast of CPIX for the first quarter of 2004. As usual, the forecast is based on the assumption of an unchanged repo rate of 8 per cent over the forecast period. The fan chart technique is again employed to indicate the uncertainties surrounding the central projection.

Figure 17 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*).

The central projection of the forecast is for the CPIX inflation rate to increase from around 4½ per cent in the first quarter of 2004 to just below the upper level of the target in the final quarter, before gradually declining from the second quarter of 2005 to around 5½ per cent by the end of the year. The probability distribution for this forecast reveals that there is approximately a 60-per-cent probability that the CPIX inflation rate will be between 3 and 6 per cent in the final quarter of 2005.

With regard to the risks to this forecast, there are a number of factors that increase the possibility of outcomes that deviate from the central projection. Geopolitical uncertainties currently represent a significant risk to stability in economic markets, especially the international crude oil market. The risk of volatility in this market remains a concern, despite the anticipated downward trend in world oil prices. Volatility in the foreign exchange rate of the rand would also increase the risks associated with the forecast. Furthermore, the potential impact of the drought remains a risk, although the magnitude of this risk has declined recently. Domestically, the possibility of higher-than-anticipated wage and salary settlements is a factor that increases the risk of an outcome above the central projection. Overall, however, the balance of risks associated with this forecast is deemed to be neutral.

Assessment and conclusion

The strong world economic recovery is expected to be sustained and this could begin to put upward pressure on world inflation. However, most major central banks appear confident that the low inflation environment will continue. Nevertheless, the strength of the economic recovery in the US in particular has prompted a general expectation that an upturn in the world interest rate cycle is likely to commence sooner than was previously anticipated. Adding to the uncertainty of the world inflation outlook is the stronger trend in international oil prices, which is influenced not only by market conditions but by geopolitical factors as well.

The domestic inflation outlook will continue to be influenced by these international as well as domestic developments. Although the impact of oil price developments appears to be more of a risk than was the case 6 months ago, the risk to the inflation target that was posed by drought-induced food price increases has dissipated somewhat. The exchange rate of the rand continues to be characterised by a relatively high degree of stability, and with the improved foreign exchange reserve position, this stability should be sustained. Developments in the US dollar exchange rate could however impact on this stability. A further uncertainty relates to the trend in wage settlements, where no clear pattern has as yet emerged.

Although the inflation outlook is not as benign as was the case when the previous *Monetary Policy Review* was published, the inflation rate has remained within the inflation target band of 3 – 6 per cent and is expected to remain within this target band. Although late last year there were expectations in the market of further interest rate reductions, monetary policy has remained forward-looking and focused on the expected trend of inflation. The actions of the MPC will continue to be guided by its mandate to maintain CPIX inflation within the target range.