Monetary Policy Review

November 2005

South African Reserve Bank

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Introduction

Inflation has remained within the target range for the past 25 months, more recently against the backdrop of a strongly growing domestic economy and robust domestic demand. Although the inflation outlook has deteriorated moderately over the past few months, mainly as a result of developments in international crude oil prices, there is as yet little evidence of inflationary pressures passing through to inflation. The stance of monetary policy has consequently remained unchanged since the publication of the previous *Monetary Policy Review* in May.

The developments in international oil prices and the robust domestic demand, partly reflected in accelerating bank credit extension, are important themes in this review of monetary policy. The impact of these developments on inflation expectations is particularly important, given the role that expectations play in the wage and price-formation process. Although there are signs that inflation expectations have deteriorated recently, they nevertheless remain consistent with the inflation target. However, a continued deterioration of inflation expectations would be a cause for concern.

This review of monetary policy begins by analysing inflation developments and the factors that impact on inflation. This is followed by an assessment of recent monetary policy developments and a discussion of the inflation outlook as well as the South African Reserve Bank's (Bank's) inflation forecast. Three topical issues are addressed in the boxes. The first box focuses on the official administered price index recently released by Statistics South Africa, while the second box reports on research into the demand for the M3 monetary aggregate in South Africa. The final box addresses the question of how policy should respond to oil price shocks and provides an overview of recent thinking in this regard.

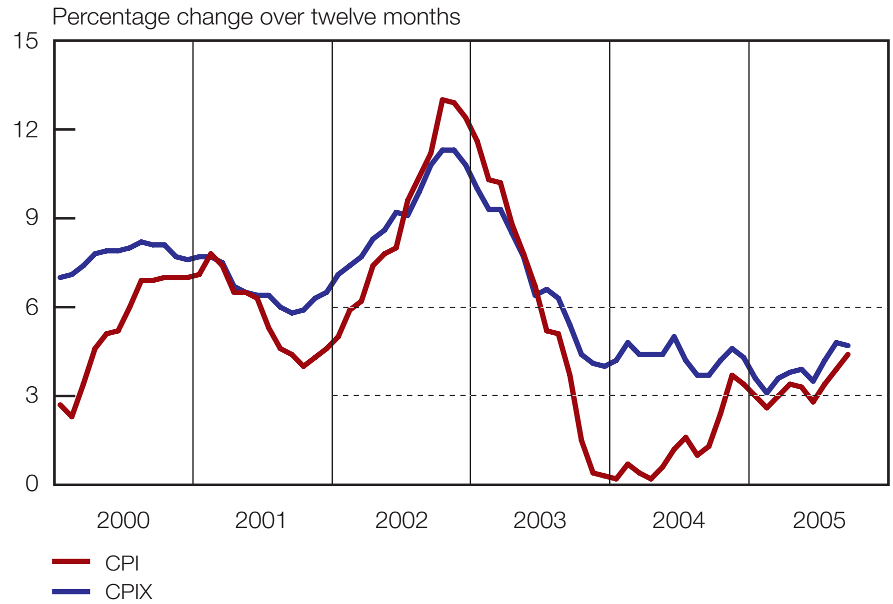
Recent developments in inflation

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

The evolution of indicators of inflation

Figure 1 shows that the Bank's targeted measure of inflation, the year-on-year increase in the consumer price index excluding mortgage interest cost for metropolitan and other urban areas (CPIX), has remained within the inflation target range of 3 to 6 per cent since September 2003. When the previous *Monetary Policy Review* was published in May 2005, the latest available CPIX inflation rate, for March, was 3,6 per cent. After increasing to 3,9 per cent in May, and declining to 3,5 per cent in June, the CPIX inflation rate subsequently increased to 4,8 per cent in August, before receding slightly to 4,7 per cent in September. The analysis in this section shows that these fluctuations are largely due to movements in petrol prices.

Figure 1 Consumer price inflation: CPIX and CPI



Source: Statistics South Africa

Quarterly CPIX inflation (measured as the annualised quarter-on-quarter rate of increase in the seasonally adjusted data) accelerated from 2,4 per cent in the first quarter of 2005 to 4,6 per cent in the second quarter and 6,3 per cent in the third quarter.

Figure 1 also plots the inflation rate measured in terms of the headline consumer price index for metropolitan areas (CPI). After increasing from 3,0 per cent in March 2005 to 3,4 per cent in April, the CPI inflation rate declined to 2,8 per cent in June 2005. CPI inflation then accelerated again to 3,9 per cent in August and 4,4 per cent in September. The quarter-on-quarter CPI inflation rate (measured on a seasonally adjusted and annualised basis) increased from 2,3 per cent in the first quarter of this year to 2,8 per cent in the second quarter and 5,4 per cent in the third quarter.

Table 1 shows the weighted contributions of the main components of the CPIX to the overall year-on-year inflation rate. It is clear from the table that developments in the transport component of the index, related to fluctuations in the petrol price, have had a significant influence on the recent movements in the CPIX inflation rate. The contribution of this component increased from 0,7 percentage points in April 2005 to 0,8 percentage points in May, before declining to 0,4 percentage points in June as the overall CPIX inflation rate slowed to 3,5 per cent. Transport's contribution then increased to 1,3 percentage points in September, when the overall inflation rate measured 4,7 per cent.

Table 1 Contributions to CPIX inflation

Percentage change over twelve months* and percentage points

	2005					
	April	May	June	July	Aug	Sep
Total*	**3,8**	**3,9**	**3,5**	**4,2**	**4,8**	**4,7**
Of which:						
Food	0,4	0,3	0,3	0,7	0,6	0,7
Housing	0,8	0,8	0,8	0,6	0,7	0,6
Medical care and health expenses	0,7	0,7	0,7	0,6	0,6	0,6
Transport	0,7	0,8	0,4	0,8	1,2	1,3
Education	0,4	0,4	0,4	0,4	0,4	0,4
Fuel and power	0,2	0,2	0,2	0,3	0,3	0,2

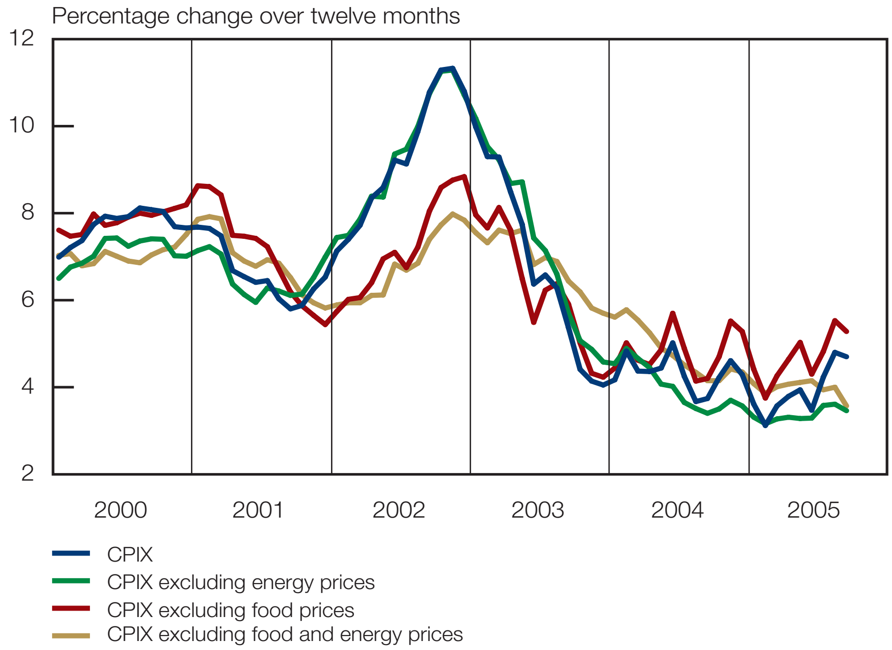
Source: Statistics South Africa

The contribution of the transport component to CPIX inflation has, in turn, been driven by movements in petrol prices. The inland pump price of 93 octane leaded petrol, for example, increased by a cumulative R1,41 per litre between the beginning of April and October this year. It increased from R5,02 per litre in April to R5,22 per litre in May, before declining to R5,06 per litre in June 2005. The price then increased again to R5,62 per litre in August, R5,91 per litre in September and R6,03 per litre in October. In November, however, the price of petrol will fall to R5,72 per litre. Figure 6 in a later section shows the relationship between these changes and international crude oil prices.

The contributions to CPIX inflation of the other components in Table 1 remained relatively stable during the period under review, with the exception of the food component. After contributing not more than 0,5 percentage points since July 2004, this component contributed at least 0,6 percentage points to the overall CPIX inflation rate in the period from July to September 2005. The housing component remained subdued, adding 0,8 percentage points to CPIX inflation from March to June 2005, before contributing 0,7 percentage points in August and 0,6 percentage points in September. The contribution of medical care and health expenses to CPIX inflation also remained steady at 0,7 percentage points from March to June 2005, before declining to 0,6 percentage points in July – September 2005.

Figure 2 highlights the important role that energy prices, in particular, have played in determining the CPIX inflation rate. Excluding energy prices, the year-on-year rate of increase in the CPIX was 3,3 per cent from March to June 2005, 3,6 per cent in July and August, and 3,5 per cent in September. Food prices, by contrast, continue to have a moderating effect on the overall CPIX inflation rate in the sense that their exclusion yields a higher inflation rate than that measured in terms of the overall CPIX. Excluding food, CPIX inflation measured on a year-on-year basis increased from 4,3 per cent in March 2005 to 5,0 per cent in May, before declining to 4,3 per cent in June and then increasing to 5,5 per cent in August. In September, this rate declined to 5,3 per cent. Excluding both food and energy prices, CPIX inflation was around 4 per cent between March and August 2005, and declined to 3,6 per cent in September.

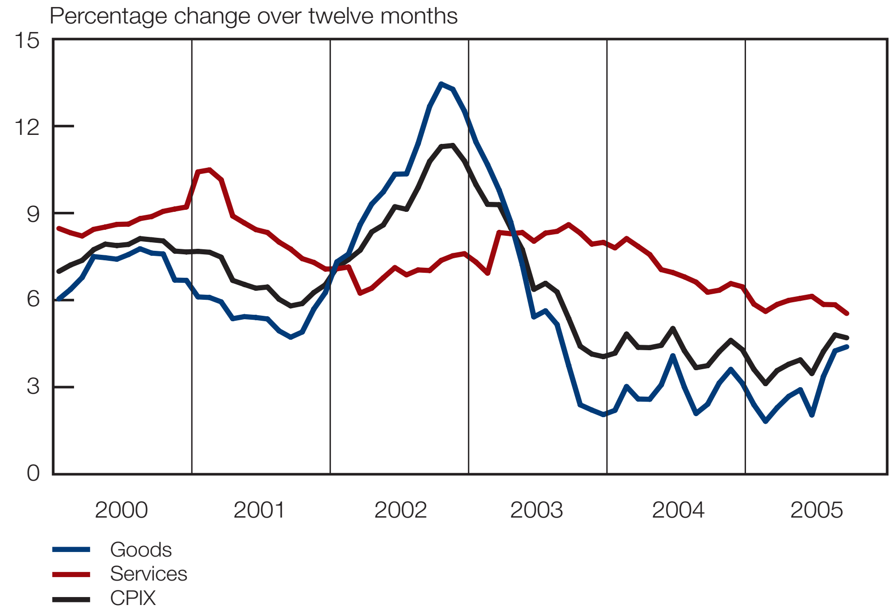
Figure 2 The effect of food and energy prices on CPIX inflation



Sources: Statistics South Africa and Reserve Bank calculations

Figure 3, which plots the inflation rates for the goods and services categories of the CPIX, reveals that services inflation continued to advance at a significantly faster pace than goods inflation. The inflation rate for goods increased from 2,3 per cent in March

Figure 3 CPIX: Goods and services inflation

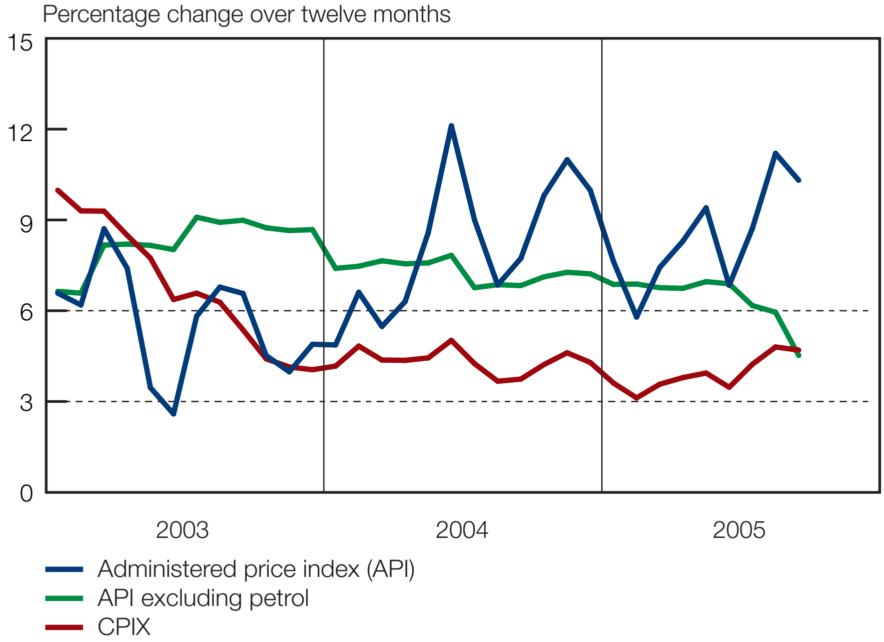


Source: Statistics South Africa

2005 to 2,9 per cent in May, and then declined to 2,0 per cent in June. Goods inflation then increased to 4,3 per cent in August and 4,4 per cent in September. Services inflation, after having moved below the upper limit of the inflation target in January 2005, increased from 5,9 per cent in March to 6,1 per cent in June before receding to 5,8 per cent and 5,6 per cent in August and September, respectively.

Beginning in May 2005, Statistics South Africa has been publishing an official monthly consumer price index of administered prices. Box 1 in this *Monetary Policy Review* provides details regarding this official administered price index (API), and Figure 4 presents the year-on-year API inflation rate. As the graph shows, the API inflation rate increased from 7,4 per cent in March 2005 to 9,4 per cent in May and then declined to 6,8 per cent in June. The rate then increased to 11,2 per cent in August 2005 before declining to 10,3 per cent in September. However, as the weights in Box 1 reveal, fluctuations in petrol prices have a significant influence on the index. Figure 4 reveals that once petrol prices are excluded from the API, the inflation rate in fact declined from June 2005. That is, after increasing from 6,8 per cent in March 2005 to 7,0 per cent in May, the API inflation declined to 6,0 per cent in August and 4,5 per cent in September.

Figure 4 CPIX and administered prices



Sources: Statistics South Africa and Reserve Bank calculations

1 *Statistics South Africa. 2005.* "Consumer Price Index – Statistical Release P0141.1", May.

Box 1 Statistics South Africa releases an official index of administered prices

This box seeks to highlight the publication by Statistics South Africa (Stats SA) of an official index of administered prices for South Africa. After a series of discussions involving officials from Stats SA, the Bank and the National Treasury, which resulted initially in the publication of a discussion paper on administered prices in August 2004, the official index of administered prices was included in the CPI release of May 2005.[1]

Details of the discussion paper, which solicited feedback from the public, were summarised in Box 1 in the *Monetary Policy Review* of November 2004. After taking into account the comments received, an official definition of administered prices was adopted, based on Approach 1 of the discussion document. This definition reads as follows:

"An administered price is defined as the price of a product, which is set consciously by an individual producer or group of producers and/or any price, which can be determined or influenced by government, either directly, or through one or other government agencies/institutions without reference to market forces."

The components of the headline CPI and CPIX that appeared in the discussion paper have been slightly revised, and the composition of the final index is presented in Table B1.1.

Table B1.1 Administered prices in headline CPI and CPIX

Group	Weight in CPI	Weight in CPIX
Housing	3,57	4,25
Assessment rates	1,59	1,64
Sanitary fees	0,21	0,27
Refuse removal	0,28	0,37
Water	1,37	1,81
University boarding fees	0,12	0,16
Fuel and power	3,21	3,89
Electricity	2,97	3,55
Paraffin	0,24	0,34
Medical care	0,09	0,11
Public hospital	0,09	0,11
Communication	2,90	3,11
Telephone calls	1,47	1,62
Telephone rent and installation	0,29	0,34
Postage	0,02	0,02
Cellular phone connection fees	0,24	0,24
Cellular phone call rates	0,88	0,89
Education	2,70	2,97
School fees	1,63	1,72
Universities/technikons/colleges	1,07	1,25
Transport	5,21	5,42
Petrol	4,92	5,08
Public transport – municipal buses	0,07	0,09
Public transport – trains	0,14	0,16
Motor licence and registration	0,08	0,09
Recreation and entertainment	0,21	0,26
Television licence	0,21	0,26
Total	**17,89**	**20,01**

Source: Statistics South Africa

The availability of the official index of administered prices renders the unofficial index previously calculated by the Bank obsolete. The official index will therefore be used from now as the measure of overall administered price inflation. It will also provide the basis for calculations which exclude the petrol price from the index; these calculations will be made by the Bank since Stats SA does not publish the index excluding petrol at this stage.

The contributions of the various components to the overall API inflation rate, presented in Table 2, confirm the important influence of the petrol price on this rate in recent months. The contribution of the petrol component increased from 3,3 percentage points in April 2005 to 7,0 percentage points in August and September. The contributions of the remaining components of the API reported in Table 2 were notably more stable, with the exception of electricity and communication in September.

Table 2 Contributions to administered price inflation

Percentage change over twelve months* and percentage points

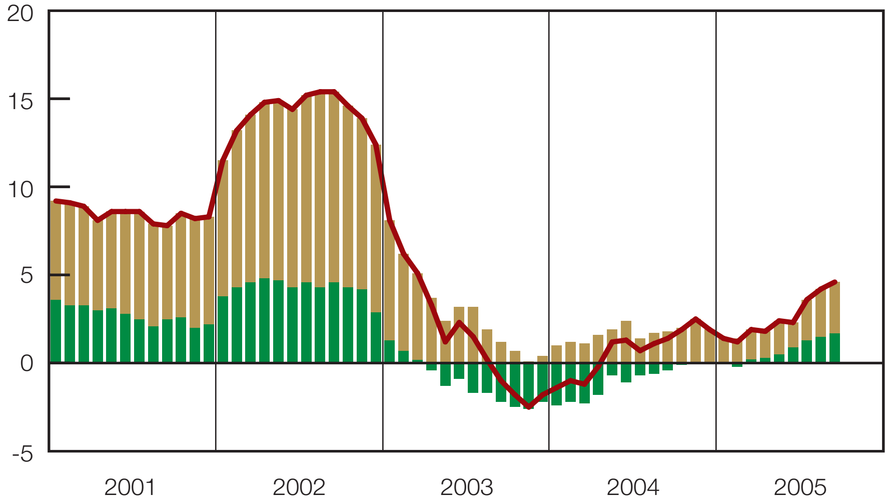
	2005					
	April	May	June	July	Aug	Sep
Total*	**8,3**	**9,4**	**6,8**	**8,7**	**11,2**	**10,3**
Of which:						
Petrol	3,3	4,2	1,7	4,1	7,0	7,0
Electricity	1,1	1,1	1,1	1,2	1,2	0,5
Assessment rates	0,9	0,9	0,9	0,5	0,5	0,5
Refuse removal	0,1	0,1	0,1	0,1	0,1	0,1
Education services	1,2	1,2	1,2	1,2	1,2	1,2
Medical services	0,1	0,1	0,1	0,1	0,1	0,1
Communication	0,5	0,5	0,5	0,5	0,4	0,0

Sources: Statistics South Africa and Reserve Bank calculations

Inflation measured in terms of the production price index (PPI) increased from 1,9 per cent in March 2005 to 4,6 per cent in September (Figure 5). The imported component of the PPI has fuelled this increase, with its inflation rate increasing from 0,7 per cent to 6,8 per cent over the same period. After contributing a subdued 0,2 percentage points to the overall PPI inflation rate in March 2005, the contribution of imported goods increased to

Figure 5 Production price inflation

Percentage points* and percentage change over twelve months



Contribution of:
Imported component*
Domestically produced component*
Production price index (PPI)

Source: Statistics South Africa

1,7 percentage points in September. The inflation rate for the domestic component, by contrast, increased from 2,3 per cent in March 2005 to 3,8 per cent in September 2005.

Quarterly PPI inflation (measured as the annualised quarter-on-quarter rate of increase in the seasonally adjusted data) increased from 1,3 per cent in the first quarter of 2005 to 8,6 per cent in the third quarter. The imported component of the PPI, measured on the same basis, increased by 13,9 per cent in the third quarter of 2005 compared to a decline of 3,2 per cent in the first quarter of the year. The domestically produced component of PPI inflation increased by 5,9 per cent in the third quarter compared to an increase of 1,9 per cent in the first quarter of 2005.

Factors affecting inflation

Monetary policy decisions are made on the basis of developments and expected developments in the wider macroeconomy. Recent developments in some of the main variables influencing inflation in South Africa are reviewed in this section, while the outlook for these variables and their likely impact on inflation are discussed in a later section.

International economic developments

According to the most recent International Monetary Fund (IMF) data, economic and financial conditions in the international economy have remained generally benign since the previous *Monetary Policy Review,* although there were a number of challenges. Led primarily by the United States (US) and China, the world economy continued to grow at solid rates although growth projections for 2005 in most countries have been revised downward – with the important exceptions of Japan, China and India. The major global imbalances, such as the difference between the US and Asian propensities to save, show no significant signs of reversal. However, underlying inflationary pressures in most countries generally have remained muted, resulting in little transmission of price pressures to the South African economy.

Global real gross domestic product (GDP) grew by 5,1 per cent in 2004 and is projected to increase by 4,3 per cent in 2005 (Table 3). Growth in some of the advanced economies slowed in the second quarter of 2005 while emerging-market economies continued to record robust growth. However, to date the impact on global growth of higher oil prices has been moderate, reflecting in part the fact that higher oil prices have been largely the result of strong global demand. Even though core inflation rates remained benign, overall inflation rates in most countries have increased somewhat in response to the sharp increase in oil prices. World inflation is projected to increase to 3,9 per cent in 2005 from 3,7 per cent in 2004. Relatively well-anchored inflationary expectations and declining oil intensity in production have also served to soften the blow on the global economy so far.

The US economic expansion is proceeding steadily, and the country's economy is still growing faster than that of any of the other major industrialised countries. However, real GDP in the US increased at a slightly lower annualised rate of 3,3 per cent in the second quarter of 2005, after increasing by 3,8 per cent in the first quarter. Employment and incomes continued to rise, and other US data suggest that the economy still enjoyed solid momentum prior to the hurricanes that hit the US Gulf Coast towards the end of August and during September, which could impact negatively on growth in the second half of the year. Long-term interest rates in the US have also remained surprisingly low in recent months despite an increase in short-term rates, possibly as a result of strong foreign demand for dollar-denominated assets.

Table 3 Annual percentage change in real gross domestic product and consumer prices

	Real GDP		Consumer prices	
	2004	2005 (estimate)	2004	2005 (estimate)
World	**5,1**	**4,3**	**3,7**	**3,9**
Advanced economies	**3,3**	**2,5**	**2,0**	**2,2**
United States	4,2	3,5	2,7	3,1
Japan	2,7	2,0	0,0	-0,4
Euro area	2,0	1,2	2,1	2,1
United Kingdom	3,2	1,9	1,3	2,0
Other advanced economies	4,4	3,2	1,8	2,0
Other emerging-market and developing countries	**7,3**	**6,4**	**5,7**	**5,9**
Africa	5,3	4,5	7,8	8,2
Central and eastern Europe	6,5	4,3	6,5	4,8
Commonwealth of Independent States	8,4	6,0	10,3	12,6
Developing Asia	8,2	7,8	4,2	4,2
China	9,5	9,0	3,9	3,0
India	7,3	7,1	3,8	3,9
Middle East	5,5	5,4	8,4	10,0
Western hemisphere	5,6	4,1	6,5	6,3

Source: IMF *World Economic Outlook*, September 2005

The Japanese recovery remains on track and the economy grew at an annualised rate of 3,3 per cent in the second quarter of 2005, compared with a rate of 5,8 per cent in the first quarter. Improvements in corporate profitability in Japan are stimulating investment spending and enhancing the medium-term outlook for domestic demand. Growth in the world's second-largest economy averaged 1,7 per cent in the first half of 2005.

In the euro area, while some data are still broadly consistent with a strengthening of activity in the second half of 2005, the tentative recovery in domestic demand observed in the second half of 2004 has slowed considerably. The GDP growth forecast by the IMF for 2005 as a whole has been marked down, and is now 1,2 per cent. Economic growth disappointed in the second quarter of the year as surging oil prices and fears of a loss in momentum of global manufacturing took their toll on confidence.

The prospects for economic activity in the United Kingdom (UK) have moderated and GDP growth in 2005 is expected to be somewhat weaker than in 2004. Growth for the year is expected to average 1,9 per cent in 2005. The slowdown in GDP growth in the UK is mainly being driven by lower growth in household consumption, as the cooling housing market and the personal debt burden dampen spending. The UK housing market showed further signs of stabilising in August, with the rate of house price declines easing markedly and activity increasing.

In Developing Asia, GDP growth of 7,8 per cent is expected in 2005 as China continues to expand at a brisk pace. Growth in India also remains robust with a continued expansion in services and accelerating industrial production, while Pakistan has posted its fastest growth rates in more than two decades. Real GDP growth in China has continued to exceed expectations and in the 9 months to September, China's trade surplus swelled to US$68 billion, more than double the surplus of US$32 billion for the whole of 2004. While the surplus has swelled partly because of China's export performance, growing by 31 per cent year on year in the January to September period, it has also risen because import growth has been weaker, growing by 16 per cent in the same nine-month period.

In Latin America, regional GDP is projected to increase by 4,1 per cent in 2005. After a strong rebound in 2004, growth in Latin America slowed in the first quarter of 2005, for example in Brazil, Argentina and Mexico, before improving once more in the second quarter.

In Africa the overall growth picture so far in 2005 is encouraging, although non-oil producing and drought-stricken countries are likely to lag behind. GDP growth in sub-Saharan Africa is forecast to moderate to 4,5 per cent in 2005 (0,4 percentage points lower than expected by the IMF last April), partly reflecting a sharp slowdown in Nigeria as oil production nears capacity. Growth in oil-importing countries in the sub-Saharan Africa region, while slowing, has so far held up well, with the adverse impact of higher oil prices so far offset by stronger non-oil commodity prices, as well as the benefits of improved macroeconomic stability and ongoing structural reforms.

Finally, rising oil production and prices have continued to support GDP growth in the Middle East, accompanied by dramatic improvements in external current-account and fiscal positions. However, inflation in the region is expected to increase to 10 per cent in 2005.

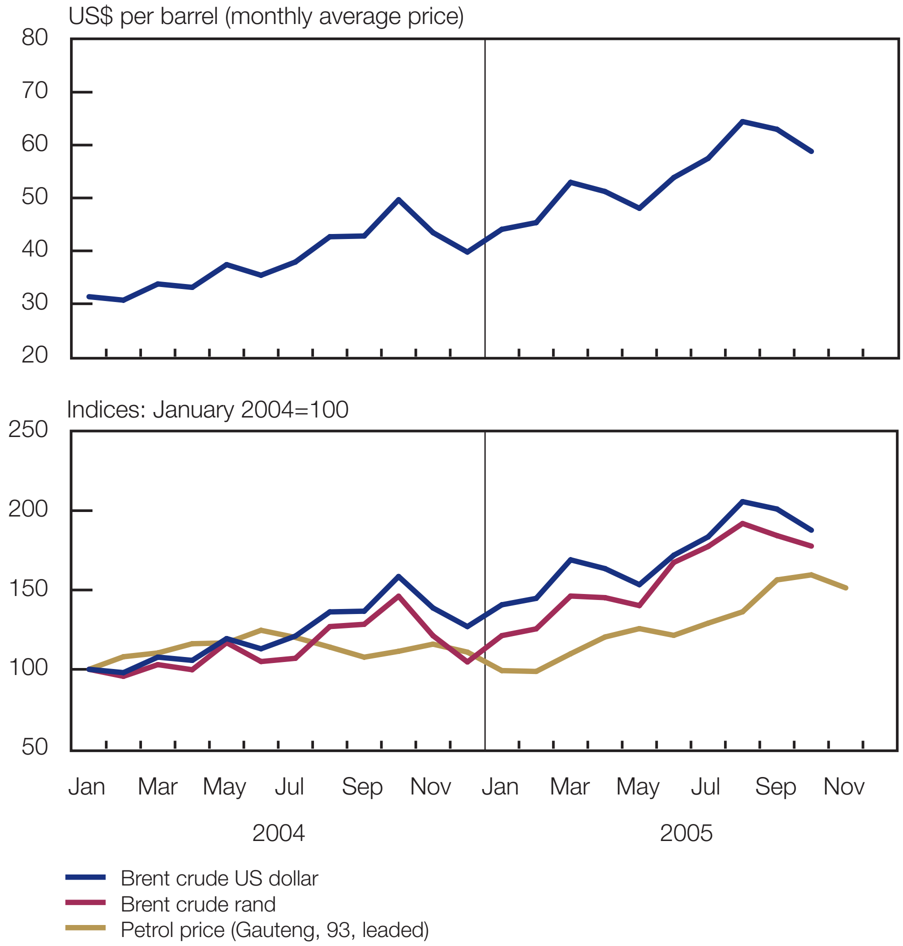
Oil prices

Crude oil prices more than doubled from the beginning of 2004 to record-high levels which approached US$70 per barrel towards the end of August 2005, before declining to below US$60 per barrel in October. As Figure 6 shows, the relative stability of the foreign exchange rate of the rand over this period has resulted in the rand price of crude oil tracking these changes closely and in significant pass-through to domestic petrol prices in 2005.

International crude oil prices rose sharply in June and mid-July owing to lower-than-expected inventories, weaker refining capacity as well as production disruptions due to tropical storms in the Gulf of Mexico. Prices soared further in August and September, due to various factors including hurricanes in the Gulf of Mexico, the death of King Fahd of Saudi Arabia, announcements related to Iran's nuclear energy programme and a further decline in crude oil inventories. Overall, prices rose by close to 45 per cent in the three months to September 2005, reaching record-high levels in nominal terms approaching US$70 per barrel on 30 August, before declining somewhat. Crude oil prices then rose again in mid-September after the US Department of Energy predicted that energy costs in the coming winter in the US would be the highest in 10 years.

The hurricanes Katrina and Rita, which hit the Gulf of Mexico and damaged offshore oil rigs, refineries and ports, have been a significant factor in international oil markets in the period under review. Estimates by the US Energy Information Administration as at 11 October 2005 were that hurricane damage in the Gulf region affected 1,5 million barrels per day of US oil production (29 per cent of the total), 8 million barrels per day of US refining capacity (47 per cent of the total), and 10 billion cubic feet per day of US gas production (19 per cent of the total). In response, crude oil was allocated from the US Strategic Petroleum Reserve and the US administration indicated that up to 30 million barrels of crude oil would be offered over a one-month period. However, it is notable that the US Energy Department had, by the end of September, found buyers for just over a third of the amount offered (11 million barrels), suggesting that the binding constraint may be a shortage of refining capacity rather than of crude oil.

Figure 6 Crude oil and domestic petrol prices



The International Energy Agency (IEA) also announced that it would activate its emergency oil plan, releasing oil for only the second time in its 29-year history. The agency announced in September that its member countries would release 60 million barrels of petroleum products to the US market to help supplement supplies (this includes the 30 million barrels from the US mentioned above). Furthermore, in mid-September the Organization of the Petroleum Exporting Countries (OPEC) announced that it would allow its members to provide up to two million barrels of extra crude oil a day if required by the market, for 3 months beginning on 11 October.

However, higher prices do appear to be having an impact on oil demand. A US Energy Department report released in September predicted that the higher prices would lead to an increase of 100 000 barrels per day in US petroleum demand for the remainder of the year instead of the 160 000 barrels per day predicted a month earlier. In September and in October the IEA also lowered its projected growth for global oil demand for the remainder of 2005 and for 2006 on the assumption that sustained high prices would choke demand. The latest IEA forecast is for daily world oil demand in 2005 to grow by 1,3 million barrels to 83,4 million barrels.

Selected central bank interest rate developments

Table 4, which shows the most recent interest rate changes made by selected central banks, suggests that monetary policy stances have become increasingly divergent in recent months. A number of central banks have raised official interest rates, some have reduced interest rates and others have kept interest rates on hold. Each of these groups is discussed in this section.

Table 4 Selected central bank interest rates

Per cent

Countries	1 Jan 2005	28 Oct 2005	Latest change (percentage points)	
United States	2,25	3,75	20 Sep 2005	(+0,25)
Japan	0,00	0,00	19 Mar 2001	(-0,15)
Euro area	2,00	2,00	5 Jun 2003	(-0,50)
United Kingdom	4,75	4,50	4 Aug 2005	(-0,25)
Canada	2,50	3,00	18 Oct 2005	(+0,25)
Denmark	2,00	2,00	6 Jun 2003	(-0,50)
Sweden	2,00	1,50	21 Jun 2005	(-0,50)
Switzerland	0,25 – 1,25	0,25 – 1,25	16 Sep 2004	(+0,25)
Australia	5,25	5,50	2 Mar 2005	(+0,25)
New Zealand	6,50	7,00	27 Oct 2005	(+0,25)
Israel	3,70	4,00	24 Oct 2005	(+0,25)
China	5,58	5,58	28 Oct 2004	(+0,27)
Hong Kong	3,75	5,25	21 Sep 2005	(+0,25)
Indonesia	7,43	11,00	4 Oct 2005	(+1,00)
Malaysia	2,70	2,70	23 Apr 2004*	
South Korea	3,25	3,50	11 Oct 2005	(+0,25)
Taiwan	1,75	2,125	15 Sep 2005	(+0,125)
Thailand	2,00	3,75	19 Oct 2005	(+0,50)
India	4,75	5,25	25 Oct 2005	(+0,25)
Brazil	17,75	19,00	19 Oct 2005	(-0,50)
Chile	2,25	4,25	11 Oct 2005	(+0,25)
Mexico	8,81	9,25	23 Sep 2005	(-0,25)
Czech Republic	2,50	2,00	27 Oct 2005	(+0,25)
Hungary	9,50	6,00	20 Sep 2005	(-0,25)
Poland	6,50	4,50	31 Aug 2005	(-0,25)
Russia	13,00	13,00	15 Jun 2004	(-1,00)

* The central bank of Malaysia introduced a new interest rate framework on 23 April 2004

Source: National central banks

The US Federal Open Market Committee (FOMC) raised its target for the federal funds rate to 3,75 per cent in September 2005, the eleventh 25-basis-point increase since mid-2004. The FOMC indicated that longer-term inflation expectations remain well contained in the US, but highlighted concerns about the potential impact of higher energy and other costs on inflationary pressures. The Bank of Canada raised its target for the overnight rate in October 2005 for the second time this year by 25 basis points to 3,00 per cent. Chile's central bank continued to increase its benchmark interest rate during the year, reaching 4,25 per cent in October 2005, in order to maintain expected inflation at around 3 per cent. Strong growth momentum forced the Bank of Thailand to increase its 14-day repurchase rate by 50 basis points to 3,75 per cent in October 2005, the eighth increase since August 2004, in order to keep core inflation within the target range. Taiwan's central bank raised interest rates on three occasions this year by 12,5 basis points to reach 2,125 per cent in September 2005 due to concerns about price stability, while the Bank of Indonesia increased its official interest rate to 11,0 per cent in October 2005 in response to an anticipated escalating trend in future inflation. The central banks of Israel, South Korea and the Czech Republic reversed course in October 2005, raising interest rates as inflationary pressures increased.

After increasing the repo rate by 100 basis points in 2004, the Bank of England reduced interest rates by 25 basis points to 4,5 per cent in August 2005. Output growth in the UK is expected to remain slightly below trend in the near term, reflecting the continued sluggishness of domestic demand. Sweden's central bank, the Riksbank, lowered the repo rate in June 2005 from 2,0 per cent to 1,5 per cent as economic growth slowed more than expected. The Riksbank expects that the current low inflation rate will return to the central bank's inflation target of 2 per cent in the next few years and left the repo rate unchanged at its latest MPC meeting in October 2005. Slowing economic growth and lower inflationary pressures in Brazil, Hungary, Mexico and Poland have also resulted in their central banks reducing benchmark interest rates. After increasing the *Selic* interest rate by a cumulative 375 basis points since September 2004 to 19,75 per cent, Brazil's central bank cut interest rates in September and October 2005. The Bank of Mexico (Banxico) began easing the monetary policy stance in August 2005 after having tightened it via the *el corto* mechanism on 12 occasions since February 2004. The central bank has decided on a gradual transition towards a policy-target regime, but kept the *el corto* until the transition is complete. Banxico reduced its benchmark lending rate to 9,25 per cent in September 2005 from 9,5 per cent, following a 25-basis-point reduction in August. The central banks of Hungary and Poland also reduced their official interest rates, to 6,0 per cent and 4,5 per cent, respectively, in recent months. Lower core inflation rates in Hungary were partly due to one-off factors such as intensifying import competition resulting from the country's European Union accession and the transformation process underway in retail trade, while in Poland the impact of higher oil prices has been offset by a strengthening of the exchange rate.

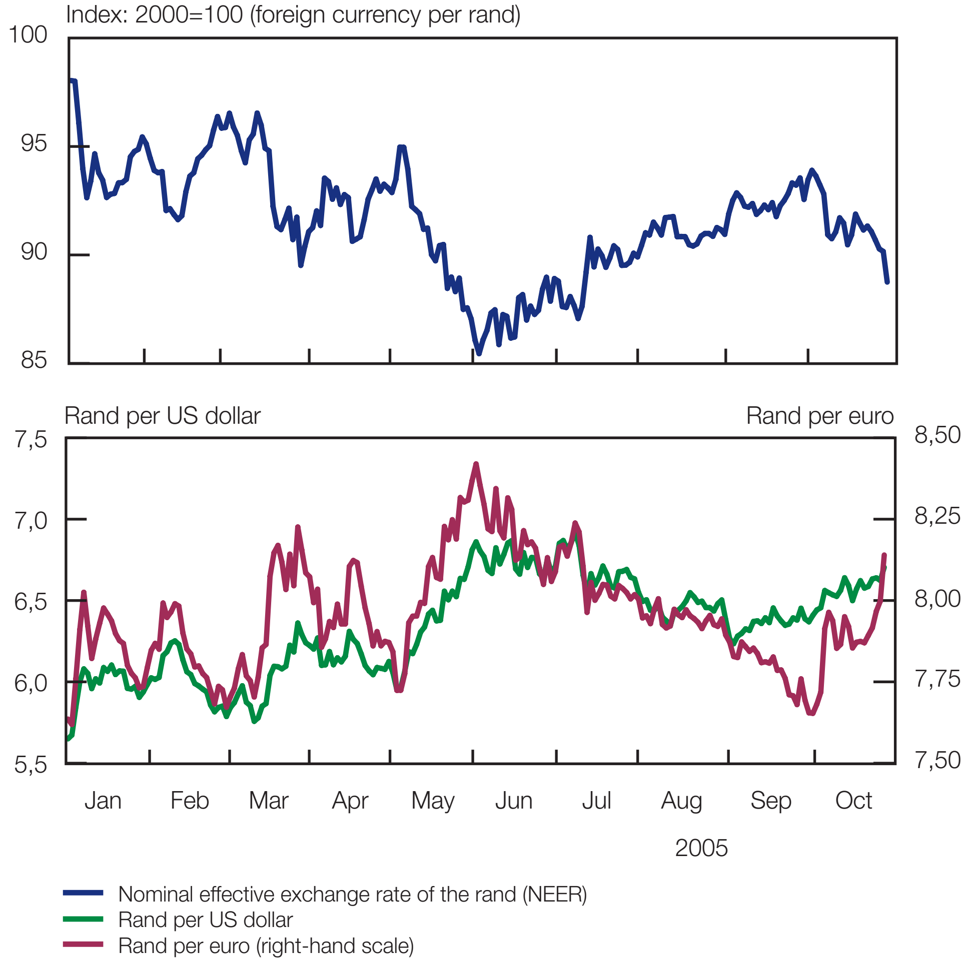
The Governing Council of the European Central Bank has left the key interest rate unchanged since mid-2003 as underlying medium-term domestic inflationary pressures remained contained. Real output in the euro area continued to grow moderately, but recent indicators suggest that economic growth could improve in the second half of the year. The Bank of Japan (BOJ), meanwhile, has kept official interest rates unchanged since 2001, but eased monetary policy several times in 2003 and again in January 2004 by increasing the target range for the outstanding balance on reserve accounts at the BOJ (currently ¥30-35 trillion). The BOJ decided in May 2005 to adopt a more flexible approach to its reserve target and will allow a temporary undershooting of the average daily reserve balance.

Exchange rate developments

Measured against a basket of thirteen currencies, the foreign exchange rate of the rand is currently slightly below the levels that were recorded at the end of March 2005. As Figure 7 shows, however, within this period the nominal effective exchange rate depreciated by approximately 10 per cent between 6 May and 2 June 2005, and then appreciated by slightly less than this to the end of September. On a bilateral basis against the US dollar, the rand depreciated from R5,97 on 6 May to R6,92 on 8 July 2005. The exchange rate then strengthened to R6,32 on 9 September, before depreciating once more to around R6,70 at the end of October.

The recovery of the nominal exchange rates of the rand between June and September was related to both international and domestic developments. At times, movements in the US dollar on world markets were an important factor. On the domestic front, South Africa continued to receive improved ratings from rating agencies in 2005. After the upgrade by Moody's in January, Standard & Poor's

Figure 7 Exchange rates of the rand



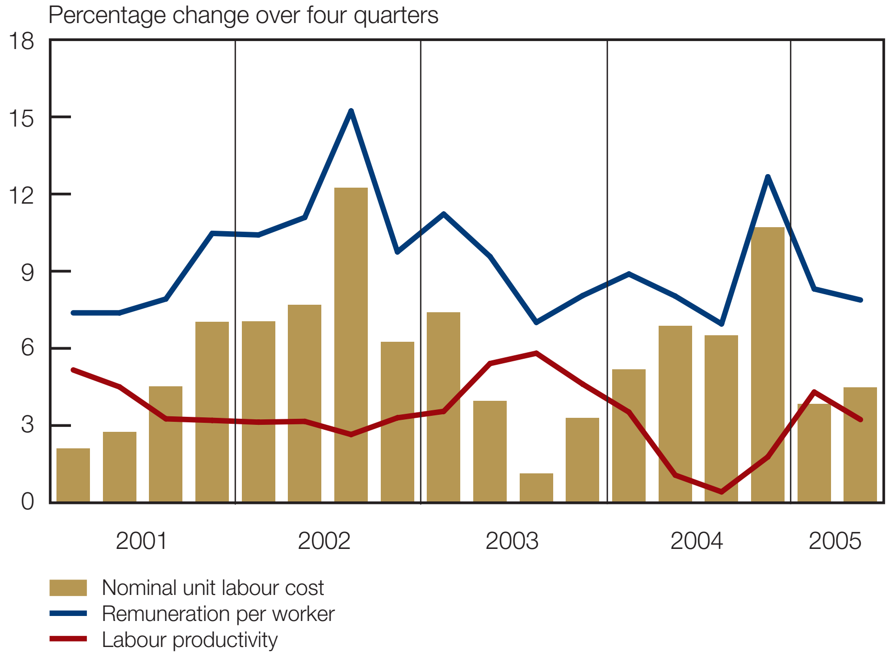
upgraded South Africa's long-term foreign currency rating from BBB to BBB+ and the local currency rating from A to A+ in August. Later in August, Fitch rating agency also upgraded South Africa's foreign currency rating to BBB+ from BBB, short-term rating from F3 to F2, and raised the country's ceiling from BBB+ to A-. The reasons given for these upgrades include South Africa's improved growth performance, its reasonable level of international liquidity, and the credibility of monetary policy. Fitch also highlighted South Africa's improved external balance sheet and the associated accumulation of official reserves.

Other factors which have influenced the exchange rate include better-than-expected GDP data for the second quarter of 2005 and the significant inflow of capital in the past six quarters. The period between April and October 2005 saw net purchases of about R29 billion worth of bonds and equities by foreigners. The deficit on the current account of the balance of payments also contracted to 3,4 per cent of GDP during the second quarter of 2005 compared to 3,8 per cent during the first quarter.

Labour markets

Inflationary pressures arising in the labour market are influenced by developments in both wages and productivity. Higher productivity essentially moderates the inflationary impact of any given wage increase. Growth in unit labour cost, measured as the ratio of the growth rates of remuneration per worker to labour productivity, is therefore an important indicator for assessing inflationary pressures arising in the labour market. Figure 8 reveals that although year-on-year growth in remuneration per worker slowed in the second quarter of 2005, labour productivity growth weakened more, resulting in growth in unit labour cost increasing from 3,8 per cent in the first quarter of 2005 to 4,5 per cent in the second quarter. On average, however, the 4,2-per-cent growth in unit labour cost in the first half of 2005 is lower than the 7,3 per cent average recorded in 2004.

Figure 8 Remuneration per worker, labour productivity and unit labour cost in the formal non-agricultural sector



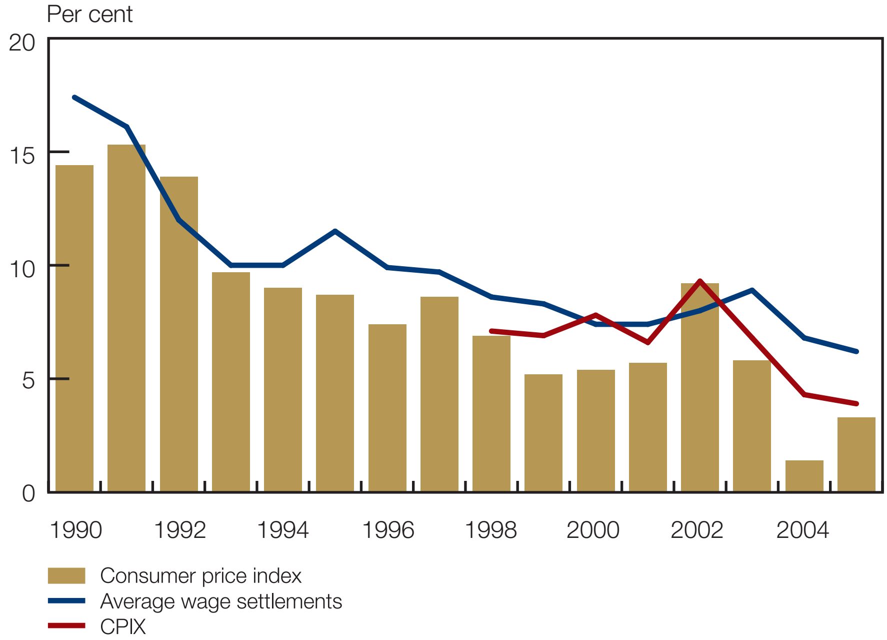
Source: Statistics South Africa

Note: Data from the fourth quarter of 2004 are from the *Quarterly Employment Statistics* (QES) published by Statistics South Africa, which replaced the *Survey of Employment and Earnings* (SEE) in June 2005. Since these two surveys differ both in terms of their sample sizes and content, data from the fourth quarter 2004 onwards may not necessarily be fully comparable with previous periods.

Growth in labour productivity, which had been rising since the third quarter of 2004, slowed to 3,2 per cent in the second quarter of 2005 from 4,3 per cent in the first quarter. The slowdown in the rate of productivity growth is due to the growth in value added expanding at a slower rate than that of employment. The new *Quarterly Employment Statistics* survey released by Statistics South Africa, which replaces the *Survey of Employment and Earnings*, reports that the year-on-year rate of increase in nominal remuneration per worker was 8,3 per cent and 7,9 per cent in the first and second quarters, respectively, having declined from a high of 12,7 per cent in the fourth quarter of 2004.

The slowdown in the growth of remuneration per worker in the first half of 2005 is also reflected in wage settlements, as depicted in Figure 9. Despite the intense bargaining and strike activity that characterised wage negotiations this year, the rate of increase in wage settlements maintained a downward trend. For the year until September 2005, growth in wage settlements averaged 6,2 per cent, compared to last year's average of 6,8 per cent.

Figure 9 Average annual inflation and wage settlements*



* Data for 2005 are the average of the first three quarters

Sources: Andrew Levy Employment Publications and Statistics South Africa

Demand and output

Growth in the South African economy regained momentum in the second quarter of 2005. Table 5 shows that quarterly real GDP growth accelerated from an annualised rate of 3,5 per cent in the first quarter of the year to 4,8 per cent in the second quarter. The rapid expansion in economic activity in the second quarter marked the twenty-third consecutive quarter of uninterrupted growth since the economy began the current upswing in 1999.

The contributions to GDP growth in the second quarter were broadly based, with strong performances recorded in agriculture as well as in the secondary and tertiary sectors of the economy. Buoyant horticultural-sector performance boosted the gross value added by the agricultural sector, while manufacturing and construction bolstered the output of the secondary sector. The continued resilience of domestic demand added impetus to manufacturing output while activity in the construction sector remained buoyant (as discussed in a later section). Several subsectors within the tertiary sector also recorded impressive growth rates.

Aggregate gross domestic expenditure growth increased from 1,7 per cent in the first quarter of 2005 to 4,9 per cent in the second quarter. The high second-quarter growth rate is attributed to the continued expansion in final consumption expenditure by households and the rebound in final consumption expenditure by general government.

Table 5 Growth in real gross domestic product and expenditure components

Per cent*

	2004				2005	
	2nd qr	3rd qr	4th qr	Year	1st qr	2nd qr
Final consumption expenditure by households	6,4	6,6	7,1	6,1	5,5	5,9
Final consumption expenditure by government	6,2	0,2	13,2	7,2	1,2	5,3
Gross fixed capital formation	10,1	7,4	9,1	9,4	10,1	5,7
Change in inventories** (R billions)	14,9	13,6	7,6	11,4	1,0	2,1
Gross domestic expenditure	**8,8**	**2,6**	**4,4**	**6,3**	**1,7**	**4,9**
Exports of goods and services	15,9	11,4	23,8	2,9	-13,3	23,9
Imports of goods and services	34,1	-0,5	23,3	12,9	-17,2	22,8
Gross domestic product	**4,4**	**5,7**	**4,0**	**3,7**	**3,5**	**4,8**

* Quarterly data refer to quarter-on-quarter growth at annual rates of seasonally adjusted data
** Constant 2000 prices

Growth in real final consumption expenditure by households, which accounted for 64 per cent of expenditure on GDP, remained brisk. In the second quarter of 2005 it increased at a rate of 5,9 per cent compared to the 5,5 per cent recorded in the previous quarter. All major spending categories recorded sustained growth. Growth in real final consumption expenditure by general government rose sharply from 1,2 per cent in the first quarter to 5,3 per cent in the second quarter of 2005, due mainly to higher growth in expenditure on non-wage goods and services although real compensation of employees also picked up slightly.

Real fixed capital formation grew by 5,7 per cent in the second quarter of 2005 compared to the 10,1-per-cent growth rate recorded in the first quarter. All institutional sectors – private business enterprises, general government and public corporations – recorded sustained growth in investment spending. The somewhat slower overall growth in the second quarter was mainly attributable to less buoyant increases in public corporations' capital expenditure.

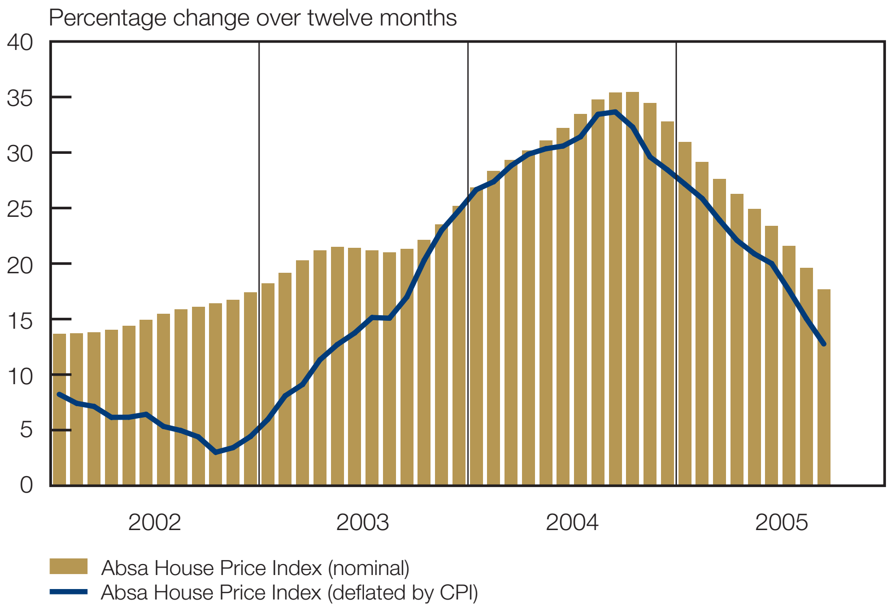
Developments in the external sector of the economy occurred against the backdrop of a somewhat slower pace of global economic expansion and an acceleration in domestic expenditure. The growth in the value of exports of goods and services rebounded from -13,3 per cent in the first quarter of 2005 to 23,9 per cent in the second. Similarly, import values grew by 22,8 per cent in the second quarter after contracting by 17,2 per cent in the first quarter of the year. Crude oil imports represented approximately 12,9 per cent of the value of merchandise imports in the second quarter of 2005 compared to 9,5 per cent in the first quarter. The slightly more subdued growth in real imports together with further increases in real exports contributed to a current-account deficit narrowing from 3,8 per cent of GDP in the first quarter of 2005 to 3,4 per cent in the second quarter.

The deficits on the current account in the first two quarters of 2005 were more than fully covered by surpluses on the financial account, leading to continued surpluses on the overall balance of payments. South Africa's reserve position strengthened further over the past months as the Bank continued to purchase foreign exchange with the objective of building reserves in a prudent manner. At the end of September 2005 gross reserves amounted to US$19,5 billion and the international liquidity position was US$16,1 billion. This can be compared to the situation at the end of May 2005, when gross reserves stood at US$17,2 billion while the international liquidity position was US$13,7 billion.

Real-estate and equity prices

The growth in house prices continued to moderate in the period under review. Figure 10 shows that after rising sharply to peak at over 35 per cent in September and October 2004, the year-on-year rate of increase in the Absa House Price Index declined continuously to reach 17,6 per cent by September 2005. This growth rate is the lowest recorded by the index since December 2002. The average year-on-year increase in the first nine months of 2005 was 24,3 per cent. Real house prices measured relative to the CPI experienced a similar slowdown, growing by 12,8 per cent in the twelve months to September 2005 compared to the 33,7 per cent growth rate recorded in September 2004.

Figure 10 House prices



Source: Absa

Note: The Absa House Price Index records the total purchase price of houses in the 80 – 400 m² size category, valued at R2,2 million or less in 2004 and for which loan applications were approved by Absa.

Building statistics published by Statistics South Africa suggest that economic activity in the real-estate market remains buoyant (Table 6). In the first eight months of 2005 the real value of buildings completed and building plans passed grew by 30,1 and 41,1 per cent, respectively, compared to the same period in 2004. The growth in the value of residential building plans passed appears to have slowed relative to 2004, recording 30,4 per cent growth in the eight-month period, while that of the non-residential and additions and alterations categories accelerated to 70,2 and 50,2 per cent, respectively.

Equity prices on the JSE Limited (JSE), which had weakened from mid-March to the end of April 2005 in step with world markets, recovered strongly to repeatedly set new all-time highs. As Figure 11 shows, the closing level of the daily all-share price index rose by over

Table 6 Real value of building plans passed and buildings completed
Annual percentage change

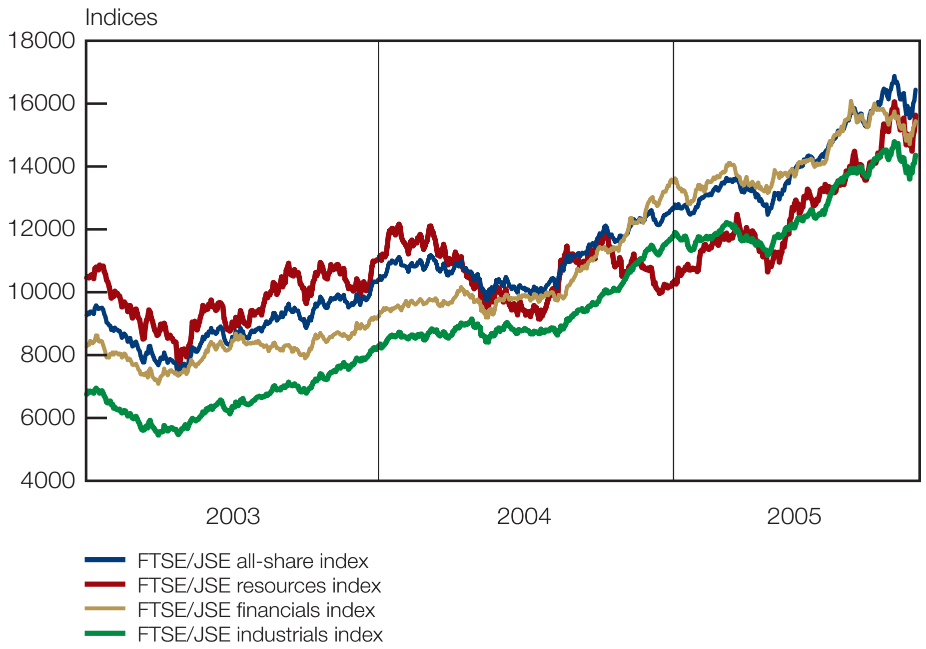
	2002	2003	2004	2005*
Building plans passed				
Total	**17,2**	**11,3**	**35,7**	**41,1**
Residential	18,8	16,3	42,0	30,4
Non-residential	13,4	3,5	23,8	70,2
Additions and alterations	16,3	6,3	29,1	50,2
Buildings completed				
Total	**3,2**	**6,8**	**26,2**	**30,1**
Residential	31,2	8,1	38,4	37,6
Non-residential	-35,7	8,7	8,2	13,5
Additions and alterations	-0,1	1,4	7,9	20,4

* Figures in this column are the percentage changes for the first eight months of 2005 compared to the first eight months of 2004

Source: Statistics South Africa

35 per cent from a low of 12 467 in April to reach 16 876 on 30 September, before declining somewhat. The resources index performed particularly strongly over this period, with firm commodity prices contributing to growth of over 50 per cent. Financial share prices were supported by the lower interest rate environment and the acquisition of a controlling interest in Absa Bank by Barclays plc.

Figure 11 Share price indices



Fiscal policy

Key indicators of the fiscal policy stance are presented in Table 7, which reports the revised estimates for the fiscal year 2005/06 and medium-term projections for the fiscal years to 2008/09 provided by the *Medium Term Budget Policy Statement* (MTBPS) released on 25 October 2005. Revenue for 2005/06 is now expected to increase to R400,1 billion, R30,2 billion more than the estimate provided in the February 2005 Budget, as a result of the strong growth performance of the economy, robust consumer expenditure, higher company profits and growth in imports. This represents 25,9 per cent of GDP, a ratio which is expected to remain stable in the medium term. The revised estimate for expenditure in 2005/06 is R415,8 billion, or 27,0 per cent of GDP, slightly below the R417,8 billion projected in the 2005 Budget in February. The resulting revised budget deficit for 2005/06 is R15,7 billion (1,0 per cent of GDP, compared to the 3,1 per cent of GDP projected in February). The deficit is projected to average around 2,1 per cent of GDP over the next three years. The revised public-sector borrowing requirement is 1,2 per cent of GDP in 2005/06, increasing to around 3,4 per cent in the medium term.

Table 7 Public finance: Ratios to gross domestic product

Per cent

	2004/05	2005/06		2006/07	2007/08	2008/09
	Actual	Budget	Revised estimates	Medium-term estimates		
National government						
Revenue*	24,7	24,2	25,9	25,8	25,8	25,9
Expenditure*	26,2	27,3	27,0	28,0	27,9	28,0
Deficit (-)	1,5	3,1	1,0	2,2	2,1	2,0
Total loan debt (gross)	36,1	36,0	35,0	33,5	32,3	31,5
PSBR**	2,2	3,9	1,2	3,4	3,5	3,4

* Includes provision for RSC levies of R7 billion in 2006/07, R8 billion in 2007/08 and R9 billion in 2008/09

** PSBR: Public-sector borrowing requirement

Source: National Treasury, 2005. *Medium Term Budget Policy Statement*

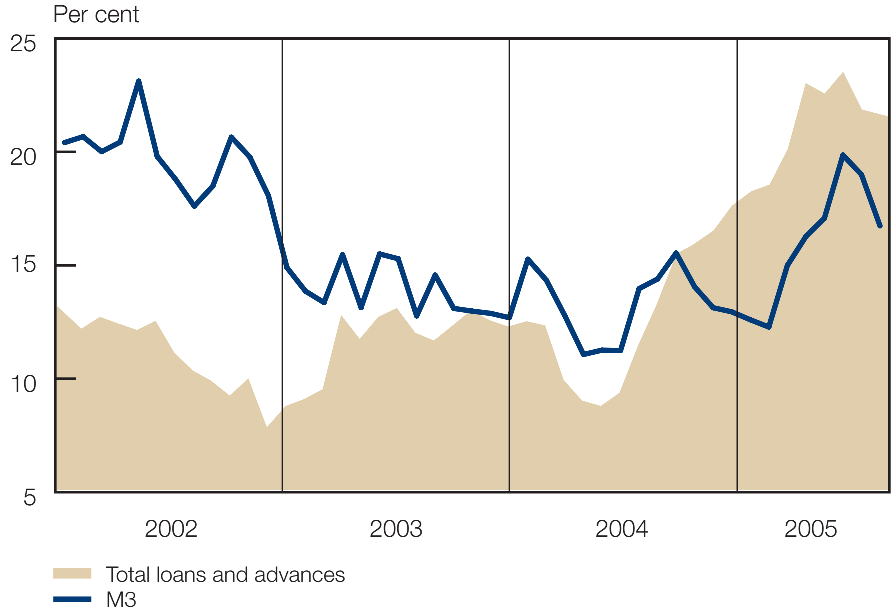
Monetary conditions

Growth in the monetary aggregates has trended upward in 2005, partly reflecting the robust acceleration in aggregate real gross domestic expenditure. For the first nine months of 2005, the average monthly year-on-year growth rate for the broad monetary aggregate (M3) was 15,8 per cent compared to 13,3 per cent in the corresponding period in 2004 (Figure 12). The rate of growth in M3 accelerated from 15,0 per cent in April 2005 to 19,9 per cent in July, before declining to 16,7 per cent in September. The quarter-on-quarter annualised growth rate for seasonally adjusted M3 increased from 6,3 per cent in the first quarter of 2005 to 29,3 per cent in the third quarter.

The growth rate of M2 exhibited the same robust upward trend evident in M3. For the first nine months of 2005, the average monthly year-on-year growth rate in M2 was 15,5 per cent compared to the corresponding 12,3 per cent in 2004. The monthly year-on-year growth in M2 increased from 11,8 per cent in March 2005 to 20,0 per cent in July, before slowing to 17,1 per cent in September. The quarter-on-quarter annualised rate of growth in seasonally adjusted M2 increased from 5,2 per cent in the first quarter of 2005 to 29,7 per cent in the third quarter of the year.

The narrower monetary aggregates also grew strongly in 2005. M1A and M1 showed average monthly year-on-year increases of 15,7 per cent and 13,3 per cent, respectively, for the first nine months of 2005. Quarter on quarter, the annualised rate of growth in seasonally adjusted M1A and M1 increased from 18,0 per cent and 0,5 per cent, respectively, in the first quarter of 2005, to 26,8 per cent and 36,9 per cent in the third quarter.

Figure 12 Growth in monetary aggregates



For the period under review, the value of total bank loans and advances to the private sector continued to accelerate, mainly driven by a robust increase in asset-backed credit (mortgage advances, leasing finance, and instalment sales credit). On average, the year-on-year growth rate in total loans and advances was 20,8 per cent in the first nine months of 2005, compared to the corresponding average rate of 12,3 per cent during 2004. The monthly year-on-year growth rate of total loans and advances increased from 18,6 per cent in March 2005 to 23,5 per cent in July, before declining to 21,5 per cent in September. Quarter-on-quarter seasonally adjusted total loans and advances recorded an annualised growth rate of 18,2 per cent in the third quarter of 2005 compared with 21,2 per cent in the first quarter of the year.

Box 2 The demand for M3 in South Africa

The money demand function typically shows the relationship between monetary aggregates, income and interest rates. The stability of this function, along with the purported high correlation between money growth and inflation in historical data[2], was central to the monetarist view that monetary targeting should be the cornerstone of a non-inflationary policy stance[3]. The experience with monetary targeting has not been a success[4], however, and a number of central banks have recently shifted toward inflation targeting as a monetary policy framework.

Within an inflation-targeting framework, monetary aggregates are considered together with other variables that act as leading indicators of prices and output, and their usefulness depends partly on the existence of a stable money demand function. This box reports on research into the long-run demand for M3 in South Africa, its stability and the long-run link between M3 and inflation[5].

The long-run demand function is estimated using the following log linear specification:

$$m_t - p_t = \beta_0 + \beta_1 y_t + \beta_2 Rs_t - \beta_3 Rl_t - \beta_4 \Delta p_t + \eta_t \qquad (1)$$

where m_t and p_t are logs of nominal money balances (M3) and consumer prices (CPI), respectively; y_t is the log of a real scale variable (GDP); Rs_t is the the central bank's accommodation rate and serves as a proxy for the own-rate of return on M3; Rl_t is the long-term bond yield and measures the return on financial asset alternatives to money, and t is a time subscript. Inflation (Δp_t), measured as the log first difference, represents the additional opportunity cost of holding money and could be thought of as the

2 *For example, see McCandless and Weber (1995).*

3 *South Africa pursued a monetary policy strategy that included setting some pre-announced M3 targets from 1986 to 1989 and M3 guidelines from 1990 until formal inflation targeting was introduced in 2000.*

4 *In this regard, a former governor of the Bank of Canada, Gerald Bouey, famously noted: "We didn't abandon the monetary aggregates, they abandoned us."*

5 *There is debate about which monetary aggregate, i.e. M1, M2 or M3, best captures the concept of money that is likely to be most closely associated with inflation.*

return on goods. β_0 is a constant, $\beta_1,...\beta_4$ are coefficients with their expected signs and η_t is the Gaussian error term.

Seasonally unadjusted quarterly data for South Africa for the period 1980 to 2003 are used, with seasonality accounted for by appropriate seasonal dummies. With the exception of interest rates, all variables are in natural logarithms. Dummy variables were inserted for the second and third quarters of 1998 (a period corresponding to very high interest rates due to the emerging-markets crisis), and for the third quarter of 1984 (period corresponding to the elimination of banking competition restrictions which allowed new entry into the banking industry, and also a period of high interest rates).

Equation (1) is estimated using the cointegrated vector autoregressive framework of Johansen (1991, 1995). The identified long-run money demand[6] function is:

$$m_t - p_t = 3{,}200y_t - 6{,}297(Rl_t - Rs_t) - 0{,}006_t \qquad (2)$$

Recursive tests for stability proposed by Hansen and Johansen (1999) suggest that this M3 demand relationship is stable over the sample period, when short-run fluctuations are corrected for.

The income elasticity indicates that an increase of one per cent in income generates an increase of 3,2 per cent in real money balances in the long run. This elasticity is high by international standards. This could be a reflection of the importance of the portfolio (store of value) motive for holding money but might also be a reflection of a wealth variable omission bias. It may also be due to changes in income distribution in South Africa such that increases in income are concentrated in the poor sectors and their money use rises much faster than overall income.

The coefficient on the interest rate spread $(Rl_t - Rs_t)$ in Equation (2) is a semi-elasticity since the interest rates are not in log form. The negative sign indicates that an increase in the opportunity cost of holding money results in a decline in real balances in the long run, as agents switch from money to other high-yielding assets.

The adjustment dynamics suggest that only income and real money are error correcting to the money demand relation, i.e. they adjust to disequilibrium in the money demand as reflected by significant adjustment coefficients in the vector error-correction model (not shown in this box). Both interest rates are not error correcting in this sense. More importantly, there is a positive adjustment coefficient in the inflation equation as theory would suggest, such that excess money exerts upward pressure on inflation and as inflation rises, real money decreases to restore equilibrium. However, the corresponding adjustment coefficient is statistically insignificant, which is interpreted here to mean that the link between M3 and inflation is rather weak.

The weak link between M3 and inflation could be attributable to a variety of factors. Firstly, it could be due to measurement errors in variables. In particular, the simple sum accounting approach that is used to measure monetary aggregates assumes that all components are perfect substitutes and this may not be the case[7]. Secondly, this study uses the CPI as a measure of prices. Other measures of prices such as the CPIX, core inflation, the GDP deflator or any other measure of prices, may yield a different conclusion.

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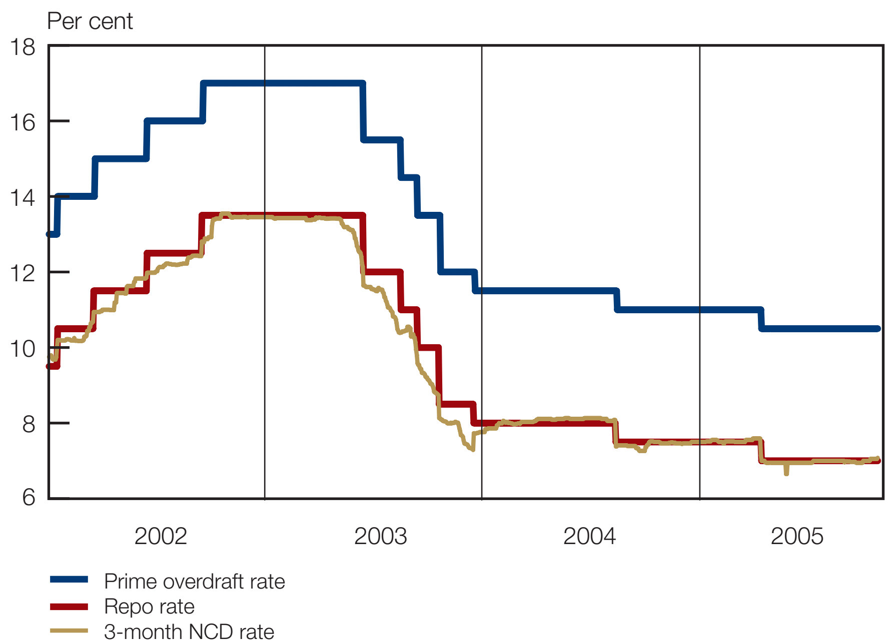
6 Equation (1) was estimated using the cointegrated vector autoregressive framework of Johansen (1991, 1995). On the basis of a well-specified VAR with two lags and Johansen (1995) Bartlett-corrected trace statistics, three cointegrating vectors between the variables in Equation (1) were selected. Equation (2) was obtained by normalising the first cointegrating vector on money, imposing a zero restriction on inflation and equal coefficients on interest rates. Appropriate restrictions were also imposed on the other cointegrating vectors and are discussed in Todani (2005). All coefficients are statistically significant at the 5-per-cent level.

7 This problem may be mitigated by computing the Divisia indices for monetary aggregates. See Fisher, et al. (1993) for a discussion of the theory and practice of these indices.

Monetary policy

Against the backdrop of a strongly growing domestic economy and robust domestic demand, there has been no change in the monetary policy stance since the previous *Monetary Policy Review*. Consequently, the repurchase rate has remained unchanged at 7 per cent per annum (Figure 13). The inflation outlook deteriorated moderately over the past six months, and by the October meeting of the Monetary Policy Committee (MPC) the first-round effects of the fuel price increases were apparent. The MPC's view has consistently been that there is little that monetary policy can do to avoid these initial effects. The view of the committee is that the appropriate action would be to accept such first-round price increases and to focus on preventing these price increases from being passed on – the so-called second-round effects. If these second-round effects are minimal, the initial impact on inflation will be short-lived. Box 3 discusses the problems policy-makers face in dealing with shocks such as significant oil price increases (p. 27).

Figure 13 The repo and short-term interest rates



As usual, the central forecast of the Bank's model is a useful tool, although it does not play a determining role in the MPC's monetary policy decisions. In the earlier part of the year, despite the threats posed by international oil prices, the outlook became increasingly benign and culminated in the reduction in the repo rate in April. At the subsequent three meetings, however, there was a progressive deterioration in the forecast. At the June meeting it was noted that the central forecast for CPIX inflation was expected to peak in the first quarter of 2006 at a level slightly higher than the previous forecast of around 5,0 per cent, and then to decline to a level of around 4,8 per cent at the end of the year. The moderately higher forecast was seen to be a consequence of revised expectations relating to petrol prices, the exchange rate and the easing of monetary conditions.

In August, a similar trajectory for the central CPIX inflation forecast was reported, although the peak was expected to be higher, at a level slightly below 5,5 per cent. This marginally higher forecast reflected changes in the oil price and exchange rate assumptions. In October, the outlook deteriorated further, mainly as a result of significantly higher oil price assumptions, as international oil prices continued to surprise on the upside. Nevertheless, CPIX inflation was still expected to remain within the target range for the forecast period. The forecast presented to the MPC in October is reproduced later in this review. The MPC's views on the outlook for some of the determinants of inflation are highlighted below.

The main themes running through the MPC deliberations over the past six months were the petrol price developments and the robust domestic demand which was also reflected in accelerating credit extension. International oil prices had already had a significant impact on monetary policy discussions for a number of months. Not only were these prices trending upward, there was also a high degree of volatility as a range of factors such as geopolitical tensions, supply disruptions and weather conditions confounded most forecasts. By the August meeting Brent crude prices had reached new record levels, having breached US$64 per barrel, despite further increases in official production quotas by OPEC. Worse was still to come, and in the wake of hurricanes Katrina and Rita, oil prices reached levels of around US$70 per barrel. By the October meeting, the price of Brent crude had fallen below US$60 per barrel, having averaged US$64,50 and US$63 in August and September, respectively. Although there appeared to be some respite in the oil markets, the MPC felt that the volatility of international oil prices meant that significant upside risk would remain.

As noted earlier, the implication of these international oil price fluctuations was a cumulative increase in the petrol price of R1,41 per litre in the period between April and October 2005. This had a marked impact on the CPIX inflation data presented to the October meeting (the latest available inflation rate, for August, was 4,8 per cent). However as was noted by the MPC, these increases were in line with expectations, and given that CPIX inflation excluding petrol and diesel had remained relatively stable at a level of around 3,5 per cent, there were no signs of second-round effects at that stage. Nevertheless it did raise the issue of how pre-emptive monetary policy should be.

Because monetary policy acts with a lag, it has to be forward-looking. It is estimated that an interest rate change takes between 18 and 24 months to fully work through to prices. This does not mean that monetary policy has no effect at all in the short term, however. It is estimated that in South Africa, half of the effect of monetary policy actions is felt after about 9 months. Whatever the nature of the lag, it means that monetary policy has to be forward-looking, as there is little that can be done about current inflation. The problem for policy-makers is that the future is inherently uncertain, and any pre-emptive action requires taking a view on events that are difficult to predict. A different policy reaction would be appropriate if international oil prices were expected to stabilise at current levels compared to a scenario where they continue on their erratic upward trend. A reversal towards lower levels could also require a different stance. The difficulty is compounded by the fact that the ultimate impact on domestic fuel prices and domestic inflation is also affected to a significant degree by the exchange rate of the rand, which itself is difficult to predict. Monetary policy therefore has the difficult task of weighing up the risk of taking potentially unnecessary or incorrect action by being too pre-emptive, against the cost of delaying too long before taking excessive action. As is noted in Box 3, the greater the credibility of monetary policy, the less pre-emptive monetary policy may need to be. This may explain in part why the impact of the higher oil prices on domestic and world inflation has been more moderate than initially feared.

Despite the higher oil prices, world inflation is still expected to be well contained. The MPC noted in October that although the IMF's *World Economic Outlook* had raised its forecast for world inflation in 2006 from 3,1 per cent to 3,7 per cent, this was nevertheless lower than the revised 3,9 per cent average expected for 2005. This indicates that world inflation is expected to remain under control. The continued subdued world inflation has been one of the considerations in the setting of domestic monetary policy. The higher oil prices had previously resulted in a 0,5-per-cent downward revision of world economic growth, and the current forecast expects world growth to be sustained at a robust rate of 4,3 per cent.

Wage developments are an important element in the pass-through process, although this may take some time to manifest itself, given the lag in wage negotiations. At the April meeting the MPC had commented on the divergence between wage settlement trends and unit labour cost trends. By August there was greater consistency between the two, and unit labour costs appeared to be in line with the inflation target. These trends were confirmed at the October meeting.

A crucial element in the wage and price formation process is inflation expectations. The second-quarter inflation expectations survey conducted by the Bureau for Economic Research showed that lower inflation expectations had remained entrenched, with little change from the first quarter's optimistic outlook. However, in the third-quarter survey, it became evident that the higher oil prices were beginning to have a negative impact on inflation expectations. This trend was confirmed in the breakeven inflation rates, measured by the spreads between the yields on South African CPI inflation-linked bonds and conventional nominal bonds of the same maturity. The committee noted that if the deterioration in expectations was to continue, it would be a cause for concern.

Domestic demand growth remained an important focus of MPC deliberations. As seen earlier, domestic expenditure remained robust and was sustained by higher consumer confidence, the moderately stronger rand, lower interest rates, higher real incomes and high asset prices. Although asset prices were boosted by the strong increases in share prices on the JSE, there was continuing evidence that the rate of increase in house prices is declining. During this period, motor vehicle sales also reached new record levels, although by September there was a decline in the rate of growth of new vehicle sales. Nevertheless, although the strong consumer demand continued over the period, there was little evidence of inflationary pressure emanating from this.

Both money supply and credit extension accelerated significantly over this period, reflecting the robust domestic demand. In the earlier part of the year, M3 money supply growth had remained fairly stable at around 12 per cent on a year-on-year basis. However, by July and August M3 was growing by almost 20 per cent year on year, and credit extension was growing even faster. As before, much of this was related to mortgage loans, reflecting the buoyant conditions in the property market, and the purchase of motor vehicles. The MPC noted the progressive rise in consumer indebtedness, as household debt as a percentage of disposable income rose from 60 per cent in the first quarter to 62 per cent in the second quarter of 2005. However, it was also noted that the debt servicing ratio remained low and unchanged at around 6,5 per cent of disposable income.

On the output side, the outlook changed significantly over the past period. Earlier in the year the committee had commented on the downturn in the manufacturing sector in particular. By June it was clear that the contraction in this sector had reduced GDP growth in the first quarter of 2005. This trend was also reflected in the continued downward movement in the leading business cycle indicator and the decline in manufacturing capacity utilisation. However, by the August meeting the outlook had changed significantly and indications were that the output gap had narrowed.

Manufacturing production had recovered, the leading indicators were positive and the various business confidence and trade activity indices showed that expectations were strongly positive. By October these trends had been confirmed with second-quarter GDP growing by 4,8 per cent, a further increase in capacity utilisation and a favourable outlook indicated by the leading business cycle indicator.

The MPC also took cognisance of the current-account deficit which had increased to 4 per cent of GDP in the final quarter of 2004. By the June meeting it was clear that there would be a moderate narrowing of the deficit as a result of an improvement in the trade balance. The deficit measured 3,8 per cent of GDP in the first quarter and subsequently improved further to 3,4 per cent in the second quarter. However, the MPC noted that the trade deficit is likely to widen in the third quarter. Nevertheless, over the period the deficit was financed by capital inflows which also allowed for an increase in foreign exchange reserves.

A deterioration in the current account is not in itself a threat to the inflation outlook. The potential threat to inflation comes through its possible impact on the exchange rate. The strong capital inflows meant that this threat was not significant. During the period under review the exchange rate of the rand remained relatively stable. At the June meeting the rand had depreciated on a trade-weighted basis by 5,7 per cent since the previous meeting. At these levels it was within the range in which it had traded for much of the previous year. The MPC expressed the view that this retracement was unlikely to have a significant impact on the inflation outlook. By August there had been a moderate appreciation of the rand, and by the October meeting the rand had experienced a marginal depreciation on a trade-weighted basis. The rand's movements were also determined by US dollar movements, rather than by domestic factors alone. As noted in the June MPC statement, although the US is likely to outperform growth in the euro area, Japan and the UK, significant macroeconomic imbalances remain, contributing to the uncertain outlook for the US dollar.

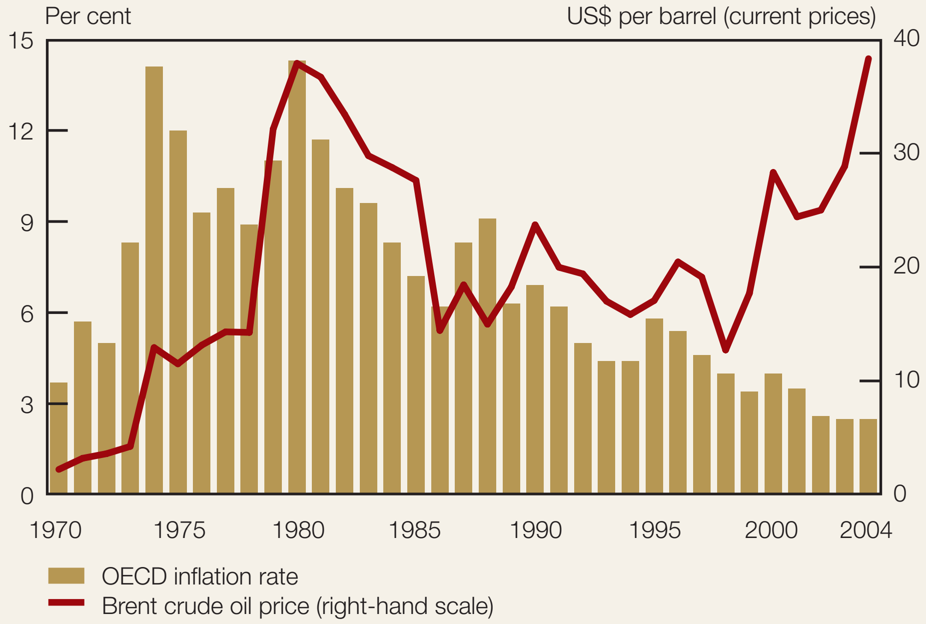
Other issues raised by the MPC included fiscal policy, which remained supportive of monetary policy; the moderate downward trend in the inflation rates of services prices and non-petrol administered prices; and the level of food price inflation which remained low despite the recent increases in maize prices.

Overall, this past period has shown some deterioration in the inflation outlook and inflation expectations. It appears that these developments are driven primarily by international oil price developments. Although this has not resulted in a change in the stance of monetary policy, the MPC expressed concern about these developments. The committee reiterated its position that it would not react to first-round effects of higher oil prices but stressed that it has to remain vigilant in anticipating second-round effects. Although at the time of the October meeting there was no conclusive evidence of these effects, the MPC warned that the increased risk of this happening would inform future policy-making.

Box 3 Policy responses to oil price shocks

Oil price shocks pose a number of problems for monetary policy-makers. Although these are perhaps fewer than in the past, as Bernanke (2004) notes, the economic consequences are still unpleasant. Sharp increases in oil prices tend to result in higher inflation, slower growth in output, or a combination of these effects. Whether the oil price increase is a spike or more permanent is also important in this regard. In response, policy-makers have only one policy instrument at their disposal, generally the interest rate, which influences both output and inflation in the same direction.

Figure B3.1 OECD inflation and oil prices



Sources: Bloomberg and IMF International Financial Statistics

The effects of oil price shocks are well known. Higher oil prices result in slower growth in output in the short term by reducing aggregate demand. In the case of an oil-importing country, higher oil prices curtail domestic spending on other goods unless accommodated by monetary policy. At the same time, higher oil prices increase inflationary pressures in the economy. The increase in international crude oil prices is passed through to domestic energy prices with a short lag, and appears in producer and consumer price indices soon thereafter. This direct impact is generally termed the "first-round effect" of the oil price shock, and is partly determined by the weight of energy prices in the relevant index. Furthermore, price and wage-setting behaviour in the economy may also be influenced by these first-round effects, as firms and labour pass through the increase in energy prices, so magnifying the impact on overall inflation. These indirect effects are sometimes termed "second-round effects". The overall impact of the oil price shock on inflation therefore conceptually contains both first and second-round effects. In the 1970s and early 1980s, for example, both the first and second-round effects of oil price shocks were generally large. Focusing on a measure of "core" inflation, which excludes energy prices from the overall inflation rate, may help to distinguish the second from the first-round effects of the shock.

How then should monetary policy-makers respond to such oil price shocks? Traditionally, two extreme responses have been compared. The first would be to focus exclusively on cushioning the impact of the oil price shock on output, by easing the monetary policy stance to accommodate the shock. The downside of this approach is that the full inflationary effect of the shock would impact on the economy. Perhaps most importantly, the public's expectations regarding future inflation may rise as a result. These inflation expectations affect wage and price setting in the economy which, in turn, has an effect on the actual rate of inflation. Well-anchored inflation expectations help to minimise the second-round effects of shocks, and to ensure that they have only a moderate and temporary effect on core inflation.

At the opposite extreme of the policy spectrum, policy-makers could opt to focus their efforts entirely on offsetting the impact of the oil price shock on inflation. This approach would entail tightening the monetary policy stance to ensure that the second-round effects of the shock do not arise, even though aggregate output has already been adversely affected. If inflation responds sluggishly to the monetary tightening, this approach is therefore likely to result in large output losses.

Where policy-makers pitch policy relative to these two extreme cases depends on a number of factors. For example, whether the shock is perceived to be permanent or transitory is an important consideration. If the shock is in reality permanent, i.e. oil prices have moved to a new higher level, then there is no reason to accommodate this by easing monetary policy; potential GDP in an oil-importing economy will fall permanently in this case, and actual GDP should therefore also shrink to keep the output gap from widening. However, if the oil price shock is transitory, such as the spike experienced at the time of the Gulf War in 1990-91, and if the output costs of tightening monetary policy are substantial, then using policy to moderate the temporary contraction in output seems sensible, even if this is at the cost of temporarily higher inflation.

A second set of factors that may influence policy-makers relates to the likely size and persistence of the output effects of the oil price shock. The speed with which the oil-exporting countries recycle their increased revenues will affect the size of the overall output effect, as will the oil intensity of production and the flexibility of economies. Although the oil intensity of production has generally declined since the 1970s, suggesting that the impact of oil shocks will have diminished, it tends to be higher in developing countries which are therefore more vulnerable to shocks. It may also matter for policy-makers whether the oil price shock arises on the supply side of the international oil market, for example, as a result of production disruptions or producers withholding supply, or if it results from demand growth in the global economy as has recently been the situation. In the latter case, it is possible that high oil prices will themselves tend to reduce demand and therefore help to stabilise the system, resulting in demand shocks having a less permanent effect on the global economy than true supply shocks (Gramlich, 2004).

The final consideration discussed here relates to the importance of keeping inflation expectations well anchored, and ensuring that the economy has a nominal anchor to secure the inflation rate. When the public's expectation is that inflation will remain low, despite the oil price shock, the second-round effects of the shock are minimised and this helps to contain the overall effect on inflation. In addition, well-anchored expectations help stabilise output and employment. This simply emphasises the lesson for monetary policy-makers that credibility matters. As Gramlich (2004) concludes his discussion of how to respond to oil price spikes, the worst outcome is not the temporary increases in inflation and unemployment that may result, but rather "for monetary policy-makers to let inflation come loose from its moorings".

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The outlook for inflation

Although adverse developments in international oil markets have caused the Bank's inflation forecast to deteriorate recently, CPIX inflation is nevertheless expected to remain within the target range of 3 to 6 per cent over the forecast period. The outlook and uncertainties relating to some of the factors that are incorporated in this projection, as well as the fan chart representation of the Bank's forecast (Figure 15), are discussed below.

International outlook

The global economy has proved remarkably resilient to shocks in recent years and the short-term outlook remains generally positive. However, there are a number of continuing developments that could constrain growth or lead to strains in financial markets. Factors that suggest that the longer-run foundations of the global expansion may become shakier include the rising protectionist sentiments evident in the US and the euro area, rising household-sector indebtedness, growing external and fiscal imbalances, and the dependence of the global economic recovery on continued favourable growth outcomes in the US and China. Unsustainable medium-term fiscal positions also continue to be a risk. In the near term, the potential impact of high and volatile oil and petroleum prices on the prospects for growth and inflation remains the most significant global risk.

The IMF's *World Economic Outlook* sees global manufacturing and trade still strengthening, but warns that the continuing rise in crude oil and refined product prices – recently exacerbated by the impact of the hurricanes in the Gulf of Mexico – is an increasingly important counterbalance to this. Although the IMF projects global GDP growth to average 4,3 per cent in both 2005 and 2006 (Table 8), growth is expected to slow slightly in early 2006, picking up modestly thereafter with the adverse impact of higher oil prices offset by still-accommodative macroeconomic policies, benign financial market conditions (especially low long-term interest rates), and increasingly solid corporate balance sheets. However, the IMF has raised its inflation forecasts for most countries for 2005 and 2006.

Table 8 IMF projections of world growth and inflation for 2005 and 2006*

Per cent

	Real GDP		Inflation rates	
	2005	2006	2005	2006
World	**(4,3) 4,3**	**(4,4) 4,3**	**(3,6) 3,9**	**(3,1) 3,7**
Advanced economies	**(2,6) 2,5**	**(3,0) 2,7**	**(2,0) 2,2**	**(1,9) 2,0**
United States	(3,7) 3,5	(3,6) 3,3	(2,7) 3,1	(2,4) 2,8
Japan	(0,8) 2,0	(1,9) 2,0	(-0,2) -0,4	(0,0) -0,1
Euro area	(1,6) 1,2	(2,3) 1,8	(1,9) 2,1	(1,7) 1,8
United Kingdom	(2,6) 1,9	(2,6) 2,2	(1,7) 2,0	(2,0) 1,9
Other advanced economies	(3,1) 3,2	(3,4) 3,9	(2,0) 2,0	(2,1) 2,3
Other emerging-market and developing countries	**(6,3) 6,4**	**(6,0) 6,1**	**(5,5) 5,9**	**(4,6) 5,7**
Africa	(5,0) 4,5	(5,4) 5,9	(7,7) 8,2	(5,9) 7,0
Central and eastern Europe	(4,5) 4,3	(4,5) 4,6	(5,2) 4,8	(4,0) 4,3
Commonwealth of Independent States	(6,5) 6,0	(6,0) 5,7	(11,4) 12,6	(8,8) 10,5
Developing Asia	(7,4) 7,8	(7,1) 7,2	(3,9) 4,2	(3,4) 4,7
China	(8,5) 9,0	(8,0) 8,2	(3,0) 3,0	(2,5) 3,8
India	(6,7) 7,1	(6,4) 6,3	(4,0) 3,9	(3,6) 5,1
Middle East	(5,0) 5,4	(4,9) 5,0	(8,6) 10,0	(8,3) 9,7
Western hemisphere	(4,1) 4,1	(3,7) 3,8	(6,0) 6,3	(5,2) 5,4

* IMF projections for 2005 and 2006 as at April 2005 in parentheses

Source: IMF *World Economic Outlook*, April and September 2005

The US economy is expected to continue growing at a solid rate during the remainder of 2005 and in 2006. Although GDP growth in the US is expected to ease moderately to 3,3 per cent in 2006 from 3,5 per cent in 2005, it is projected to remain among the highest in the G-7. The hurricanes which hit the Gulf region in the latter part of the third quarter are expected to have a temporary impact on economic growth. A Reuters survey of 23 economists established that estimates of GDP growth in the fourth quarter have been cut to 3,1 per cent compared with 3,4 per cent before the hurricanes hit, but also that economists' forecasts for next year have been revised upward. The Federal Reserve is expected to continue moving away from the accommodative stance that it had maintained from 2001 until the middle of 2004 by further raising the target for the federal funds rate until it reaches a neutral level that will support sustainable growth while at the same time maintaining low inflation.

In the latest *World Economic Outlook*, the IMF highlights the vulnerability of European economies to oil price shocks and cuts the growth forecasts for the four large European economies: Germany, France, the UK and Italy. The growth forecast for the euro area as a whole has been revised downward to 1,2 per cent for 2005 and 1,8 per cent for 2006, while the growth forecast for the UK has been revised to 1,9 per cent for 2005 and 2,2 per cent for 2006. In contrast to its view on Europe, the IMF raised its forecast for growth in Japan in 2005-2006 and if the forecasts of 2,0 per cent in both 2005 and 2006 are borne out, the period from 2004 to 2006 will prove to have been Japan's best period of growth since the economy entered its long stagnation in 1990.

The overall outlook for developing Asia is more uncertain than earlier in the year, with some risks now being accentuated. However, developing Asia's healthy expansion is expected to continue, with a growth projection of 7,8 per cent and 7,2 per cent in 2005 and 2006, respectively. Sustained high GDP growth is forecast for China and India in 2005 and 2006, and although there is general concern for Asian countries regarding higher oil prices, strengthening fundamentals and the impact of large infrastructure investments are expected to outweigh the negative effect of high oil prices.

Growth prospects for emerging-market and developing countries in aggregate remain broadly unchanged. The IMF projects GDP growth in sub-Saharan Africa to rebound to 5,9 per cent in 2006, led by strong growth in oil producers as new capacity is realised. However, in general growth will depend on the strength of policies, improved political stability, and favourable weather conditions.

Outlook for domestic demand and supply

The current business cycle expansion is the longest on record, and although the somewhat softer global growth performance and higher oil prices can be expected to have a growth dampening impact, the outlook for the domestic economy remains broadly favourable. The capital formation outlook, in particular, is positive, given the investment plans of government and the public corporations. The latest Reuters consensus forecast, based on surveys undertaken between September and October 2005, is for real GDP growth of 4,3 per cent in 2005 and 3,9 per cent in 2006. The forecasts are the means of 13 individual forecasts ranging between 4 per cent and 4,5 per cent for 2005, and between 3,5 per cent and 4,6 per cent for 2006. The National Treasury in its MTBPS expects real economic growth of 4,4 per cent in 2005/06 and 4,0 per cent in 2006/07.

Indicators suggest an ongoing improvement in business confidence. The FNB/BER business confidence index posted a near-record high in September 2005 (reaching a level only slightly below the 23-year high recorded at the end of last year). The Standard Bank/Sacob Trade Conditions Survey, which appraises overall trading conditions in South Africa on a monthly basis, indicated that trade conditions, although still robust, had trended slightly weaker in July and August before improving again significantly in September. The medium-term outlook (six months ahead) also continues to be optimistic. Growth rates in both sales volumes and new orders are expected to increase over the medium term.

Consumer confidence is also relatively high, as is borne out by the most recent FNB/BER consumer confidence index for the third quarter of 2005. The improvement in the index was broad based, with confidence remaining robust across all population and income groups. The factors that pushed consumer confidence higher earlier this year remained effective. These include the lowest nominal interest rates in more than two decades, low inflation and continued, albeit more moderate, growth in house and share prices.

All in all, the short to medium-term outlook for domestic demand and supply remains generally favourable, with the main risks arising from a possible deterioration of the external environment. The strong performance of the South African economy thus far in 2005 is expected to continue on the back of robust domestic expenditure growth and an improved contribution from net trade. However, a sustained further increase in oil prices and overly strong domestic demand would raise the risks to external balances and strengthen inflationary pressures.

Indicators of inflation expectations

Although expectations about the future path of inflation are unobservable and therefore difficult to measure, various indicators do provide some insight in this regard. The results of the survey of inflation expectations undertaken by the Bureau for Economic Research (BER) in the third quarter of 2005, which are reported in Table 9, show that the average CPIX inflation expectations of the various groups of survey respondents all increased moderately relative to the results reported in the previous quarter.

Table 9 BER survey of CPIX inflation expectations: 3rd quarter 2005*

Per cent

	2005	2006	2007
1. Finance	(4,2) 4,3	(5,0) 5,3	(4,9) 5,1
2. Business	(4,7) 4,8	(5,0) 5,2	(5,4) 5,5
3. Labour	(4,6) 5,1	(4,7) 5,2	(4,7) 5,5
Average 1 – 3	(4,5) 4,7	(4,9) 5,2	(5,0) 5,4

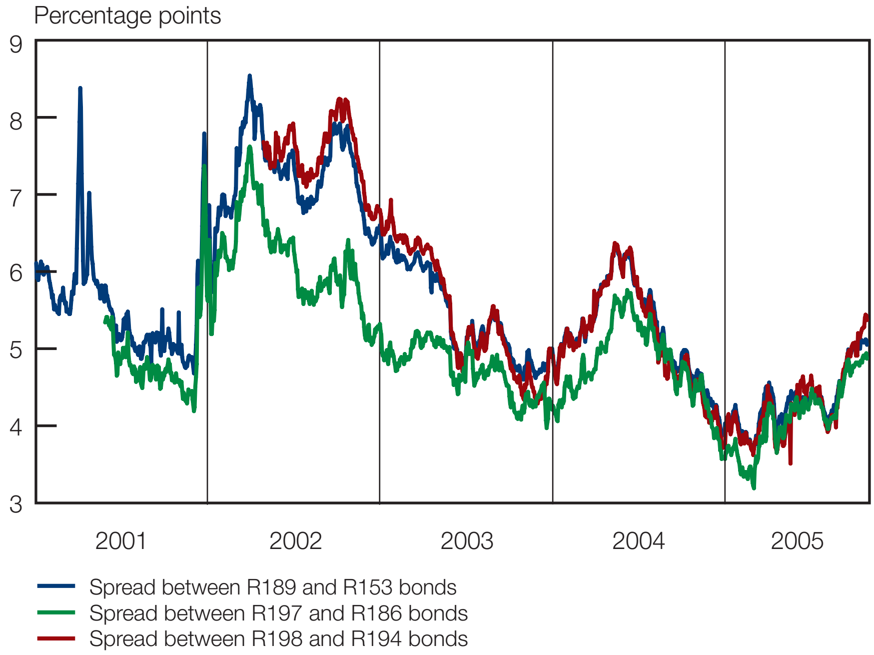
* Second-quarter 2005 results in parentheses

Source: Bureau for Economic Research, University of Stellenbosch

The expectation for average CPIX inflation in 2005 is 4,7 per cent, rising to 5,2 and 5,4 per cent in 2006 and 2007, respectively. These results represent a slight deterioration relative to the results of the survey undertaken in the second quarter of 2005 (expectations are now 0,2 percentage points higher for 2005, 0,3 percentage points higher for 2006, and 0,4 percentage points higher for 2007), possibly reflecting the impact of higher petrol prices on CPIX inflation expectations. The expectations of labour union officials were adjusted by the highest margin compared to the second-quarter survey. Their expectation is now for inflation to rise to 5,1 per cent, 5,2 per cent and 5,5 per cent in 2005, 2006 and 2007, respectively. Expectations of analysts and business have also been revised upward, although by smaller magnitudes. Despite these increases, the CPIX inflation expectations reported by the BER are consistent with the inflation target range of 3 to 6 per cent.

Breakeven inflation rates, measured as the difference between the yields on South African CPI inflation-linked bonds and conventional nominal bonds of similar maturity, are also used to infer information about market participants' expectations of future inflation. These rates reflect not only inflation expectations, but also changes in perceived uncertainty about future inflation and in the perception of liquidity risk. Depicted in Figure 14, they suggest a similar increase in inflation expectations as the BER survey results. Breakeven inflation rates obtained from the R197 (maturing 2023), R189 (maturing 2013) and R198 (maturing 2008) inflation-linked bonds have risen from around 4 per cent in early August 2005 to just below 5 per cent at the end of September.

Figure 14 Breakeven inflation rates



Inflation expectations indicators obtained from the Reuters monthly survey of long-term forecasts for the South African economy, published on 6 October, paint a slightly different picture. This survey reports that CPIX inflation is expected to average 4,2 per cent in 2005, rising to 5,0 per cent in 2006, before slowing to 4,7 per cent in 2007. These results, reported in Table 10, reflect a downward movement from the previous month's survey. The median forecasts have not changed significantly from the previous survey, however, at 4,2 per cent, 5,0 per cent and 4,7 per cent, respectively, for 2005 to 2007.

Table 10 Reuters survey of CPIX forecasts: September 2005*

Per cent

	2005	2006	2007
1. Mean	(4,2) 4,2	(5,2) 5,0	(4,8) 4,7
2. Median	(4,2) 4,2	(5,2) 5,0	(4,7) 4,7
3. Highest	(4,8) 4,8	(5,6) 5,6	(5,8) 5,8
4. Lowest	(4,0) 4,0	(4,4) 4,6	(3,9) 3,7
Number of forecasters	(17) 14	(17) 14	(9) 7

* August 2005 survey results in parentheses

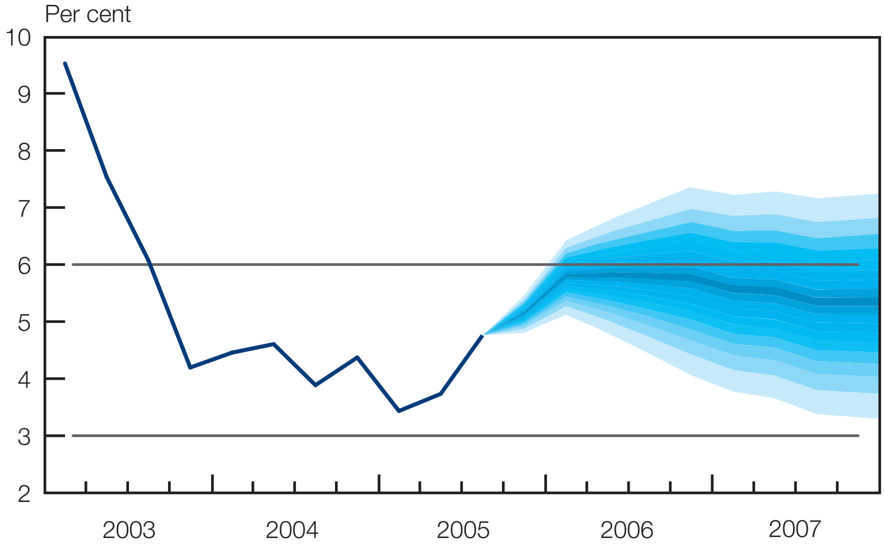
Source: Reuters

The Bank's inflation forecast

Figure 15 presents the Bank's latest quarterly forecast for CPIX inflation. The fan chart has a forecast horizon running to the fourth quarter of 2007, and was presented to the MPC meeting on 12 and 13 October 2005.

The Bank's forecast is for the CPIX inflation rate to remain within the inflation target range of 3 to 6 per cent over the forecast period. Figure 15 shows that the central projection for the CPIX inflation rate will rise to about 5,8 per cent in the second quarter of 2006 before easing slightly to 5,3 per cent in the final quarter of 2007. The probability that the CPIX inflation rate will remain within the inflation target range in the final quarter of 2007 is approximately 70 per cent.

Figure 15 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*).

However, the actual rate of inflation might differ from the central projection on both sides of the distribution due to a number of risk factors. Although they have declined recently, the volatility of international crude oil prices means that they continue to represent a significant upside risk to the forecast. Rising inflation expectations are also a cause for concern, given their role in the price and wage formation process, as are increases in administered prices that exceed the upper limit of the inflation target range. In addition, the increase in maize prices from about R500 a ton earlier in the year to above R800 a ton may have important implications for consumer and production prices, and present some upside risk to the forecast. By contrast, comparatively subdued rates of domestic producer price inflation and subdued foreign inflationary pressures may contribute to a downside risk to the inflation forecast.

Assessment and conclusion

Over the past few months, the inflation outlook has deteriorated moderately, mainly as a result of the risk posed by international oil price developments. Domestic demand and output are also buoyant and point to some additional upward pressure on inflation. To date there has been little evidence of demand pressures or second-round effects of oil price increases impacting on inflation.

Although there is little that monetary policy can do to prevent exogenous oil price increases from impacting on the domestic inflation rate, it has to remain vigilant with respect to the possible pass-through to the prices of other goods and services. The speed and extent to which these petrol price increases are passed through to generalised inflation will depend to a significant degree on inflation expectations, which in turn are partly determined by the credibility of monetary policy. If monetary policy has a high degree of credibility, then the MPC will be expected to react appropriately to prevent the emergence of an inflation spiral.

Despite the fact that there has been some deterioration in inflation expectations, these changes are consistent with the Bank's inflation forecast and the increased risks to the inflation outlook. Although CPIX inflation over the next two years is expected to be higher than in previous surveys, expectations are still in line with the inflation target, and there does not appear to be a widely-held belief that inflation is likely to get out of control. However, a continued deterioration of inflation expectations would be a cause for concern to the MPC, given the critical role of expectations in the price formation process. Expectations will be determined in part by the outlook for the factors that affect inflation and in part by the expected reaction by the MPC to such developments. It is essential therefore for monetary policy to continue to monitor events closely and to take appropriate action when necessary to ensure that the inflation target mandate continues to be achieved.