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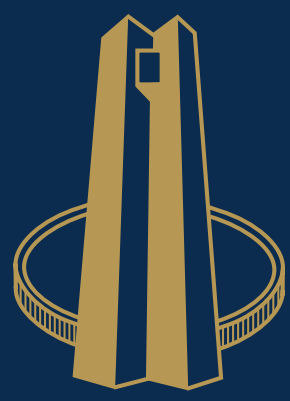
June 2001



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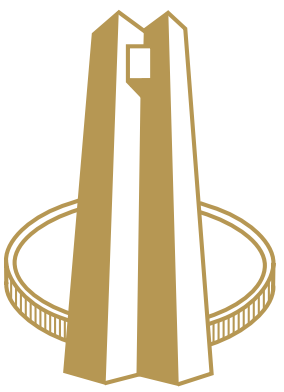

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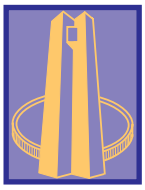

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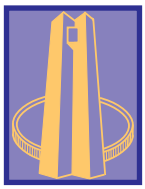

South African Reserve Bank

The dynamics of capital flows in South Africa: an empirical investigation

by G R Wesso

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Quarterly Economic Review

Introduction

World economic growth decelerated noticeably towards the end of last year. In the United States the long period of robust economic expansion almost ground to a halt in the fourth quarter of 2000. Growth recovered somewhat in the first quarter of this year but it is not at all certain whether these slightly better economic conditions will herald a phase of renewed expansion. To date, the euro area has not been affected much by these events, but growth projections for this area by the International Monetary Fund and other reputable forecasting agencies are constantly being scaled down.

Towards the end of 2000 the South African economy, probably because of its closer ties with the euro area, had not been seriously affected by the world economic downturn. However, by the end of the first quarter of 2001 it became clearer that the domestic economy would probably be affected adversely by the cooling down of economic activity in the big economies of the world.

The country's apparent isolation from the global slowdown ended when weaker international demand conditions affected export volumes in the first quarter of 2001. However, the fall in the value of the rand cushioned the full impact of the weakening of the global economy on the domestic economy, preventing a decline in the nominal value of exports.

The recorded decline in export volumes contributed to a slowing down in domestic economic growth from 3 per cent in the fourth quarter of 2000 to 2 per cent in the first quarter of 2001. Growth had already slowed down from 4 per cent in the third quarter of 2000 to 3 per cent in the fourth quarter, but that slowdown had essentially been restricted to the agricultural sector. In the first quarter of 2001 the weakness in the economy spread to other sectors of the economy, and the goods-producing sectors in particular were materially affected.

Aggregate domestic demand remained surprisingly strong and outstripped aggregate output in the first quarter of 2001. Consumption expenditure by households and general government continued to rise steadily, but the growth in real fixed capital formation and inventory investment accelerated, signalling a positive attitude among producers about future growth prospects for the South African economy. Unlike many previous recoveries when heightened investment activity had been concentrated in a few mega projects, growth in investment activity was spread fairly evenly over the various production sectors of the economy during this period.

There was a further shift in the distribution of income towards gross operating surpluses. Against the backdrop of slowing growth and evidence of wage moderation, it seems that some producers, at least, widened their operating margins.

Despite some improvement in gross saving, the national saving rate remained rather low in the first quarter of 2001. General government, focusing primarily on sound fiscal management and spending containment, made a positive contribution to gross saving, but the overall quantum of saving is still too low to sustain rapid growth in the medium term.

The benefits of the current recovery in domestic economic activity spread to the labour market when employment in the formal private sector, apart from agriculture, increased

in the fourth quarter of 2000. This was only the third such increase in the past six years. By contrast, public-sector employment declined further as government organisations maintained their focus on decreasing the cost and improving the efficiency of public-service delivery. Regrettably, the decline in public-sector employment outweighed the small increase in employment in the private sector.

It is important to note that shrinking employment in the formal sectors of the economy does not necessarily imply a corresponding increase in the number of unemployed people. Some of those who are no longer employed in the formal sectors will have found work or created employment in the informal sector or in industries not captured in the employment statistics.

The growing under-utilisation of labour resources is steadily compressing a rise in the cost of labour. Salary and wage increases in the private sector during 2000 fell to rates last seen some thirty years ago. At the same time, the growth in productivity was at an exceptionally high level, in part due to the shedding of labour in the formal sectors and because of efficiency-enhancing investments in the business sector. Wage moderation and robust productivity gains jointly reduced growth in unit labour costs, especially in the manufacturing sector, to levels consistent with very low price inflation.

The relative stability of unit labour costs more than offset the upward price pressures emanating from the depreciation of the rand and high international petroleum prices. Quarter-to-quarter CPIX inflation fell to 6,1 per cent in the first quarter of 2001. Year-on-year CPIX inflation, which has to attain a level of below 6 per cent on average in 2002 in order to meet the inflation target set by government, fell by 150 basis points from August 2000 to April 2001, but was still some 70 basis points higher than the upper end of the inflation target range. Furthermore, there are still some inflationary processes at work in the economy which may disrupt the gradual downward movement to lower inflation levels. For example, a consistently strong recovery in aggregate demand may disturb the current balance between aggregate supply and demand, and this together with stubborn administered prices would give fresh impetus to a rise in the currently waning inflationary process.

Demand for imports remained solid, reflecting the underlying strength of growth in gross domestic expenditure. But in this instance the pricing effects of the depreciation of the rand helped to avoid excessive growth in the volume of merchandise imports. Payments for imported goods rose somewhat but an abrupt fall in dividend payments to the rest of the world, ensured that the current account of the balance of payments remained decisively in surplus.

Financial flows continued to leave the economy on a net basis. There was some inward foreign direct and portfolio investment as foreign firms and investors bought into South African companies, but these were effectively swamped by an outflow of funds committed by resident economic entities to the accumulation of assets offshore. In the end, the country's net international reserves declined slightly, largely explaining the generally weaker exchange rate of the rand during the first quarter of 2001. Over the past eighteen months or so, the depreciation of the rand has exceeded by a substantial margin the inflation differential between South Africa and its major trading-partner countries, boosting the competitiveness of domestic producers in export markets.

Broad money growth accelerated quite noticeably in the first quarter of 2001, reflecting the relative strength in aggregate nominal domestic demand. By contrast, aggregate domestic credit extension by banks slowed down, especially banks' claims

on the private business sector, which eased from the high levels recorded in the fourth quarter of 2000. But there were signs of renewed vigour in private households' demand for bank credit, and mostly for asset-backed lending such as mortgage financing, leasing and instalment sales financing.

The Monetary Policy Committee of the Reserve Bank decided to keep the Bank's official rate on repurchase transactions unchanged at 12 per cent throughout the first five months of 2001. The official rate was last raised by 25 basis points in October 2000. Other money-market interest rates broadly moved in tandem with the repurchase rate and similarly displayed a fair degree of stability over the past quarter. Nine-month interest-rate futures contracts have recently signalled that markets now expect the official repurchase rate to fall later in the year.

Long-term interest rates, measured by rates at the ten-year horizon, generally fell during 1999 and 2000, with further reductions since the beginning of 2001. Also, estimates of long real yields fell virtually in tandem, reflecting an improved outlook for the balance between domestic saving and investment.

Prominent among the reasons behind the steady decline in real long-term interest rates is the decline in the public-sector borrowing requirement over the past seven years or so. The reduction in the market for bond financing by the public sector was only partly filled by corporate borrowing. The demand for equity financing dwindled too in the early months of 2001, adding further to the better balance between aggregate saving and investment.

Price developments in the international securities markets, especially in the markets for equities, influenced the movements in prices on the JSE Securities Exchange SA. Fairly volatile price movements in the international markets were reflected in domestic share price movements. Non-residents participated eagerly in these lively trading conditions, pushing their share in total turnover on the domestic equity market to 40 per cent in the first few months of 2001 from an average of less than 30 per cent in 2000. Simultaneously, investors increasingly sought protection against capricious market behaviour, and turnover in the derivatives market boomed in the first quarter of 2001.

Sound management at the macro level continued to characterise the public finances during the 2000/01 fiscal year. Actual expenditure by national government for the full fiscal year was very close to the spending total projected by the Minister of Finance in February 2000. National government revenue, once again, exceeded earlier expectations by a considerable margin, reducing the absolute size of the budget deficit to a level well below that which had been expected when the original budget proposals were presented to Parliament. Growth in public-debt servicing costs was also well contained and the primary surplus of national government (i.e. the fiscal balance recalculated by excluding interest expenses) increased relative to gross domestic product, effectively allaying any lingering fears that public finances might become caught in a debt trap.

Overall there are grounds for optimism about the future growth prospects of the South African economy. Reasons for optimism are that

- the economy has been in a recovery phase of the business cycle since about the third quarter of 1999, yet it has not developed any of the usual imbalances (e.g. balance-of-payments problems and renewed inflationary pressures) so typical, in the past, of economic expansions;
- inflation has been moderate and appreciably lower than during previous recoveries, as has been the growth in unit labour costs;

- the levels and growth of asset prices (equities, fixed-interest securities and real-estate) are evidently not excessive;
- the balance sheets of banks and other financial intermediaries are sound;
- the exposure of the corporate sector to external debt does not pose any serious threat;
- the financial position of the household sector is far healthier than in previous expansions and bankruptcies of individuals have fallen sharply;
- private fixed-capital formation is rising but there is apparently no danger of creating excess capacity;
- the deficit on the current account of the balance of payments was turned into a surplus, most notably by the expansion in export earnings; and
- the exchange rate of the rand has fallen to a level where domestic producers can compete aggressively in export markets.

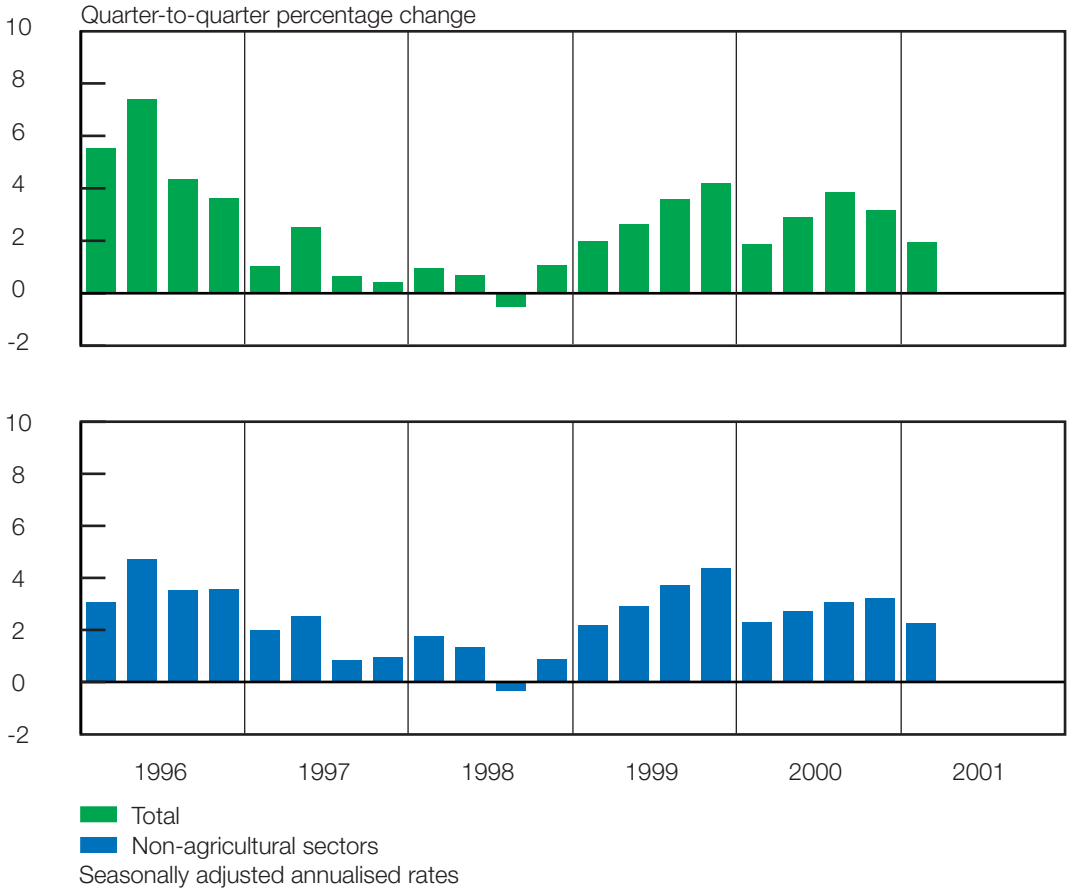
Even though the outlook is positive, there is still the danger that a global economic slowdown could harm domestic economic activity. Inflation has abated, but is still higher than in trading-partner countries and higher than the upper end of the target range set by government for 2002. Proactive steps to minimise the risk of slower economic growth have to be carefully balanced against achieving enduringly lower inflation.

Domestic economic developments

Domestic output

The growth in the seasonally adjusted real gross domestic product slowed down from an annualised rate of about 3 per cent in the fourth quarter of 2000 to 2 per cent in the first quarter of 2001. Economic growth had also slowed down in the fourth quarter of 2000 but then the slowdown had been mainly confined to the agricultural sector; the non-primary sectors of the economy had continued to expand at fairly solid rates. In the first quarter of 2001, however, the weakening of activity spread far wider over more sectors of the economy, with the exception of the financial services sector where growth continued robustly.

Real gross domestic product



Agricultural output shrank at an annualised rate of 6 per cent in the first quarter of 2001, still adjusting to more "normal" production conditions following the exceptionally strong expansion in the third quarter of 2000. Real output by the *mining sector* increased slightly but this was not nearly sufficient to restore output to the levels that had prevailed at the beginning of 2000. The demand for and output of platinum and coal held firm in the first quarter of the year, and diamond production expanded as stockpiling continued in the face of weaker demand conditions.

The slower pace of economic expansion was nowhere more obvious than in the *manufacturing sector* where the growth rate tumbled from an annualised level of 4½ per cent in the fourth quarter of 2000 to just 1 per cent in the first quarter of 2001. This slowdown is incongruent with the apparent strength of the overall demand for manufactured goods. This disparity between firm demand growth and weaker manufacturing output was also reflected in a steep increase in the overall value of unfilled orders. Ample unused capacity is still available in the manufacturing sector, providing scope for an output expansion which might reduce the backlog of unfilled orders in the near term.

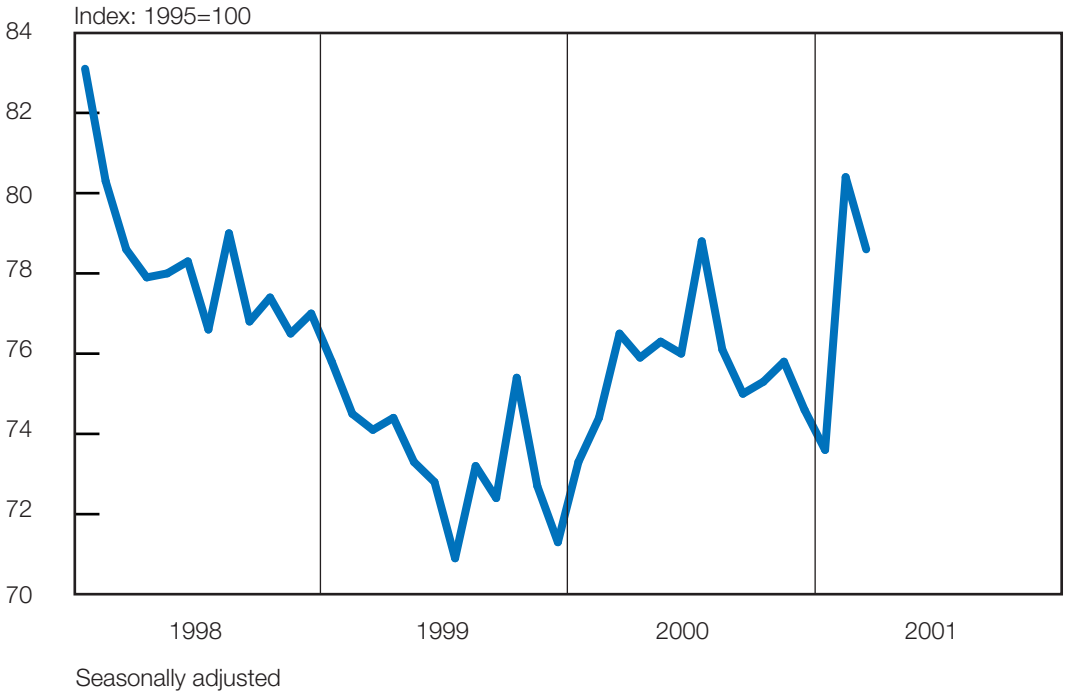
Real gross domestic product

Percentage change at seasonally adjusted annualised rates

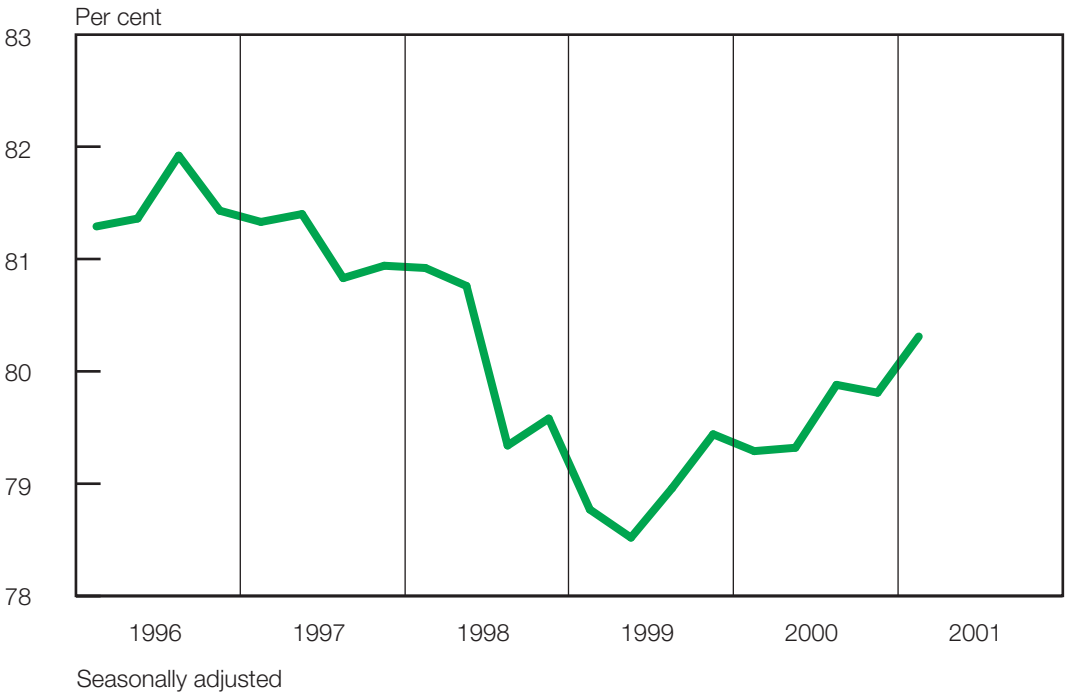
	2000					2001
Sectors	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr
Primary sectors	-5	1	8	½	½	-2
Agriculture	-8½	7½	24	1	4	-6
Mining	-3	-3½	-2½	½	-2	1
Secondary sectors	2	2	3½	4½	3	1
Manufacturing	2½	2½	4	4½	3½	1
Tertiary sectors	3	3½	3½	3	3½	3
Non-agricultural sectors	2½	2½	3	3	3	2
Total	**2**	**3**	**4**	**3**	**3**	**2**

The slowdown in overall economic activity was also reflected in weak growth in the demand for electricity. There was almost no growth in the real value added by the sector supplying *electricity, gas and water* from the fourth quarter of 2000 to the first quarter of 2001. Activity in the *construction sector* was still rather lacklustre and real

Total monthly unfilled orders



Utilisation of production capacity in manufacturing



value added expanded at a rate of just 1½ per cent in the first quarter of 2001. A number of shopping complexes and entertainment centres had been completed towards the end of 2000, and new projects were slow to get under way in the early part of 2001.

Although still fairly vigorous, growth in the *commercial sector* fell back from a seasonally adjusted and annualised rate of 4½ per cent in the fourth quarter of 2000 to 3 per cent in the first quarter of 2001. The *retail sector,* in particular, was negatively affected. A change in household spending patterns may also be occurring as cellular telephones, lottery tickets and security services are apparently absorbing a greater proportion of the disposable income of households at the expense of more traditional non-durable and semi-durable items.

The *motor trade* remained buoyant in the first quarter of 2001. Domestic demand for motor cars by private individuals, car rental companies and the business sector strengthened perceptibly. Exports of motor vehicles were lively regardless of slower world economic growth. Easier access to information through the Internet is allegedly contributing to the vibrancy of the motor trade, especially of trading in the used-car market.

The weakening of harbour and dock activity, reflecting lower export and import volumes, was demonstrated by a slowdown in growth in the real value added by the *transport, storage and communication sector* from 6½ per cent in the fourth quarter of 2000 to 4½ per cent in the first quarter of 2001. By contrast, growth in real output by the *financial intermediation, insurance, real-estate and business services sector* accelerated slightly from 3½ per cent in the fourth quarter of 2000 to 4½ per cent in the first quarter of 2001. Private banks, securities trading and businesses in the real-estate sector contributed most to the higher level of activity in this broader grouping of economic sectors.

Domestic expenditure

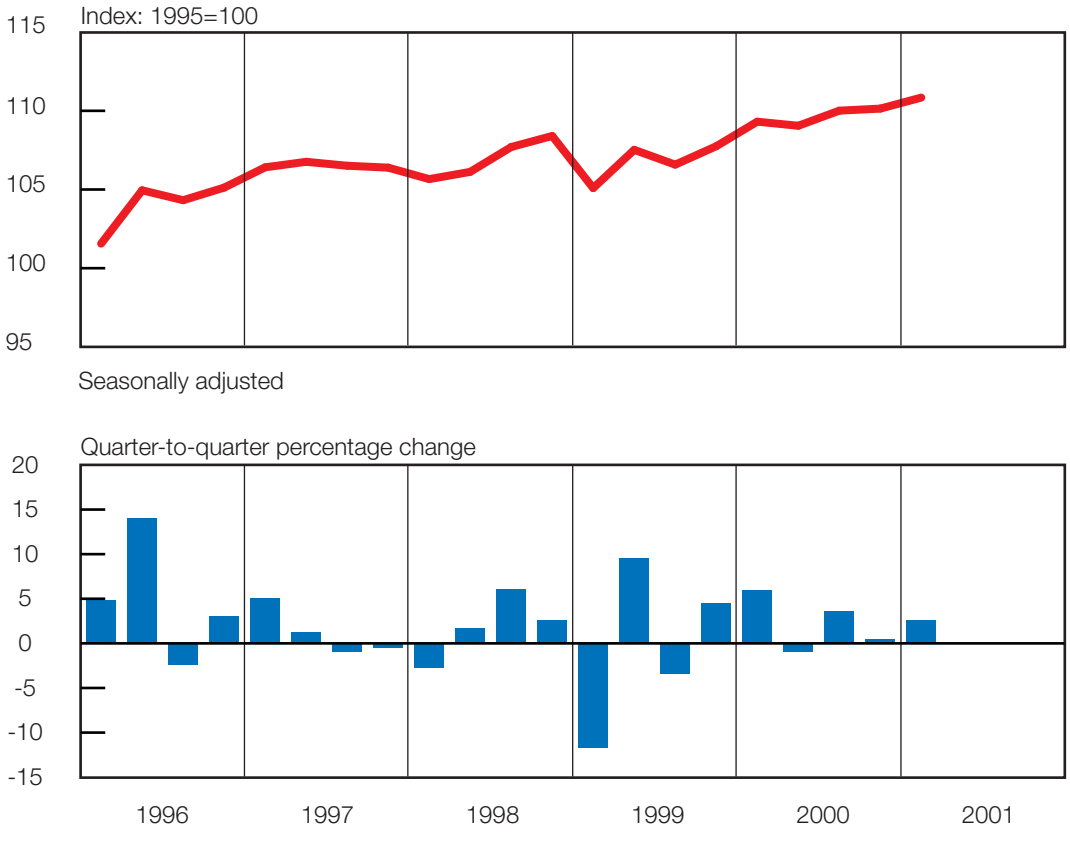
Growth in aggregate real gross domestic expenditure outpaced domestic production by a substantial margin in the first quarter of 2001: compared with annualised output growth of 2 per cent, expenditure grew at a rate of 2½ per cent. Furthermore, and in contrast to output growth which slowed down, annualised growth in aggregate expenditure picked up from ½ per cent in the fourth quarter of 2000 to 2½ per cent in the first quarter of 2001.

Real gross domestic expenditure

Percentage change at seasonally adjusted annualised rates

	2000					2001
Components	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr
Final consumption expenditure by households.....	3½	3	3½	3½	3	3
Final consumption expenditure by general government	-7½	1	1	1½	-2½	1½
Gross fixed capital formation	2½	3	6	6½	1½	8
Change in inventories (R billions)	8,1	2,4	4,7	0,4	3,9	1,8
**Gross domestic expenditure..... **	**6**	**-1**	**3½**	**½**	**2½**	**2½**

Real gross domestic expenditure



All the major components of total expenditure gained or at least maintained momentum into the first quarter of 2001, except for real final consumption expenditure by households. The growth in real household consumption expenditure slowed down from an annualised rate of 3½ per cent in the fourth quarter of 2000 to 3 per cent in the first quarter of 2001.

The slight weakness in household spending was mostly confined to *spending on services* other than communication services. The slowdown in real payments for services was largely a response to a rapid rise over the past year in the prices of household services. Increased utilisation of the telecommunications network, especially of the cellular telephone network, could not prevent the observed slowdown in real spending on services.

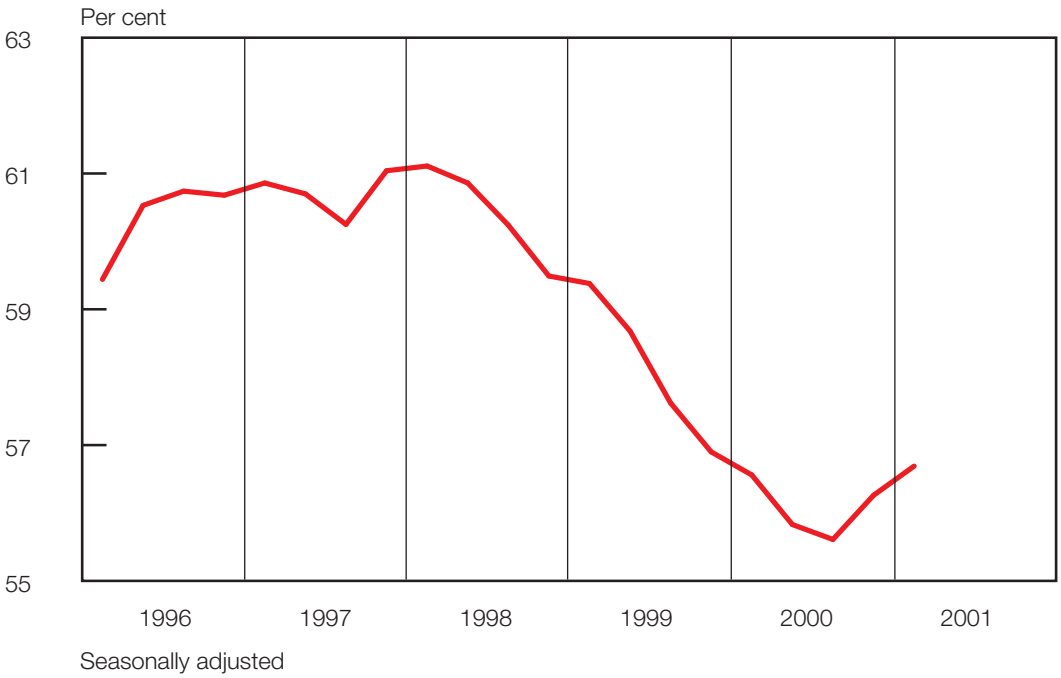
Growth in real household expenditure on *non-durable goods* continued at a rather sedate annualised rate of 1 per cent in the first quarter of 2001. Consumption of household fuel and power actually declined, probably because of the cost of paraffin. There is also reason to believe that spending on cellular phones, lottery tickets and security services is now absorbing household resources that were previously destined for spending on non-durable goods.

Real final consumption expenditure by households

Percentage change at seasonally adjusted and annualised rates

	2000					2001
	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr
Durable goods	9½	7	10	5	7	6
Semi-durable goods	7	5	4	4½	6	4½
Non-durable goods	1½	1	2	1	1	1
Services	3	3½	4	5	4	3½
Total	**3½**	**3**	**3½**	**3½**	**3**	**3**

Household debt as percentage of disposable income



Seasonally adjusted

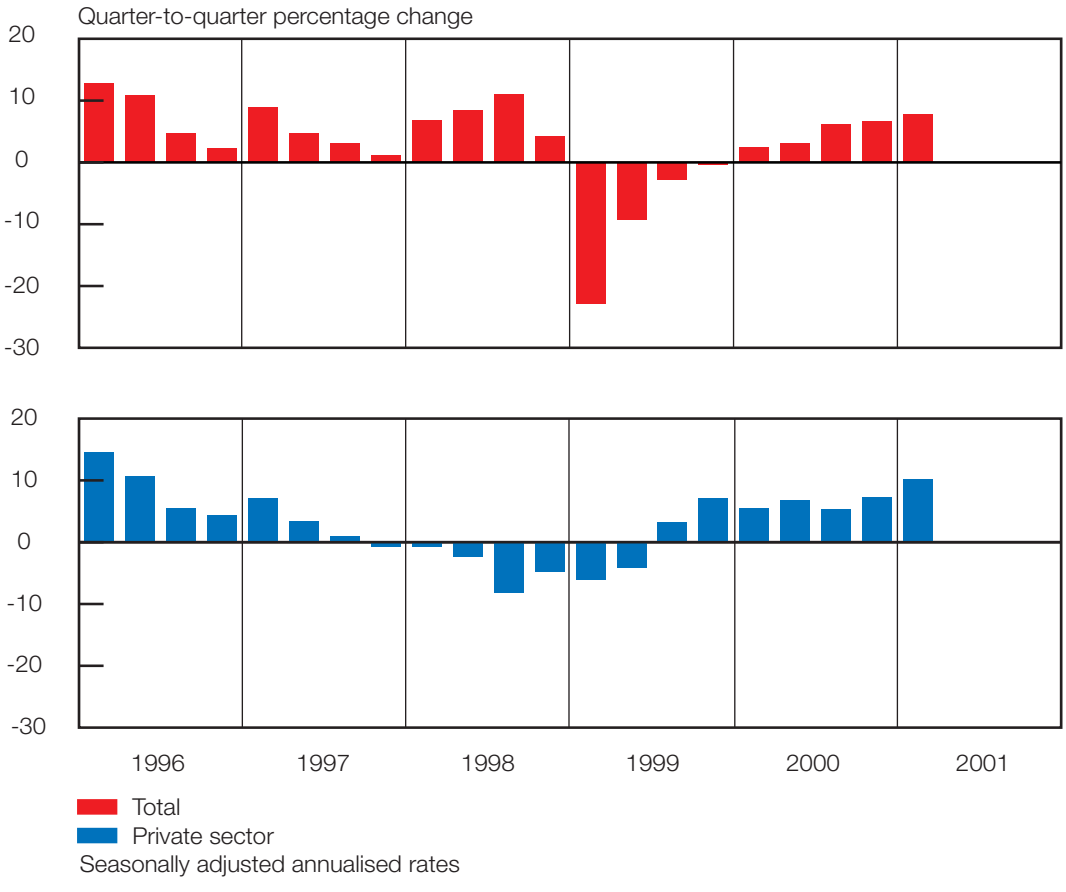
Real outlays on *durable goods* grew at annualised rates ranging from 5 to 10 per cent over the four quarters of 2000, and maintained their upward momentum at 6 per cent in the first quarter of 2001. Purchases of motor cars featured prominently in this spending spurt, probably driven by pent-up demand for luxury cars and pre-emptive buying ahead of price increases expected to follow the recent depreciation of the rand.

Generally, the growth in real final household expenditure was curbed somewhat by slower growth in real household disposable income. The potentially negative effects of the slowdown in household income on expenditure were to some extent softened by households' willingness to incur debt. Household debt as a percentage of disposable household income accordingly increased from 55½ per cent at the end of the third quarter of 2000 to 56½ per cent at the end of the first quarter of 2001.

Government's resolve to contain spending in the public sector was reflected in two consecutive quarterly increases of only 1½ per cent in the *final consumption expenditure by general government* bodies. These increases were mainly a result of growth in real expenditure on intermediate goods. Real outlays on labour compensation declined as public-sector employment continued to be whittled down. As a ratio of gross domestic product, final consumption expenditure of general government remained unchanged from the fourth quarter of 2000 to the first quarter of 2001 at a level of 18 per cent.

Growth in *real gross fixed capital formation* accelerated steadily from a seasonally adjusted and annualised rate of 2½ per cent in the first quarter of 2000 to 8 per cent in the first quarter of 2001. Fixed capital formation was at high levels in the private

Real gross fixed capital formation



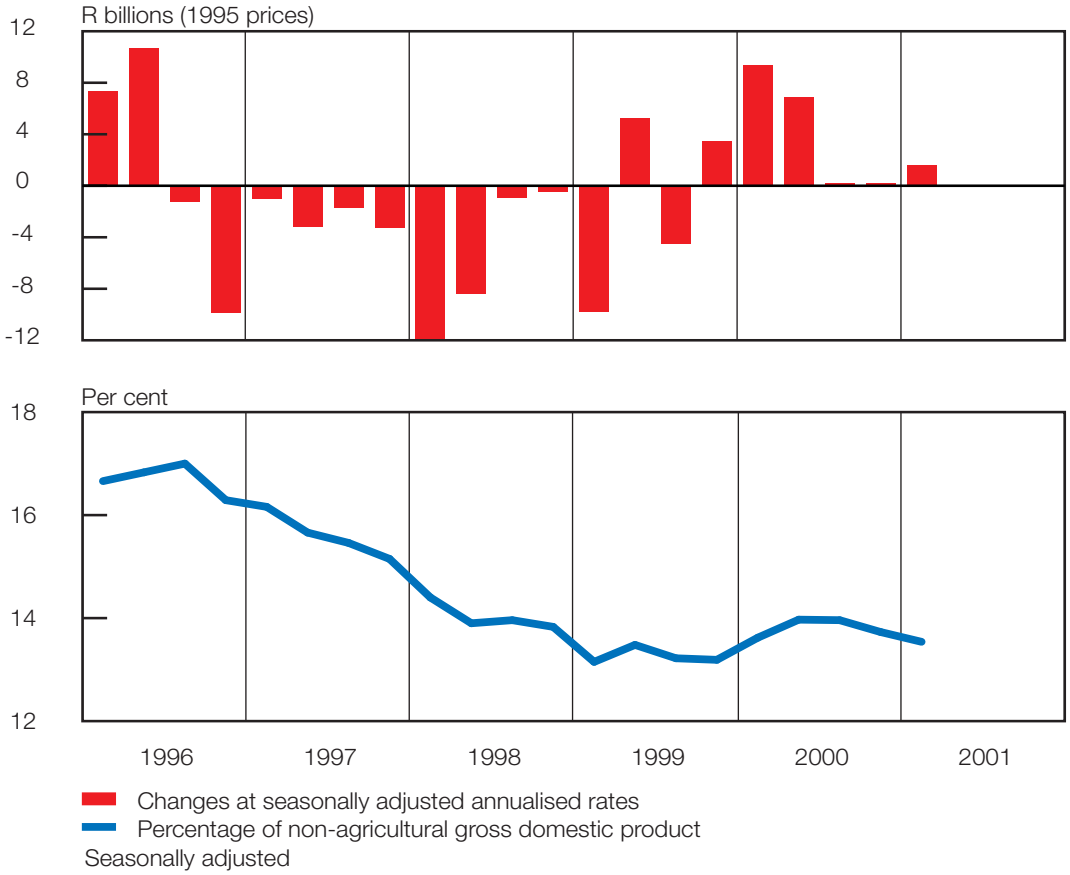
and general-government sectors in the first quarter of 2001, but declined in the public corporations sector. Relative to gross domestic product, total gross fixed capital formation is estimated at 15½ per cent in the first quarter of 2001, unchanged from the fourth quarter of 2000.

The acceleration in *private-sector fixed investment* was spread over a wide range of economic sectors but was particularly strong in agriculture, mining, communication services and residential construction. The strong improvement in farm incomes during the past production season enabled the agricultural sector to replace obsolete equipment and to add to productive capacity. The persistent growth in the demand for communication services called for the continued expansion of infrastructural facilities in the communication sector. In the mining sector, investment activity was seen mostly in the platinum subsector where international demand is expected to keep on growing. Residential fixed investment is still benefiting from the decline in interest rates since 1998.

Public corporations cut back on real fixed capital spending in the first quarter of 2001, but general government departments expanded their outlays on infrastructural expenditure, though from a very low base.

Inventory investment continued at a fairly brisk rate in the first quarter of 2001, probably in anticipation of further growth in aggregate final demand. Following the low level of net inventory investment in the fourth quarter of 2000, the increase in inventories in the first quarter of 2001 implied a substantial boost to the growth in real aggregate demand. Still, relative to the size of the economy, industrial and commercial inventory levels declined slightly.

Industrial and commercial inventories



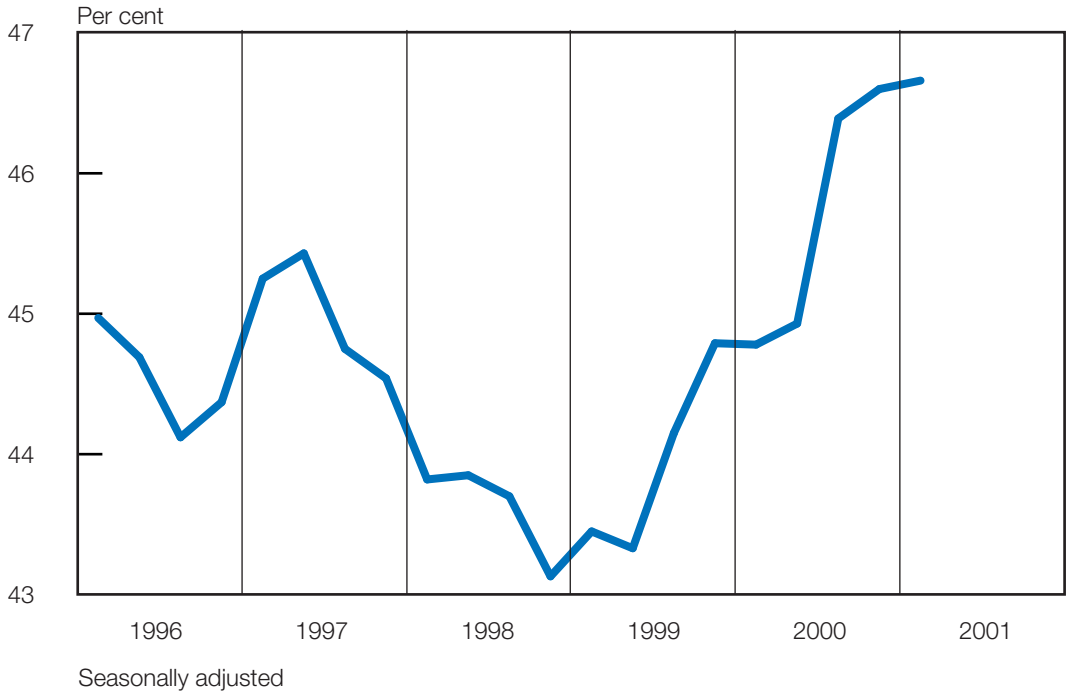
Factor income and saving

Nominal factor income increased by 11 per cent over the four quarters to the first quarter of 2001, maintaining the pace of growth seen in the previous quarter. Total compensation of employees in the first quarter of 2001 was 7 per cent higher than in the corresponding quarter of the previous year. Nominal gross operating surpluses, by contrast, rose by 15½ per cent in the year to the first quarter of 2001, implying a shift in overall factor rewards towards employers at the expense of employees' share.

Although operating surpluses rose considerably faster than labour compensation, the growth in nominal operating surpluses slowed down from the third quarter of 2000. Nevertheless, against the background of a slowdown in the growth in real output, and slower growth in labour compensation, the high growth in nominal operating surpluses may be interpreted as evidence of some widening in the operating margins of domestic producers. As a percentage of overall value added, gross operating surpluses have already increased from 43 per cent in the fourth quarter of 1998 to 46½ per cent in the first quarter of 2001.

Gross saving as a percentage of gross domestic product increased from 15½ per cent in the fourth quarter of 2000 to 16½ per cent in the first quarter of 2001. Saving by general government bodies, consistent with the overall improvement in public finances, contributed substantially to the better national saving performance. Though saving by general government improved, private-sector saving remained low, relative to the investment and growth needs of the economy. In the absence of steady inflows of foreign direct investment capital, the current saving rate is far too low to guarantee a sustainably high economic growth rate that will allow job creation at a pace that could make much difference to the pool of the unemployed.

Gross operating surplus as percentage of total factor income



Seasonally adjusted

Employment

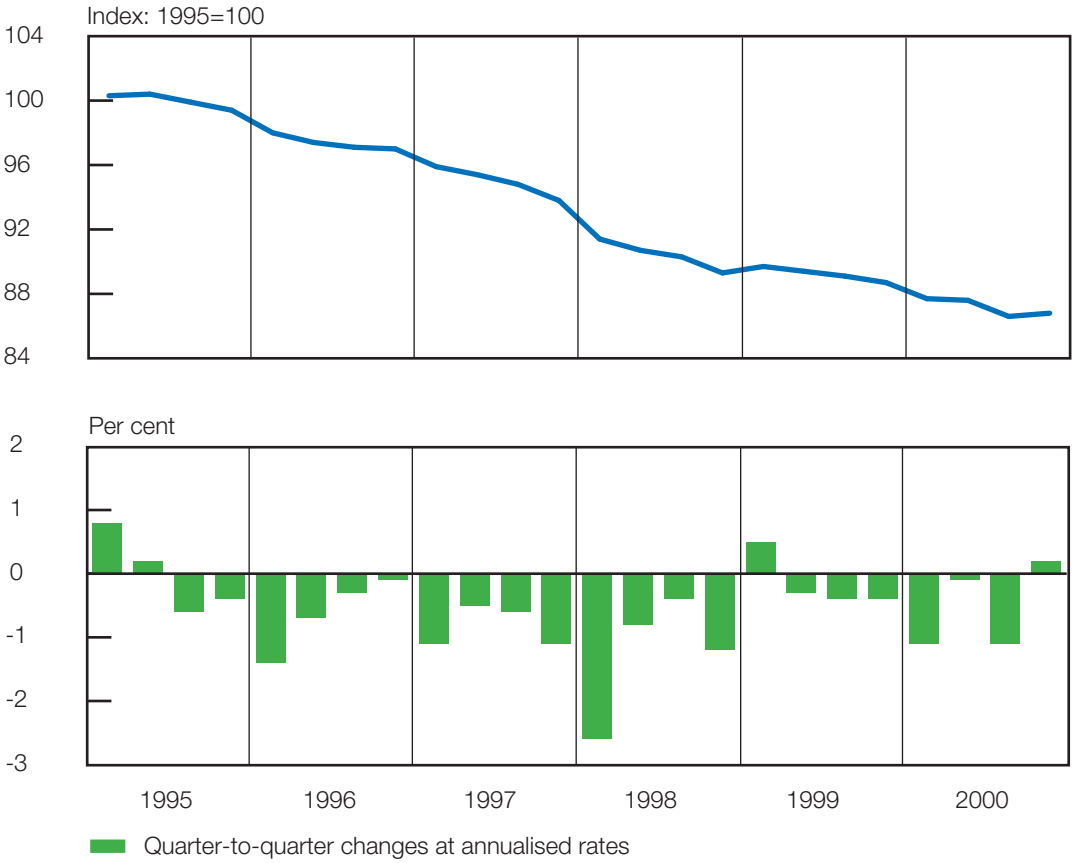
Overall employment in the *formal private sectors of the economy outside agriculture* increased at a seasonally adjusted and annualised rate of 0,9 per cent in the fourth quarter of 2000. This was the first such increase since the business cycle moved into an expansionary phase in the third quarter of 1999.

Year-to-year change in non-agricultural private-sector employment in 2000

Sector	Percentage change
Gold mining	-6,7
Non-gold mining	-3,5
Manufacturing	-1,3
Electricity supply	-6,4
Construction	-4,6
Trade, catering and accommodation services	-1,3
Transport, storage and communication*	2,3
Financial intermediation and insurance	-3,9
Washing and dry-cleaning services	-1,5
Total private sector	**-2,3**

* Non-governmental institutions only

Non-agricultural employment: private sector



The five-quarter delay in the employment response to an improvement in economic conditions is not unusual. In earlier cycles, employment levels usually strengthened only after economic conditions had been recovering for quite some time. Of particular significance was that the rise in employment was not confined to any specific sector of the economy but was fairly well dispersed over most of the major sectors of the economy.

Mainly because of the somewhat better employment situation in the private sector, the pace of decline in the regularly surveyed formal non-agricultural sectors of the economy slowed down from 3,7 per cent in the third quarter of 2000 to 0,4 per cent in the fourth quarter. The *average* level of total employment still fell by 2,9 per cent in 2000, following declines of 3,7 per cent in 1998 and 2,0 per cent in 1999.

The average number of jobs in the non-agricultural private sector declined by 2,3 per cent in 2000, compared with a decline of 1,3 per cent in 1999. Employment losses occurred in all the main sectors of economic activity, apart from the transport, storage and communications sector where a modest gain was recorded. Job losses were particularly severe in gold mining and in the electricity supply sector.

Employment declined more in the public sector than in the private sector during 2000. Average employment in the public sector was some 4,1 per cent down on the average level in 1999. There were job losses at all levels of the public service, i.e. at national government, provincial government and local government levels. A spate of resignations and early retirements, together with the termination of part-time contracts by universities, technikons and provincial governments, further aggravated the employment situation in 2000.

The total number of workdays lost on account of strikes and other work stoppages totalled 75 000 in the first quarter of 2001 – an estimated 25 000 fewer than in the first quarter of 2000. Andrew Levy and Associates expect strike activity to increase in the second quarter of 2001 as unresolved amendments to labour legislation and the approaching round of wage negotiations add to labour discontent.

The measurement of developments in the labour market has recently been overhauled. Statistics South Africa instituted a number of changes in the methodology of data collection and dissemination in order to enhance and improve the availability and comprehensiveness of labour market statistics. These changes include the following:

- The *Survey of Total Employment and Earnings* (STEE), which served as a source of official labour statistics, was renamed the *Survey of Employment and Earnings in Selected Industries* (SEE). This change was necessitated by the need to avoid possible misinterpretation of the term “total employment” which could have been incorrectly interpreted as referring to total employment in the country, instead of employment in a number of sectors in the formally organised modern economy.

- The annual *October Household Survey,* which was introduced as a means of collecting new social and economic statistics from the whole of South African society, was replaced by the *Labour Force Survey* (LFS). The LFS is a survey conducted twice a year to measure total employment and unemployment at a given point in time and to track changes in the labour market over time.

- The findings of the February 2000 LFS indicate an unemployment rate of 26,7 per cent of the economically active population. If discouraged workers are included in the pool of the unemployed, the unemployment rate would rise to 37,3 per cent.

Labour costs and productivity

There was a definite slowdown in the growth of *labour costs in the private sector* over the past year or so. Information obtained from the Automated Clearing Bureau on the salaries, wages and pensions deposited into the accounts of almost 5 million salaried and retired workers, indicates that nominal wage growth declined from 8,3 per cent in 1999 to 6,1 per cent in 2000. According to the Steel and Engineering Industries Federation of South Africa, the growth in actual labour costs in the steel and engineering industry slowed down from 8,8 per cent in 1999 to 5,3 per cent in 2000. Andrew Levy and Associates also report that the average rate of wage settlements in collective bargaining agreements declined from 8,3 per cent in the first quarter of 2000 to 6,8 per cent in the first quarter of 2001.

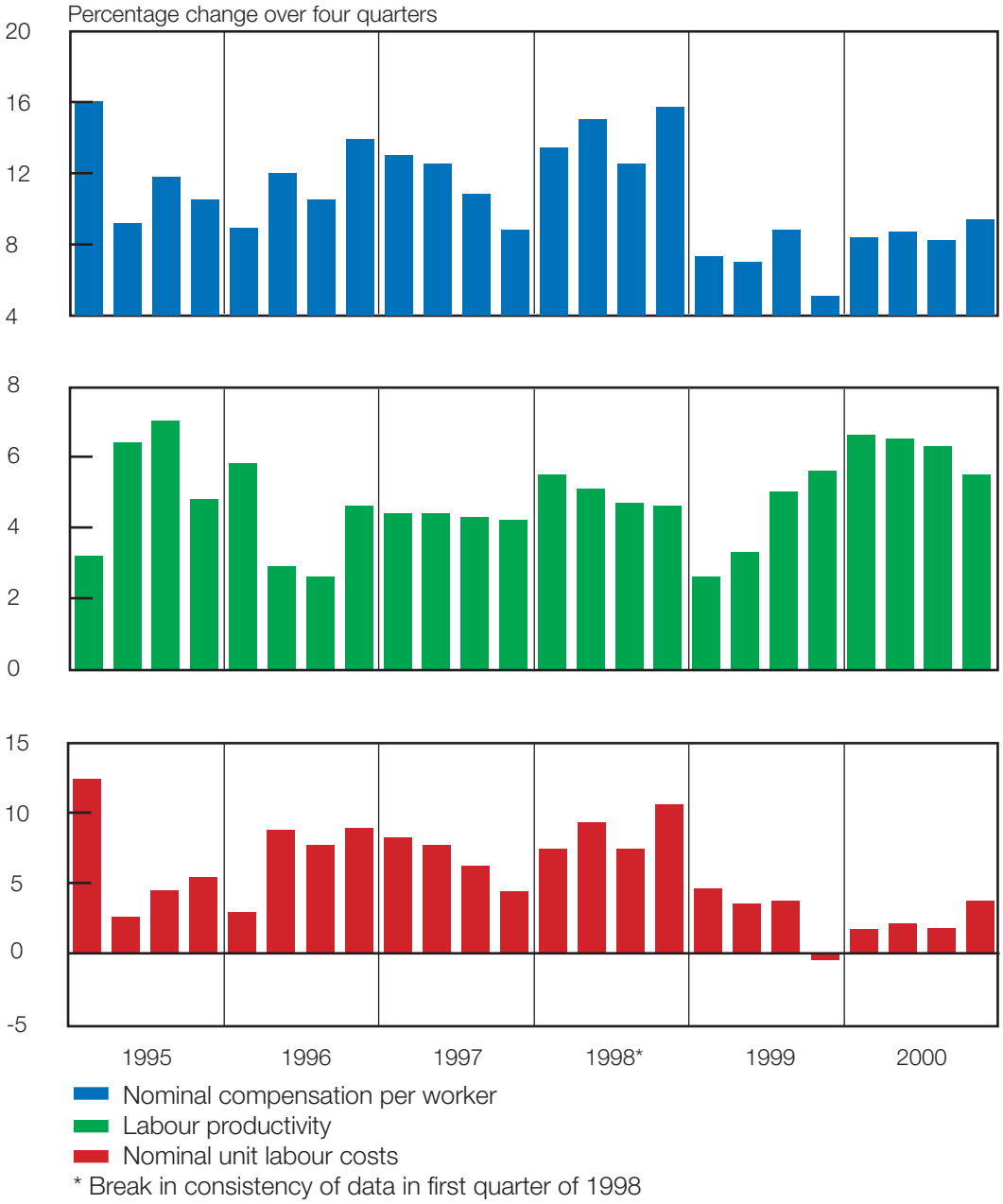
Surveys conducted by Statistics South Africa indicate that nominal wage growth in the private sector slowed down from a year-on-year rate of 8,6 per cent in the third quarter of 2000 to 6,6 per cent in the fourth quarter. On the whole, nominal wage growth in the private sector amounted to 8,5 per cent in 2000 – the lowest rate of increase in the past thirty years. Increases ranged from a low of 3,4 per cent in the construction sector to around 15 per cent in the gold-mining sector and in the financial intermediation and insurance industry.

Pay increases in the *public sector* in 2000 were somewhat more generous than in the private sector, admittedly following a year when public-sector compensation rose far more slowly than private-sector compensation. Nominal compensation per worker in the public sector rose by 9,3 per cent in 2000, compared with 4,6 per cent in the previous year. Within the public sector, the growth in compensation per worker varied considerably during 2000. In the transport, storage and communication sector increases exceeded 10 per cent on average, but in the local government sector increases of barely 4 per cent were granted.

Economy-wide the nominal compensation per worker rose faster than output prices (as reflected by the price deflator for value added in the non-agricultural sectors of the economy) in 2000. As a consequence, the inflation-adjusted compensation per worker or the *real product wage* rose by some 1,9 per cent. As employers generally attempt to control labour costs per employee relative to output prices, it can be expected that employers are likely to continue with their cost-containing practices, one element of which might be the further paring down of their labour force.

Mainly because of the smaller number of workers in gainful employment, but also following efficiency gains arising from the implementation of new technologies, output per worker in the formal non-agricultural sectors of the economy increased at a rate of 6,2 per cent in 2000. This compressed the annual growth in nominal unit labour cost in the non-agricultural formal sectors of the economy to 2,3 per cent. In the manufacturing sector, the growth in unit labour cost was down to 0,6 per cent. As the growth in *unit labour cost* is one of the main determinants of the inflationary process, these developments are likely to alleviate upward pressures on output prices in the months ahead, provided that the low growth in labour compensation and the strong growth in productivity are sustained.

Labour cost and productivity in non-agricultural sectors



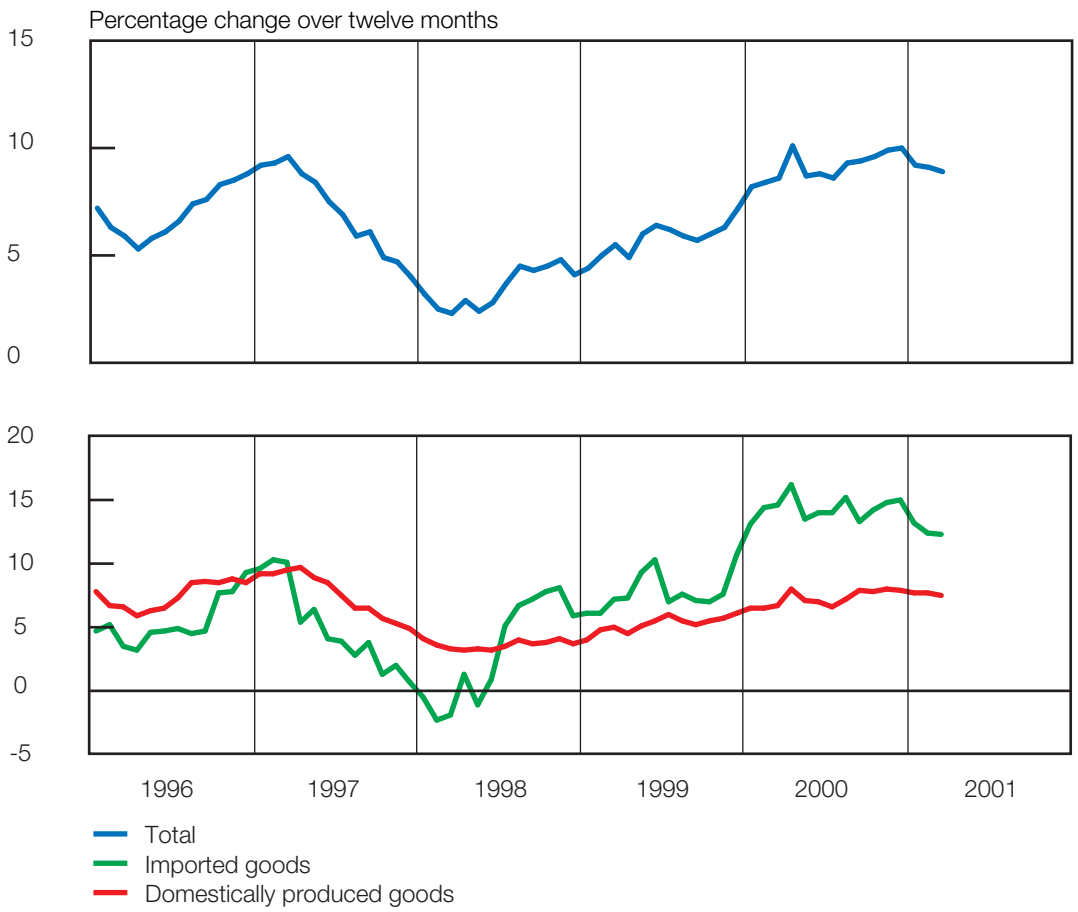
* Break in consistency of data in first quarter of 1998

Prices

Price increases accelerated quite substantially during 2000 as a consequence of rapid increases in food and energy prices. These potentially inflationary forces began to wane in recent months and price growth at both the producer and consumer level has moderated appreciably.

All-goods production price inflation slowed down on a year-on-year basis from 10,0 per cent in December 2000 to 8,1 per cent in April 2001 and on a quarter-to-quarter basis from 11,8 per cent in the first quarter of 2000 to 8,5 per cent in the first quarter of 2001. Lower rates of growth in the prices of imported goods and of domestically produced goods contributed to these slowdowns in production price inflation.

Production price inflation



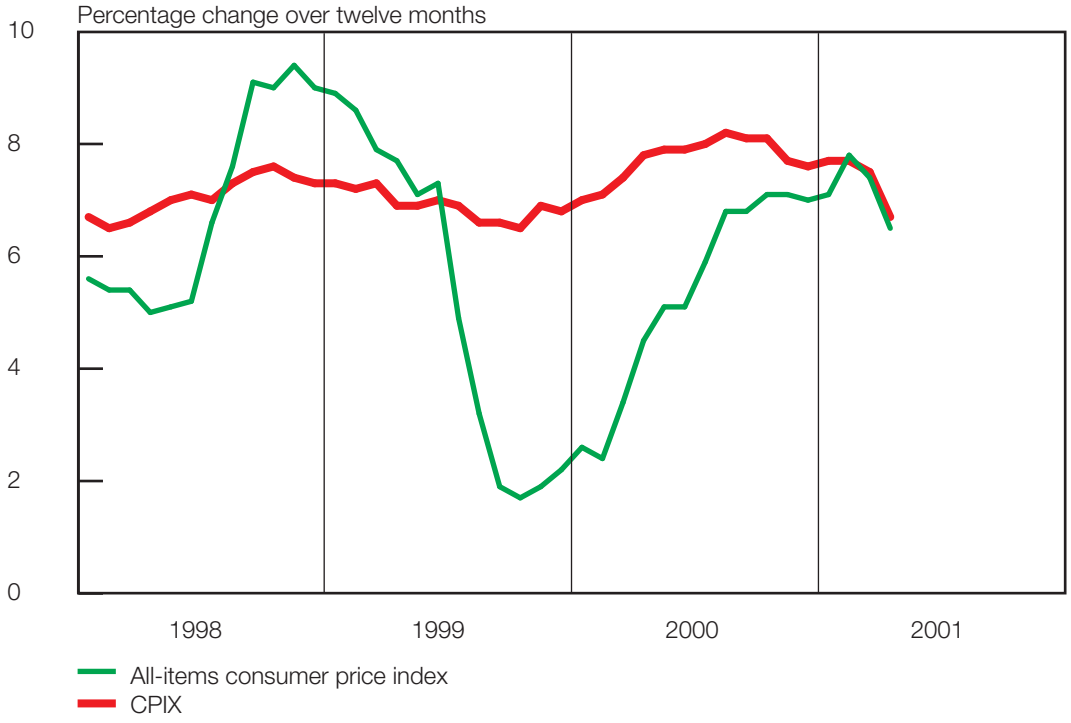
Lower increases in the prices of agricultural products, manufactured food products and oil products were the main reasons for a decline in the year-on-year inflation in *imported-goods prices* from 15,0 per cent in December 2000 to 11,2 per cent in April 2001. Import prices were also affected by changes in the exchange rate of the rand and the average export prices of major trading-partner countries. Both of these two forces were, however, expected to add considerably to production price inflation. That they failed to do so should be attributed to the inflation-offsetting effects of the lower increases in the prices of food products and of petroleum, and a small reduction in import duties.

Increases in the *prices of domestically produced goods* were reduced from a year-on-year rate of 8,0 per cent in November 2000 to 6,9 per cent in April 2001. In this instance too, the slowdown originated principally in the area of food and petroleum prices. Measured from quarter to quarter, inflation in the prices of domestically produced goods declined from an average annualised rate of around 8 per cent in 2000 to 7,1 per cent in the first quarter of 2001.

Year-on-year *CPIX inflation* (i.e. overall consumer price inflation for metropolitan and other urban areas, excluding interest rates on mortgage bonds) declined from 8,2 per cent in August 2000 to 6,7 per cent in April 2001. As was the case with production prices, lower inflation in the prices of food products contributed greatly to this slowdown. Inflation in rental values, wages of domestic workers, transport running costs and education continued at high rates.

Headline inflation, i.e. *changes in the overall consumer price index* for metropolitan areas, accelerated from a year-on-year rate of 1,7 per cent in October 1999 to 7,8 per cent in February 2001 but declined to 6,5 per cent in April. The gap between headline and CPIX inflation accordingly narrowed in 2000 and the early months of 2001, essentially because the previous declines in mortgage rates dropped out of the annual comparison for headline inflation.

Headline (all items) and CPIX inflation



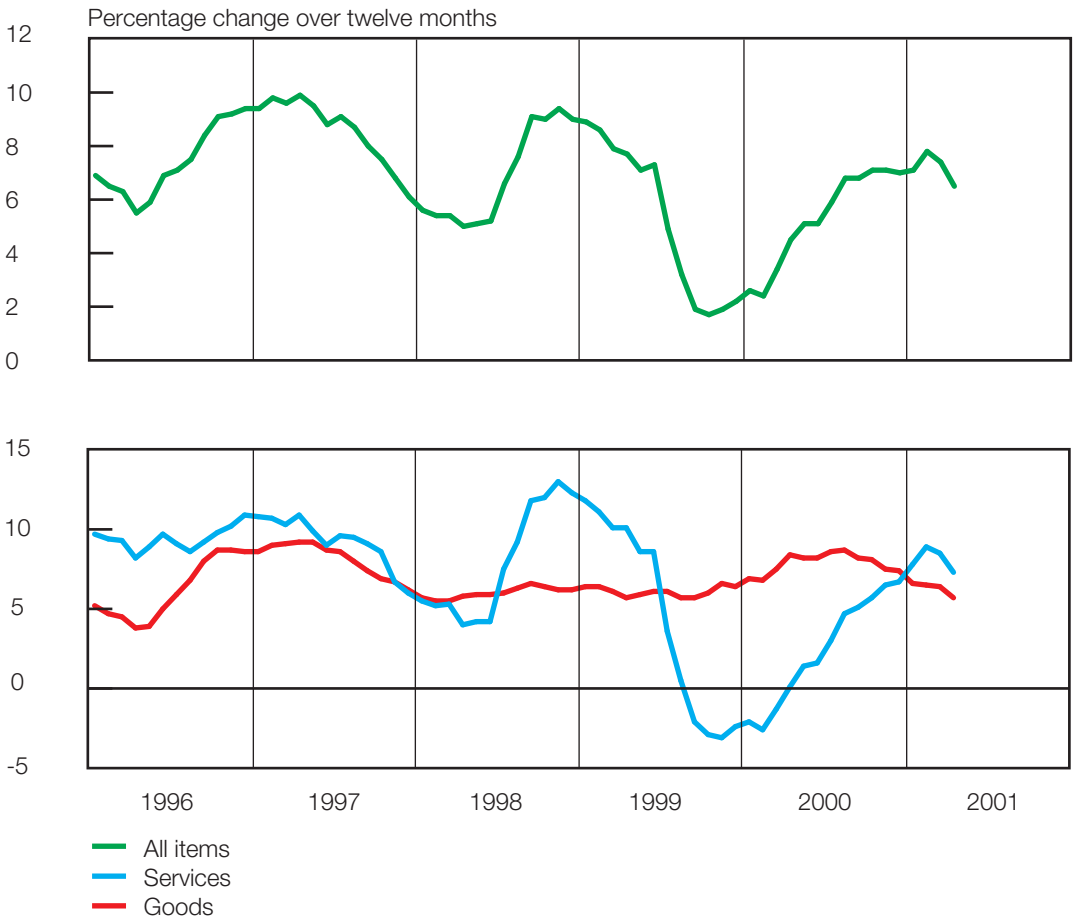
Measured from quarter to quarter and annualised, rather than measured over twelve months, the slowdown in consumer-price inflation is far more apparent – from 10,7 per cent in the second quarter of 2000 to just 3,8 per cent in the first quarter of 2001. Inflation in the *prices of consumer goods* fell from 10,6 per cent in the second quarter of 2000 to 2,5 per cent in the first quarter of 2001. By contrast, quarter-to-quarter inflation in the prices of consumer services picked up from 4,1 per cent in the third quarter of 2000 to 7,8 per cent in the first quarter of 2001, influenced fairly strongly by increases in the prices of housing-related services. More generally, services price inflation usually exceeds goods price inflation because labour accounts for a higher share of costs in services provision

Consumer prices

Quarter-to-quarter percentage changes at annual rates

Period	Goods	Services	Overall CPI	CPIX inflation
2000: 1st qr	8,5	5,5	6,6	8,7
2nd qr	10,6	9,3	10,7	8,8
3rd qr	7,6	4,1	6,0	7,6
4th qr	4,1	6,5	5,0	6,1
Year	**7,9**	**2,4**	**5,3**	**7,8**
2001: 1st qr	2,5	7,8	3,8	6,1

Consumer price inflation



than in goods production and average productivity growth tends to be lower in the services sector than in the goods-producing sectors.

Although virtually all of the important measures of inflation pointed to a definite reduction in the inflationary momentum in recent months, there are still forces at work that might temporarily halt or permanently reverse the gradual downward movement, for example

- aggregate demand was still growing faster than aggregate output in the first quarter of 2001;
- the relatively strong demand might reinforce the pricing power of domestic producers and make it easier for them to pass on cost increases;
- there might be renewed rises in the international price of crude oil, not yet accounted for in available inflation statistics;
- there might be delayed second-round effects of last year's depreciation of the rand; and
- there might be continued high rates of increase in the prices of goods and services, in cases where regulatory agencies still have a major say.

Foreign trade and payments

Balance of payments

The March 2001 edition of the *Quarterly Bulletin* notes that very little of the current global slowdown was seen in the South African economy during the second half of 2000. This apparent isolation ended in the first quarter of 2001 when the weakening of the international economy was reflected in a decline in the volume of merchandise exports from South Africa. The potential impact of the slowdown in trading-partner growth was cushioned somewhat by the low level of the exchange rate of the rand.

Balance of payments on current account
Seasonally adjusted and annualised
R billions

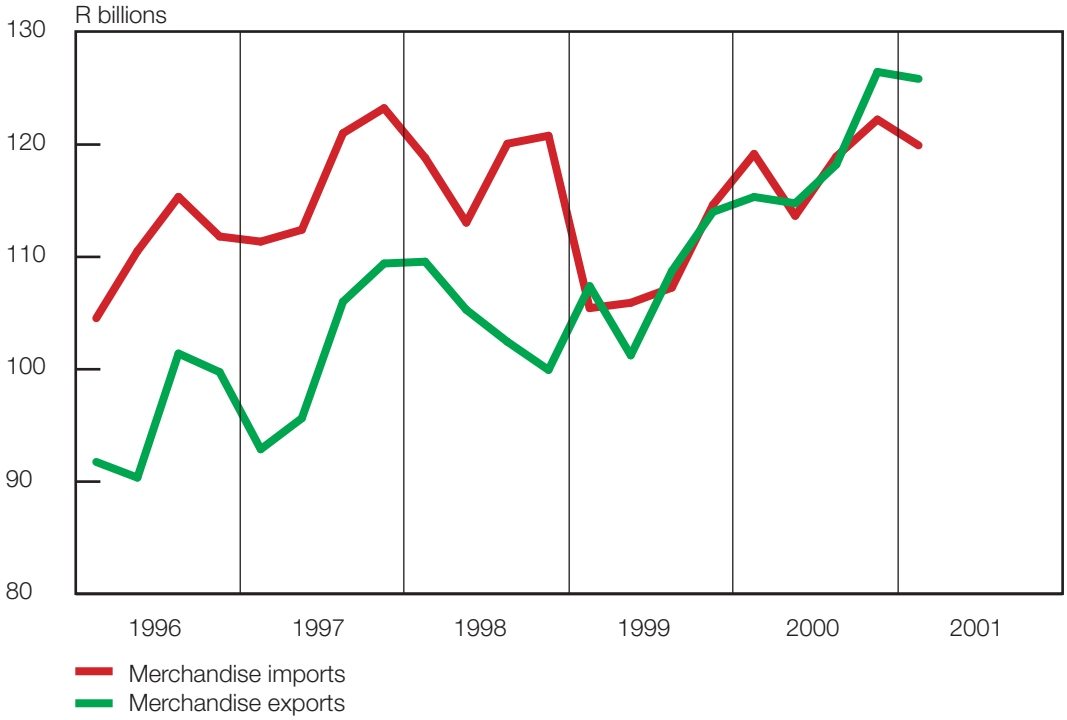
	2000					2001
	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr
Merchandise exports	172,7	183,1	190,5	219,1	191,3	225,1
Net gold exports	27,0	26,0	28,4	27,2	27,2	26,6
Merchandise imports	-177,6	-178,6	-190,6	-209,3	-189,0	-213,1
Net service, income and current transfer payments	-29,9	-31,1	-34,6	-34,5	-32,6	-31,7
Balance on current account	**-7,8**	**-0,6**	**-6,3**	**2,5**	**-3,1**	**6,9**

Mainly because of weak international demand, the *physical quantity of exported goods* declined by 0,5 per cent in the first quarter of 2001. By contrast, *export prices* in rand terms were propped up by the lower exchange rate and rose by 3,4 per cent from the fourth quarter of 2000 to the first quarter of 2001, raising the *value of merchandise exports* somewhat above its level in the fourth quarter of 2000. Export earnings of manufactured goods, which are generally believed to respond more quickly and strongly to exchange-rate movements, recorded a solid increase. This was countered to a large extent by a decline in the export value of agricultural and mining products, especially in the subcategory pearls, precious stones and semi-precious stones.

The *volume of merchandise imports* declined slightly in the first quarter of 2001. This was consistent with the preceding depreciation of the rand, which tends to compress the demand for imported goods outweighing the effect of strong growth in aggregate domestic demand on the demand for imported goods.

The *prices of imported goods* rose by 3,8 per cent from the fourth quarter of 2000 to the first quarter of 2001 (i.e. at an annualised rate of more than 15 per cent). As indicated above, aggregate real gross domestic expenditure increased at an annualised rate of 5 per cent in the first quarter of 2001. The price effect has been the slightly more significant of the two opposing forces impacting on the demand for imported goods as *merchandise import volumes* declined by 1,8 per cent in the first quarter of 2001.

Exports and imports at constant 1995 prices



In nominal terms, spending on imported goods increased by 1,8 per cent in the first quarter of 2001, supporting the notion that the price elasticity of demand for imported goods is less than unity. Price increases can therefore be expected to reduce the volume of the demand for imported goods, but overall expenditure is expected to increase it. The value of manufactured imports increased sharply, especially in the subcategory vehicles and transport equipment. This was partly offset by declines in the import value of agricultural and mining products, including imported petroleum.

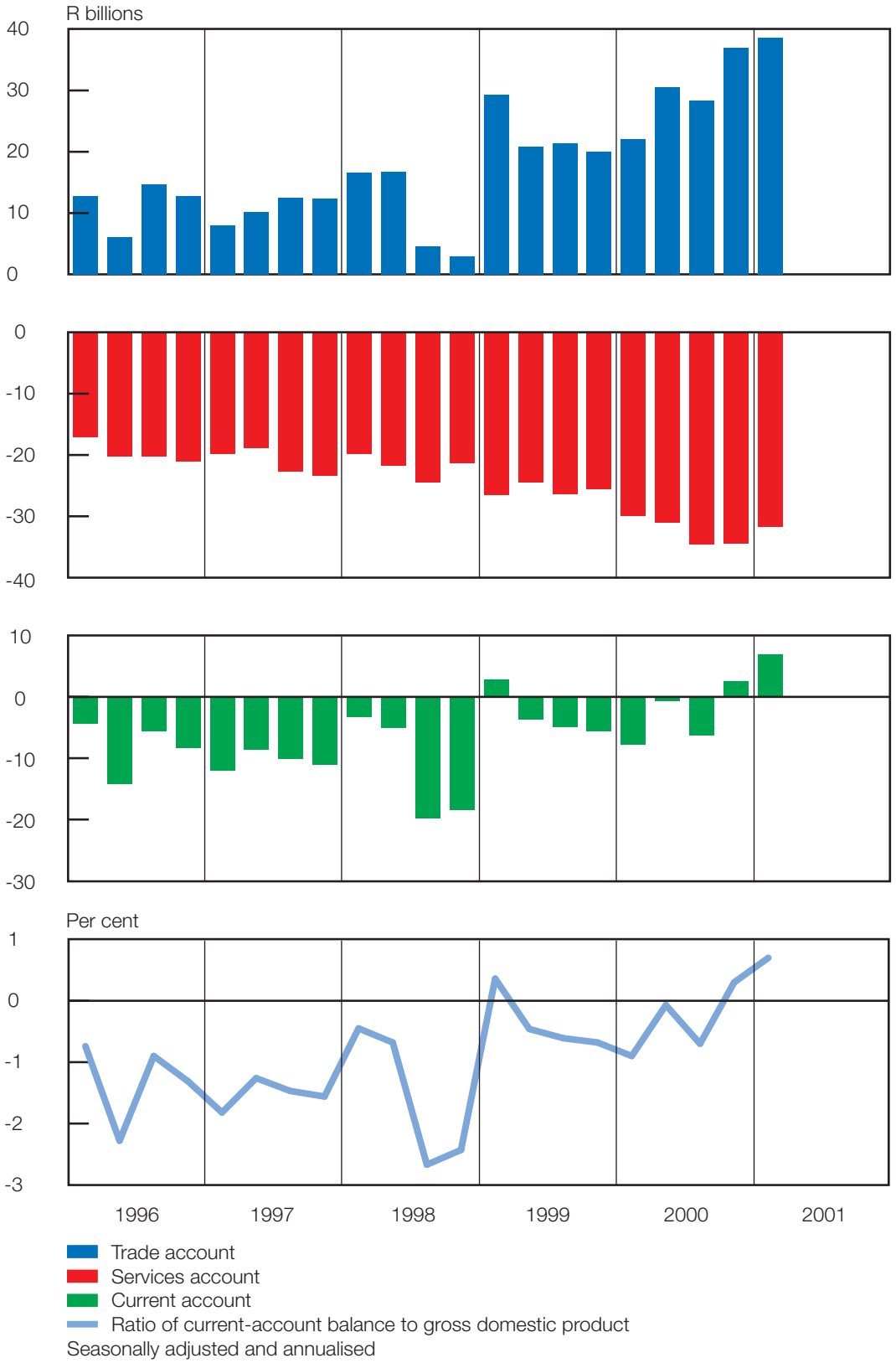
The continuing decline in gold production and a decline in the realised price of gold, reduced the value of net gold exports from a seasonally adjusted and annualised value of R27,2 billion in the fourth quarter of 2000 to R26,6 billion in the first quarter of 2001. The average realised price of gold dropped from R2 069 per fine ounce in the fourth quarter of 2000 to R2 031 in the first quarter of 2001. The physical quantity of gold exports shrank by 0,6 per cent in the first quarter of 2001, following a decline of 8,3 per cent in the fourth quarter of 2000.

Overall, the nominal value of merchandise imports increased by less than nominal export earnings. As a consequence, the positive international trade balance increased slightly from the fourth quarter of 2000 to the first quarter of 2001. However, the shortfall on the services account of the balance of payments narrowed from R34,5 billion (seasonally adjusted and annualised) in the fourth quarter of 2000 to R31,7 billion in the first quarter of 2001. A sharp fall in net investment income payments was the main reason for the improvement in the services account.

The slight improvement in the trade surplus, together with the more substantial improvement in the services account, lifted the seasonally adjusted annualised surplus on the current account of the balance of payments from R2,5 billion in the

fourth quarter of 2000 to R6,9 billion in the first quarter of 2001. As a ratio of gross domestic product, the surplus on the current account improved to 0,7 per cent in the first quarter of 2001, compared with 0,3 per cent in the fourth quarter of 2000.

Current account



Seasonally adjusted and annualised

Financial account

The pervasive volatility in emerging-market economies in recent years persisted in the first three months of 2001. Owing largely to financial turbulence in other emerging markets, especially in Turkey and Argentina, South Africa experienced a further deterioration in the financial account of the balance of payments.

The balance on the financial account, which accounts transactions in financial assets and liabilities with non-residents, widened from a deficit of R1,0 billion in the fourth quarter of 2000 to R3,8 billion in the first quarter of 2001. The larger financial-account deficit occurred despite a sizeable turnaround in portfolio investment; net portfolio investment flows were reversed from an outflow of R4,9 billion in the fourth quarter of 2000 to an inflow of R3,3 billion in the first quarter of 2001

Net financial transactions not related to reserves
R billions

	2000					2001
	1st qr	2nd qr	3rd qr	4th qr	Year	1st qr
Change in liabilities						
Direct investment	4,9	0,7	1,6	-1,1	6,1	1,7
Portfolio investment	6,8	-1,3	8,1	-1,8	11,8	3,5
Other investment	1,8	7,1	5,7	-4,6	10,0	0,3
Change in assets						
Direct investment	-1,0	-5,7	4,1	-1,3	-3,9	-8,1
Portfolio investment	-11,2	-4,3	-7,0	-3,1	-25,6	-0,2
Other investment	-2,7	0,9	-2,7	-3,4	-7,9	-6,0
Total financial transactions*	**4,2**	**-5,6**	**10,9**	**-1,0**	**8,5**	**-3,8**

* Including unrecorded transactions

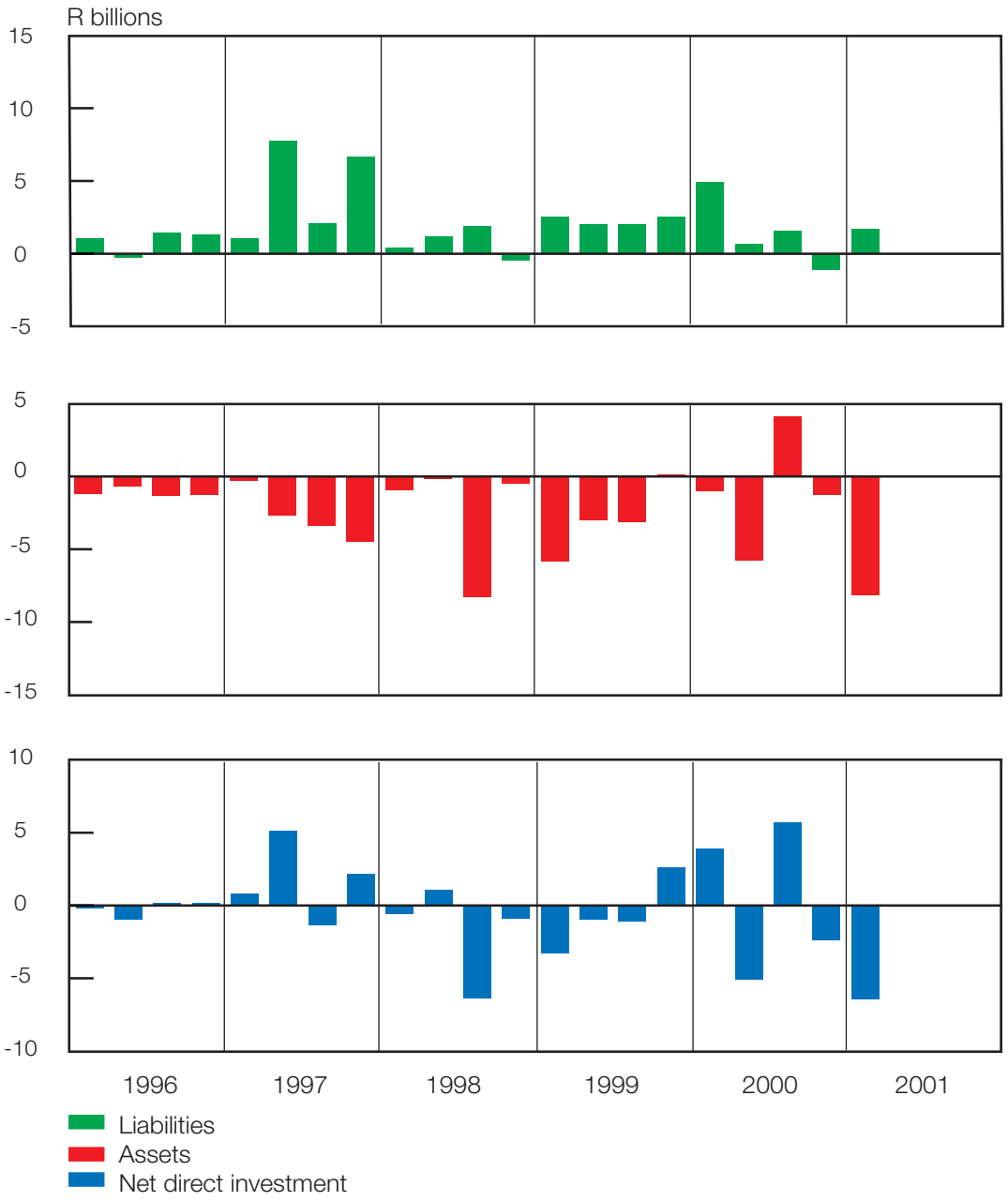
Foreign direct investment into South Africa changed from an outflow of R1,0 billion in the fourth quarter of 2000 to an inflow of R1,7 billion in the first quarter of 2001. Foreign firms bought a dominant interest in several South African companies in the first quarter of 2001, but these inflows were countered by the accumulation of offshore assets by resident companies. Overall, South African companies increased their directly-controlled foreign assets by R8,1 billion in the first quarter of 2001. A significant contribution to these outward investments was made through the acquisition of a foreign chemicals group by a South African petro-chemical company. On a net basis, foreign direct investment registered an outflow of R6,4 billion in the first quarter of 2001, compared with an outflow of R2,4 billion in the fourth quarter of 2000.

Portfolio investment into South Africa changed from an outflow of R1,8 billion in the fourth quarter of 2000 to an inflow of R3,5 billion in the first quarter of 2001. Non-residents were fairly substantial buyers of listed shares, but they continued to sell bonds on a net basis in the first quarter of 2001.

Domestic institutional investors used the asset swap mechanism until February 2001 to build up their portfolio of foreign assets. This mechanism was then discontinued – from 21 February institutional investors have been allowed to acquire foreign portfolio assets only by means of foreign-currency transfers from South Africa. These transfers

are limited to 10 per cent of their net inflow of funds in the preceding calendar year. Overall limits on the percentage of foreign assets relative to total assets have been retained: 15 per cent in the case of long-term insurers and pension funds, 15 per cent of total assets under management for fund managers and 20 per cent for unit trust management companies.

Direct investment



The *accumulation of foreign portfolio assets* by resident South African organisations shrank from R3,1 billion in the fourth quarter of 2000 to R0,2 billion in the first quarter of 2001. A decline in foreign assets following the repatriation of the capital realised by selling shares in a United States listed company contributed most to the decline in foreign portfolio assets. Offsetting the smaller foreign-asset accumulation against the increased inflows of portfolio capital, *net portfolio investment* changed from an

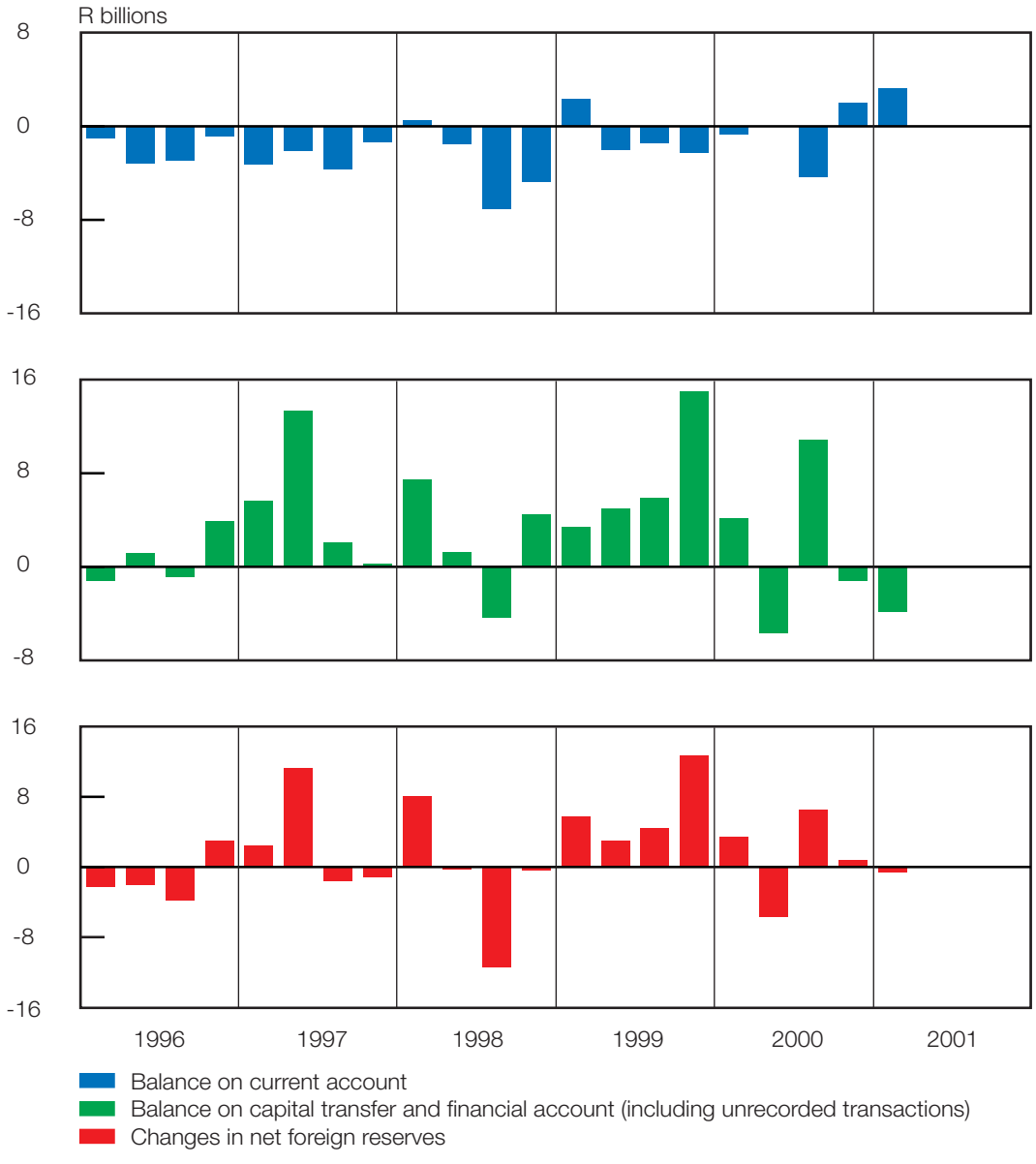
outflow of R4,9 billion in the fourth quarter of 2000 to an inflow of R3,3 billion in the first quarter of 2001.

Other investments, essentially cross-border movements of loans, trade finance or bank deposits, continued to leave South Africa but at a slower pace than before. On a net basis, other outward foreign investment contracted from R8,0 billion in the fourth quarter of 2000 to R5,7 billion in the first quarter of 2001.

Foreign reserves

South Africa had a deficit on its overall balance of payments with the rest of the world in the first quarter of 2001. The financial account, rather than the current account where a surplus was registered, was primarily responsible for the overall deficit. The country's *net international reserves* accordingly declined by R0,6 billion, following an increase of R0,8 billion in the fourth quarter of 2000.

Overall balance of payments



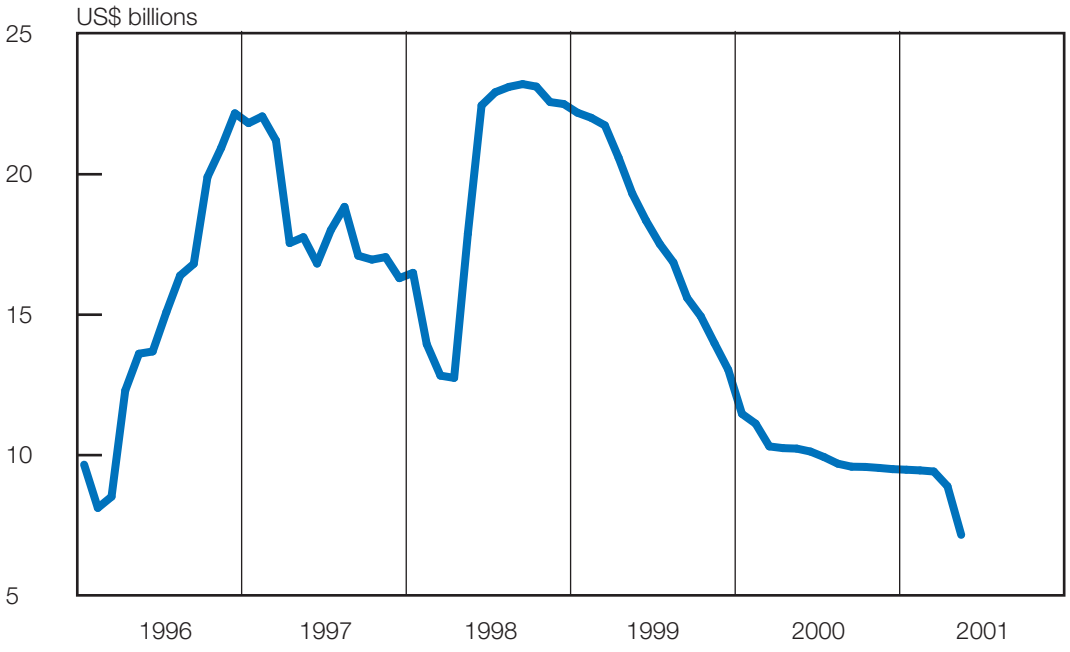
The value of South Africa's *gross gold and foreign-exchange reserves* (i.e. international reserves before reserve-related loans are netted off) increased by R3,6 billion to an overall level of R87,8 billion at the end of the first quarter of 2001. This increase was essentially caused by the depreciation of the rand against the US dollar over the first three months of 2001. The overall level of the gross gold and foreign-exchange reserves actually declined by US$0,1 billion from the end of December 2000 to the end of March 2001.

Despite the small increase in international reserves, the country's *import cover* improved from 15 weeks at the end of 2000 to 16 weeks at the end of the first quarter of 2001. Import cover indicates the number of weeks' worth of imports of goods and services that the country can afford by simply using international reserves, without accessing any available credit facilities.

The international reserve holdings of the Reserve Bank increased by R3,3 billion during the first quarter of 2001. This was followed by a slight decline of R0,2 billion in April and May 2001 when most of the foreign-currency inflow was employed for reducing the Reserve Bank's oversold forward position in foreign currency.

From the end of March 2001 to the end of May, the Bank's net oversold position in foreign currency (i.e. the Bank's oversold forward position in foreign currency reduced by its net holdings of spot international reserves) was reduced by US$2,2 billion from US$9,4 billion to US$7,2 billion. Major contributions to the resources allowing this, were made by the national government's eurobond loan issue and part of the proceeds from the buy-out of minority shareholders in the De Beers Diamond Corporation.

Net open position in foreign currency



Oversold position of the Reserve Bank

Exchange rates

The rand depreciated further in the first quarter of 2001, but at a much slower pace than in the fourth quarter of 2000. A decline of 5,2 per cent in the nominal weighted exchange rate of the rand from the end of September 2000 to the end of December was followed by a depreciation of 1,3 per cent in the ensuing three months to the end of March 2001.

Exchange rates of the rand
Percentage change

	30 Sep 2000 to 29 Dec 2000	29 Dec 2000 to 30 March 2001	30 March 2001 to 31 May 2001
Weighted average*	-5,2	-1,3	1,3
Euro	-8,8	-0,6	4,3
US dollar	-3,8	-5,6	0,1
British pound	-5,7	-1,4	0,9
Japanese yen	2,3	3,1	-5,1

* The weighted exchange-rate index consists of a basket of 14 currencies

The depreciation of the rand was not evenly spread in the course of the first quarter of 2001. During the first 11 days of January, the weighted exchange rate of the rand weakened by some 4,6 per cent as the US dollar strengthened and most international fund managers failed to differentiate between different emerging markets. Concern about financial stability and overall economic prospects in other emerging markets were simply equated with the situation in South Africa.

Only some time after it became known that the restructuring of the De Beers diamond corporation could lead to a substantial inflow of foreign capital into South Africa did the rand rally. In February 2001 the rand received a further boost when the international ratings agency Standard and Poors' reaffirmed the country's foreign-currency rating as investment grade. All this contributed to an increase of 3,5 per cent in the nominal effective exchange rate of the rand from 11 January 2001 to 30 March. The strength of the rand continued into the second quarter of 2001 and by 31 May 2001 the weighted value of the rand had increased by another 1,3 per cent.

The rand depreciated against most of the major currencies during the first quarter of 2001, except for the Japanese yen where it appreciated by 3,1 per cent. In the ensuing two months the situation was reversed when the rand appreciated against most of the major currencies but depreciated against the Japanese yen.

The heightened volatility in the foreign-currency market pushed the net average daily turnover in the domestic market for foreign currency higher to US$9,9 billion in the first quarter of 2001, compared with US$9,4 billion in the fourth quarter of 2000. The value of transactions in which non-residents participated, increased proportionately more from US$5,9 billion to US$6,4 billion over the same period, raising the level of non-resident participation from 63 per cent in the fourth quarter of 2000 to 65 per cent in the first quarter of 2001.

Nominal effective exchange rate of the rand

The real effective exchange rate of the rand, i.e. the nominal effective exchange rate adjusted for the production price inflation differential between South Africa and its most important trading partners, declined by 9,4 per cent from December 1999 to December 2000, indicating that domestic producers are now even more competitive in export markets.

Monetary developments, interest rates and financial markets

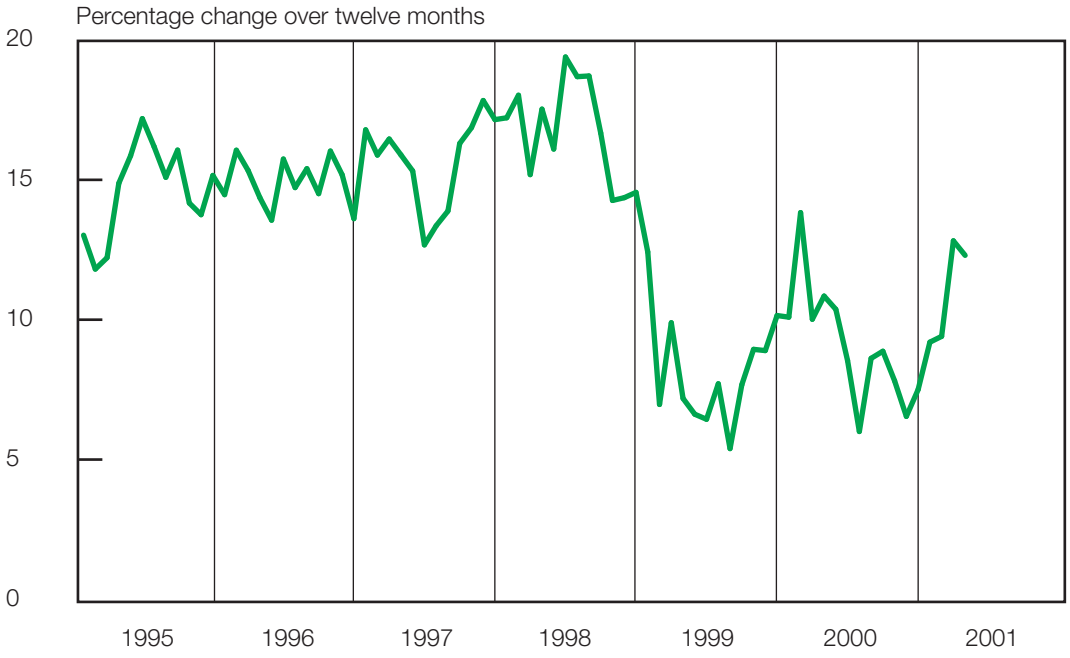
Money supply

Data on the money supply provide useful indications of current and future spending in the economy, and therefore of the degree of inflationary pressure generated by nominal demand for a given output capacity.

Since the second quarter of 2000, the seasonally adjusted and annualised quarter-to-quarter growth in the *broadly defined money supply* (M3) has accelerated quite substantially from 4,9 per cent in the third quarter to 14,7 per cent in the fourth quarter and 19,3 per cent in the first quarter of 2001. This acceleration reflects faster growth in bank deposits held by private individuals and companies, and firm increases in aggregate domestic nominal demand. Aggregate output growth, however, slowed down from the third quarter of 2000, whereas overall production capacity probably continued to expand along its historic time path. Consequently, the faster expansion of the money supply may have added to upward pressure on the general level of prices.

The robust monetary expansion in the early months of 2001 was also reflected in higher *year-on-year* growth in M3. Admittedly, part of the high year-on-year growth rates in the first quarter of 2001 can be attributed to a relatively low base for year-on-year growth calculations in 2000 after many deposit-holders had unwinded their pre-Y2K liquidity build-ups.

M3 money supply



In the end, year-on-year growth in M3 accelerated from 6 per cent in July 2000 to 12,8 per cent in March 2001 and 12,3 per cent in April. Private-sector deposit holdings were bolstered in February and March 2001 by a strong flow of interest

payments from government's accounts with the banks. In January 2001, government made provision for the anticipated interest payments by accumulating substantial amounts in its accounts with the private banking sector.

Year-on-year growth in all the *narrower monetary aggregates* was lower than the growth in the broad M3 money supply. M1A increased by just 3,2 per cent in the year to April 2001 whereas the growth in M1 fell short of the growth in M3 by some 5,0 percentage points, and the growth in M2 was more than a full percentage point below that in M3. This development can partly be explained by the strong demand for bank notes and liquid-type deposits at the time of the millennium date changeover which was not fully restored to "normal" levels in the early months of 2000. The base for the annual growth calculations of the narrower monetary aggregates was consequently lifted and growth rates were compressed.

Twelve-month growth rates in monetary aggregates
Per cent

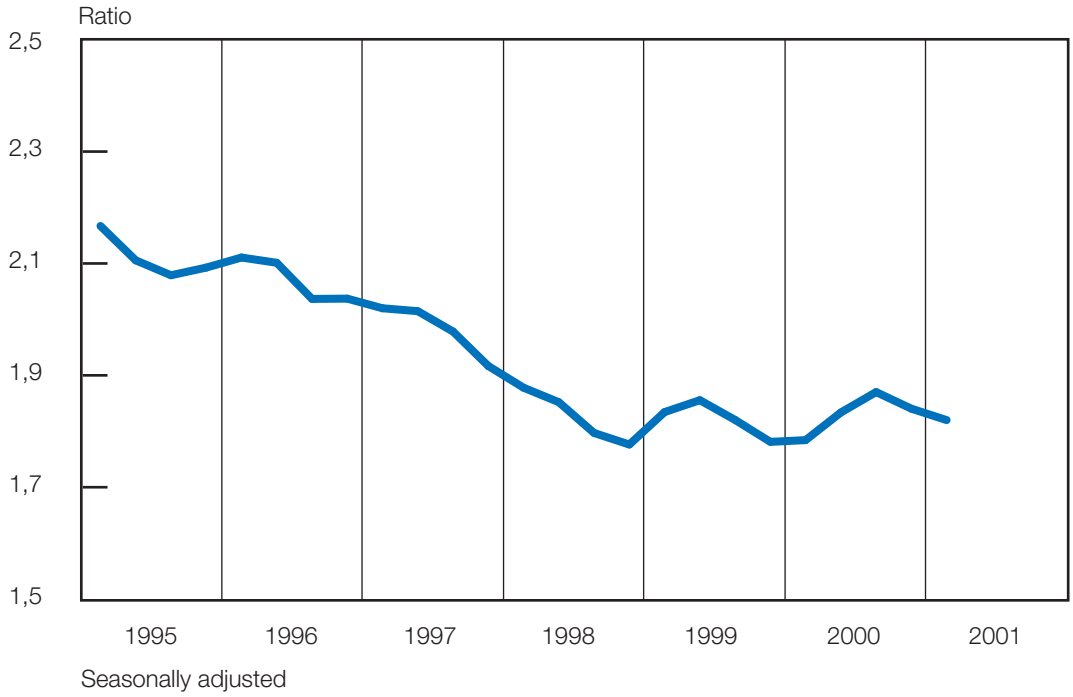
Period	M1A	M1	M2	M3
2000: Mar	18,3	16,9	13,8	10,0
Jun	12,2	16,8	9,9	8,5
Sep	7,0	14,0	7,2	8,9
Dec	1,7	3,3	6,2	7,5
2001: Jan	0,2	7,1	7,5	9,2
Feb	0,3	3,3	7,9	9,4
Mar	-1,1	6,5	11,8	12,8
Apr	3,2	7,3	11,1	12,3

Apart from the statistical explanation for the slower growth in the narrower monetary aggregates, M3 growth also outpaced the growth in the narrower aggregates because of a comparatively strong demand for long-term deposits by the general public. Long-term deposits were probably seen as a substitute for investing in the securities markets at a time when prospective market yields and returns were perceived to be uncertain. Also, expectations of declining interest rates might have prompted many deposit-holders to move funds from shorter-term deposits to higher yielding longer-term deposits.

The growth rate of M3 reached an annualised level in the fourth quarter of 2000 that was 7,1 percentage points higher than the growth rate of the nominal gross domestic product, lowering the *income velocity of circulation* of M3 by 1,6 per cent from the third quarter of 2000 to the fourth quarter. In the first quarter of 2001 the margin between the two growth rates decreased to 5,4 percentage points and the income velocity declined by 1,1 per cent. The decline in the income velocity of M3 reflects an increase in the stock of money relative to the overall size of the economy. This excess money could easily spill over into increased spending, if economic agents collectively decide to reduce their money holdings as a ratio of their nominal income.

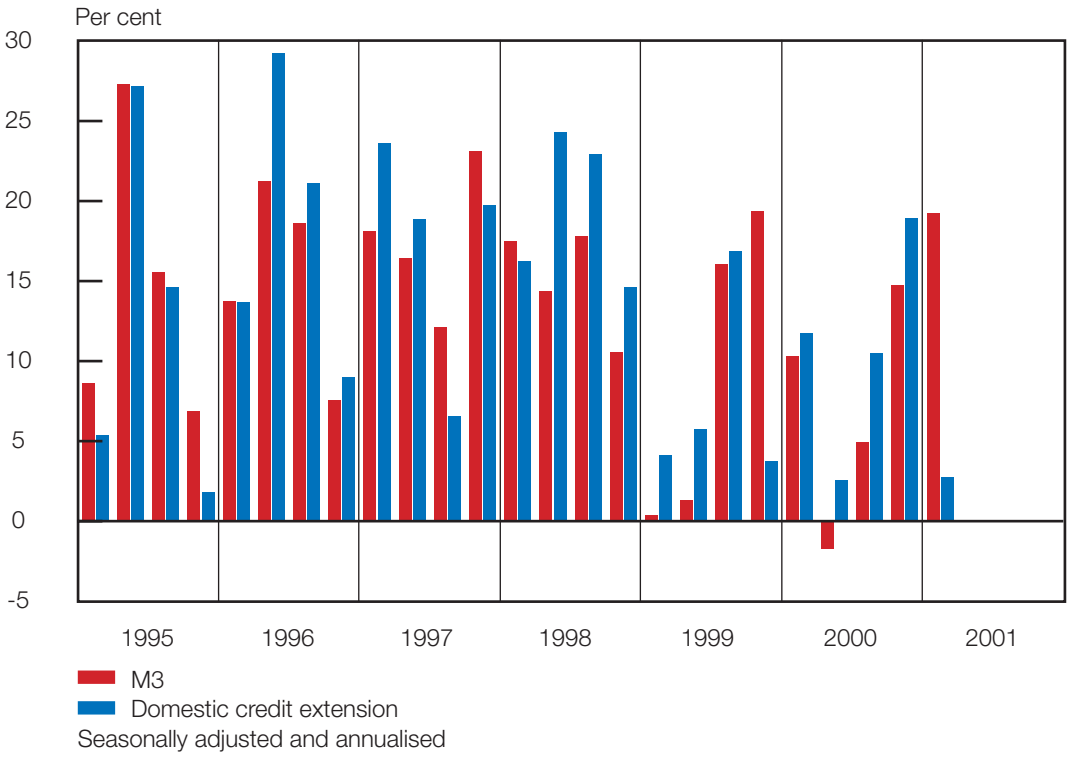
The M3 money supply (before adjustment for seasonal influences) increased by R16,9 billion from the end of the third quarter of 2000 to the end of the fourth quarter and by R21,5 billion in the three months to the end of the first quarter of 2001. Aggregate lending by the banks continued to increase in the first quarter but at a far slower pace than growth in deposits; growth in bank lending to the domestic private

Income velocity of M3



sector eased from R15,5 billion in the fourth quarter of 2000 to just R1,6 billion in the first quarter of 2001. Growth in banks' deposit liabilities, therefore, exceeded growth in their assets arising from lending activities. Also, the banks reduced their net credit extension to the government sector by R2,2 billion in the first quarter of 2001.

Quarter-to-quarter growth in M3 and domestic credit extension



With lending or asset growth in the banking sector falling well short of deposit growth, resources were available for the accumulation of other assets or the reduction of other liabilities. The banks accordingly increased their *net other assets* by R22,8 billion in the first quarter of 2001. Deficits accruing from the Reserve Bank's transactions in the forward foreign-exchange market contributed to this increase. Net foreign assets, however, declined by R0,7 billion.

Credit extension

Bank lending to the private sector slowed down considerably in the first quarter of 2001. Measured from quarter to quarter and annualised, growth in the banks' claims on the private sector fell from 17,8 per cent in the fourth quarter of 2000 to 3,1 per cent in the first quarter of 2001.

As mentioned above, the private banks also reduced their net claims on the government sector during the first quarter of 2001. If these net claims by banks on the government sector are added to the banks' claims on the private sector, the growth in *total domestic credit extension* slowed down from 18,9 per cent in the fourth quarter of 2000 to 2,8 per cent in the first quarter of 2001.

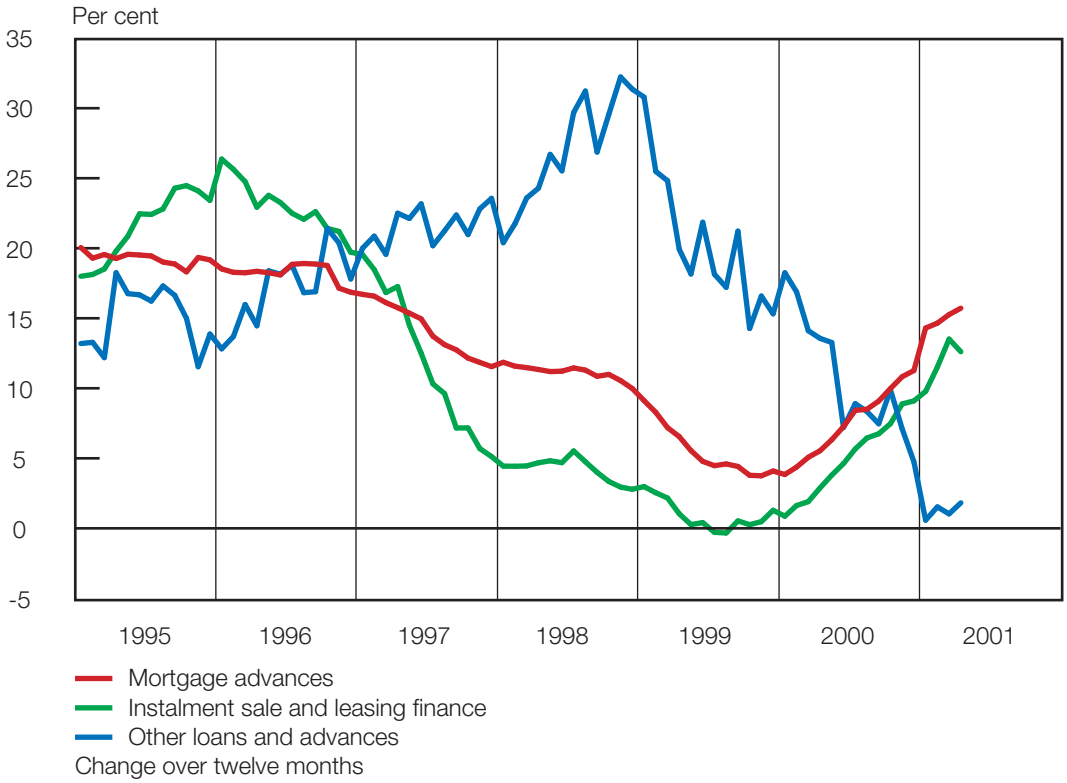
The year-on-year growth in bank lending to the *private sector* exceeded 10 per cent throughout the last four months of 2000, but sank below the 10 per cent mark in January 2001 when changes in the reporting template of banks allowed for the exclusion of interbank derivative positions from private-sector credit. This caused a once-only decline in the level of bank lending to the private sector in January 2001, but by March the strong demand for bank credit, especially from the household sector, had pushed back the year-on-year growth in banks' claims on the private sector to almost 10 per cent. Households' share in total bank lending to the private sector rose from 48,6 per cent at the end of December 2000 to 49,4 per cent at the end of March 2001. Conversely the share of the corporate sector decreased from 51,4 to 50,6 per cent over the same period.

An analysis of banks' claims on the private sector by *type of credit* shows that the growth in *mortgage advances* has picked up considerably in recent months – the growth accelerated from 3,8 per cent in the year to January 2000 to 15,3 per cent in the year to March 2001 and 15,7 per cent in the year to April 2001. The recovery in activity and prices in the real-estate market had much to do with the faster growth in the demand for mortgage financing. In fact, growth in mortgage advances contributed as much as 40,7 per cent to the overall increase in banks' claims on the private sector in the year to April 2001.

Instalment sale credit and leasing finance , which serve mainly as instruments for the financing of purchases of vehicles and other durable goods, gained momentum throughout 2000. Growth over twelve months in this credit category picked up from a low of 0,9 per cent in January 2000 to 13,5 per cent in March 2001 and 12,6 per cent in April. New pay-outs on such credit reached a record high of R15,8 billion in the first quarter of 2001.

Unlike the growth in mortgage advances, the twelve-month growth rates in *"other loans and advances",* including overdrafts on current accounts, have been relatively subdued since June 2000 when a single-digit growth figure was reported for the first time since February 1994. The slackness of growth in "other loans and advances" persisted into the first quarter of 2001 when twelve-month growth rates of

Credit extension to the private sector by type of credit



Credit extended to the private sector by type of credit

Percentage change over twelve months

		Instalment sale and leasing finance	Investments and bills discounted	Mortgages	Other loans and advances	Total
2000:	Mar	1,9	-0,1	5,1	14,1	7,9
	Jun	4,6	6,8	7,3	7,2	6,8
	Sep	6,7	45,4	9,1	7,5	10,0
	Dec	9,1	58,0	11,3	4,8	10,8
2001:	Jan	9,8	22,3	14,3	0,6	8,2
	Feb	11,5	34,4	14,7	1,5	9,7
	Mar	13,5	27,0	15,3	1,0	9,6
	Apr	12,6	11,9	15,7	1,8	9,3

barely 1 per cent were recorded. In April 2001, “other loans and advances” were still just 1,8 per cent higher than in April 2000. Only 8,2 per cent of the overall growth in banks’ claims on the private sector in the year to April 2001 could be attributed to “other loans and advances”.

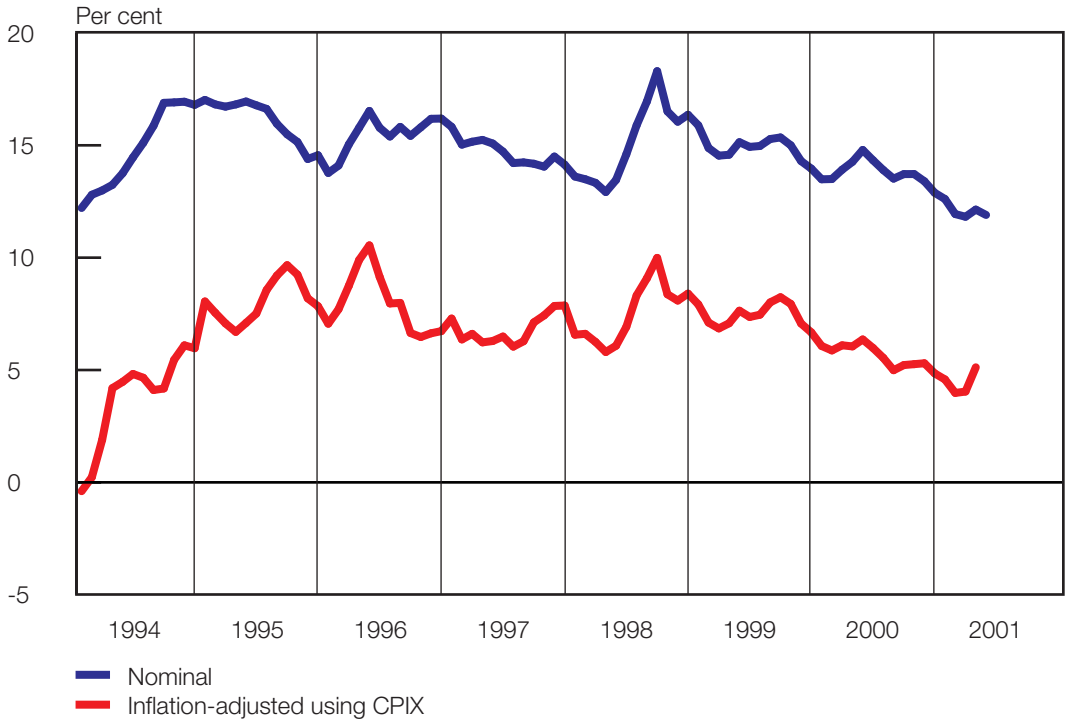
Growth over twelve months in *investments and bills discounted* by banks displayed exceptional volatility during 2000 and in the first quarter of 2001 – growth rates varied from a decline of 0,1 per cent in March 2000 to an increase of 58,0 per cent in December. The volatile growth pattern was caused by banks reporting certain assets on their balance sheets instead of treating them as off-balance-sheet items as they had done previously, and also by changes in the reporting format of banks

which effectively eliminated interbank derivative positions from the consolidated balance sheet of the banking sector. Partly as a consequence of these changes in accounting practices, the change in investments and bills discounted contributed 7,4 per cent to the overall increase in banks' claims on the private sector in the year to April 2001.

Interest rates and yields

Long-term interest rates, measured by those at the ten-year horizon, have generally fallen during 1999 and 2000, with further reductions since the beginning of 2001. The *monthly average yield on long-term government bonds* fell to 12,9 per cent in December 2000, when it returned to the level it had been in April 1998 immediately before the international financial market crises, and to 11,8 per cent in March 2001 when it was at its lowest level since February 1983.

Yield on long-term government bonds



Towards the middle of March 2001 some uncertainty crept back into the market as inflation expectations were fuelled by the depreciation of the rand against the US dollar and high international petroleum prices. Bond yields, which move inversely to bond prices, picked up for a while and the average monthly yield on long-term government bonds rose to 12,1 per cent in April 2001.

News of falling inflation domestically, and the much improved sentiment in the world securities markets, encouraged some buying interest to return to the South African market in May 2001, resulting in the monthly average yield retracing to 11,9 per cent. After increasing from 11,5 per cent on 12 March 2001 to 12,4 per cent on 24 April, the *daily* average yield on long-term government bonds fell back to 11,8 per cent on 31 May.

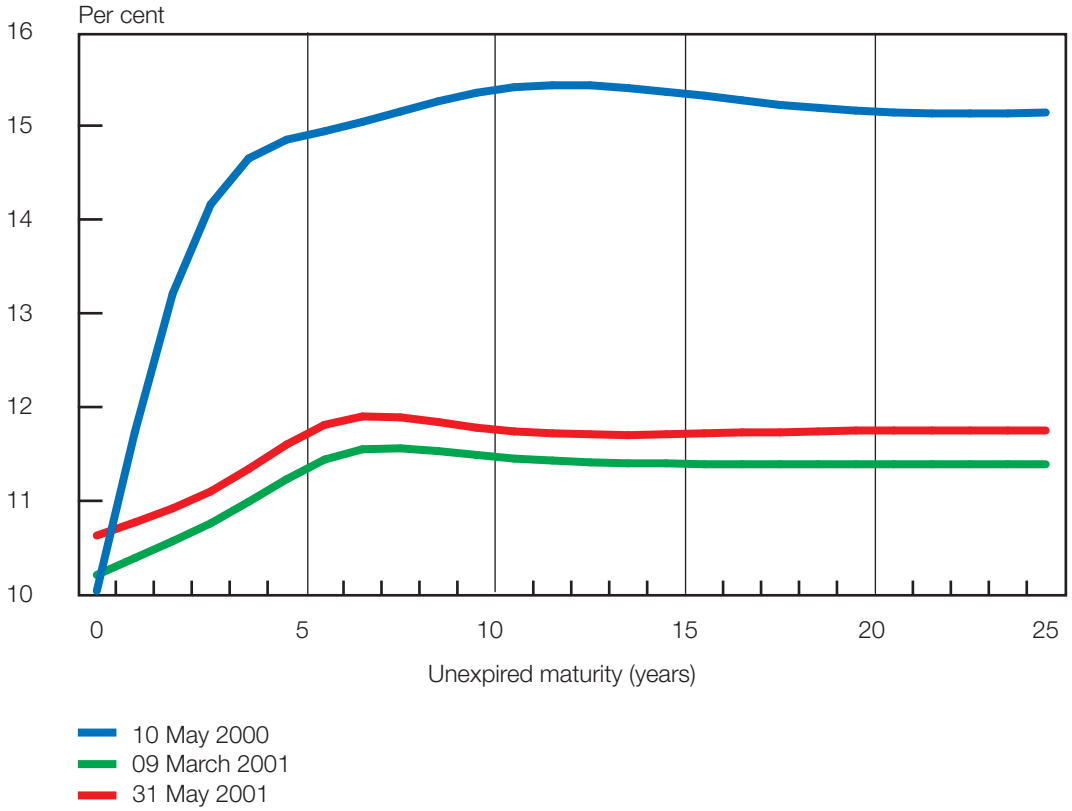
Developments in the area of public finance have reinforced the positive mood in the bond market over the past year or so. The smaller-than-expected outturn of

the national government Budget deficit in fiscal 2000/01, and decisions by the National Treasury to buy back R7,4 billion worth of long-term debt and to borrow R11,3 billion on the international markets, reduced the expected supply of bonds in the domestic market, raised their price and simultaneously caused yields to decline.

The *inflation-adjusted or real yield* on long-term government bonds declined from 5,3 per cent in November 2000 to 4,0 per cent in February and March 2001 when it dropped to its lowest level since 1994. The rise in nominal yields and the fall in year-on-year CPIX inflation jointly raised the real yield to 5,1 per cent in April 2001.

The upward sloping *yield curve* has become significantly flatter after bond yields peaked for 2000 on 10 May. The yield curve shifted lower over its entire maturity spectrum in the period up to 9 March 2001. Concerns about inflation following the depreciation of the rand against the dollar and the high level of international petroleum prices, as well as heightened uncertainty in international financial markets, pushed the yield curve higher from 9 March 2001 to 23 April. After 23 April 2001 long-term yields declined again, but those on short-dated securities remained broadly unchanged. By the end of May 2001 the yield-differential between short- and long-dated stock had narrowed appreciably, but even at that lower level still reflected some concern about domestic inflation.

Yield curves



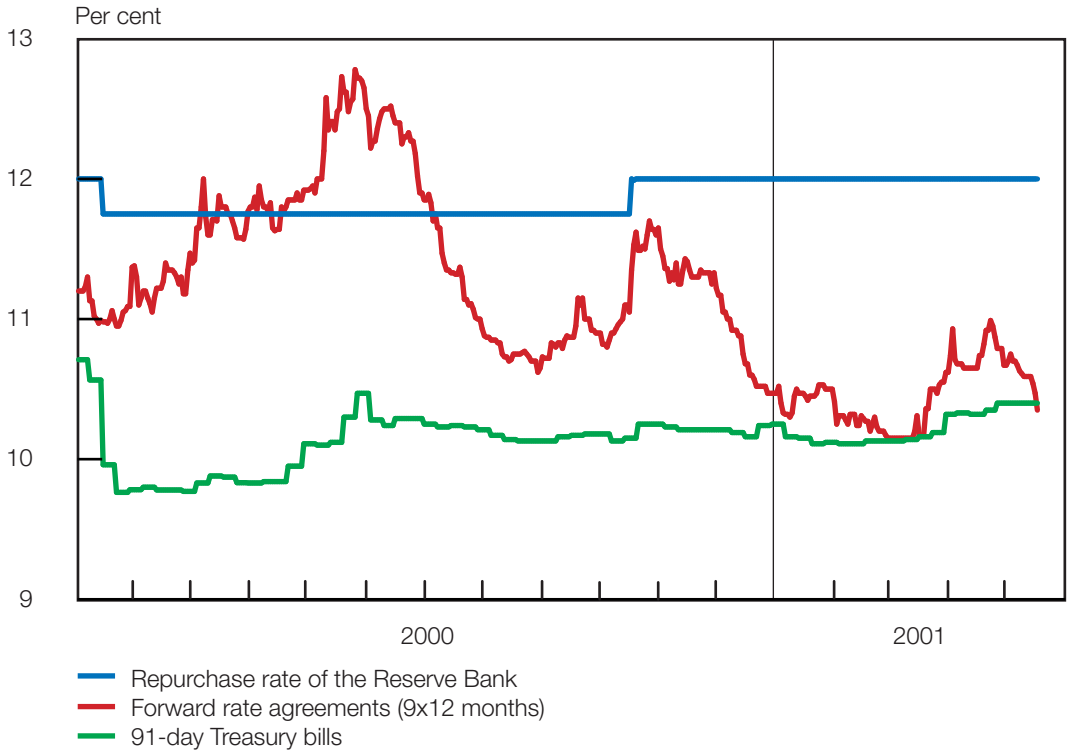
In sharp contrast to the behaviour of the yields on long-term fixed interest securities, short-term money-market rates were atypically stable in 2000 and in the first four months of 2001. The repurchase rate of the Reserve Bank has remained unchanged at a level of 12,00 per cent since 17 October 2000. Other money-market instruments

also traded within a narrow interest-rate range during the first quarter of 2001, but some turbulence was encountered in April.

Towards the end of March 2001, uncertainty about movements in money-market interest rates was aggravated by the volatility in the exchange rate of the rand. As the rand depreciated against the US dollar, money-market interest rates moved to their highest levels since the beginning of the year. For instance, the rate on three-month negotiable certificates of deposit increased by a total of 20 basis points from 10,53 per cent on 22 March 2001 to 10,73 per cent on 4 May – a margin of change last seen about a year previously.

The tender rate on 91-day Treasury bills declined from 10,25 per cent on 4 January 2001 to 10,11 per cent on 19 January, but stabilised subsequently and fluctuated within a range of between 10,13 per cent and 10,19 per cent up to 29 April. Upward pressure on this rate was triggered on 30 March 2001 when the amount on tender was increased by R500 million to R2 billion, pushing it higher by 13 basis points. This increase in the amount of 91-day Treasury bills on offer was preceded by an issue of special Treasury bills amounting to R1,0 billion on 20 March, reaching maturity on 30 March. This chain of events was interpreted by some market participants as a signal that the government was experiencing cash-flow problems. The interest rate of 91-day Treasury bills has remained in the region of 10,40 per cent since 4 May 2001, largely reflecting movements in the exchange rate of the rand against the US dollar.

Money-market interest rates



Expectations of increases in money-market interest rates, as portrayed by rates on forward contracts, receded in the last two months of 2000 and the first two months of 2001. For instance, the rate on 9x12-month forward rate agreements (FRAs) de-

clined from 11,70 per cent on 26 October 2000 to 10,15 per cent on 28 February 2001. However, upward pressure returned once again, lifting the rate on 9x12-month FRAs to 10,99 per cent on 23 April 2001. During the last week of April 2001 and the first three weeks of May, sentiment changed noticeably and the rate on 9x12-month FRAs declined to 10,33 per cent on 21 May, clearly signalling that market participants were expecting a general decline in money-market interest rates over the coming year.

Since February 2000, the private banks have kept the *predominant rate on mortgage loans* unchanged at 14,5 per cent – the lowest rate since 1988. The *predominant rate on twelve-month fixed deposits with banks* showed some variability within a range of between 8,5 per cent and 9,5 per cent in 2000, ending the year at 9,25 per cent. In January 2001 the rate was raised to 9,5 per cent and left unchanged at this level.

Money market

Money-market conditions eased marginally during the first two months of 2001 but tightened somewhat in March and April. The average daily liquidity requirement of the private banks decreased from R10,2 billion in December 2000 to R9,2 billion in February 2001, but increased to R10,3 billion in March and R11,0 billion in April. The relatively high level of liquidity required by private banks was achieved through various Reserve Bank interventions in the money market.

During the first four months of 2001 liquidity was injected into the money market through an increase in the Bank's net foreign assets and through losses realised on forward foreign-exchange transactions. Increases in the Reserve Bank's net foreign assets added R0,7 billion to money-market liquidity and losses realised on forward foreign-exchange transactions added another R5,0 billion.

In its intervention in the money market, the Reserve Bank engaged private banks in swap transactions against foreign-currency deposits. The outstanding amount of these swaps increased from R15,2 billion at the end of December 2000 to R22,1 billion at the end of April 2001. As a further measure to drain liquidity, the Bank increased the amount of its outstanding debentures from R3,0 billion at the end of December 2000 to R4,0 billion at the end of April 2001. These liquidity-draining operations were reinforced by the Bank stepping up its reverse repurchase transactions in government securities with private-sector parties from R3,8 billion at the end of December 2000 to R5,7 billion at the end of April 2001.

Following the usual seasonal pattern, notes and coin in circulation outside the Reserve Bank decreased by R4,2 billion during January and February 2001. A relatively small increase of R1,0 billion in notes and coin in circulation outside the Reserve Bank during March and April tightened liquidity conditions in the money market somewhat, helping the Bank in its efforts to counteract undue easing in the banks' liquidity position.

The Bank has continued to provide fully in the liquidity needs of the banks, sending a signal that it considered appropriate the prevailing interest rate on repurchase transactions.

Bond market

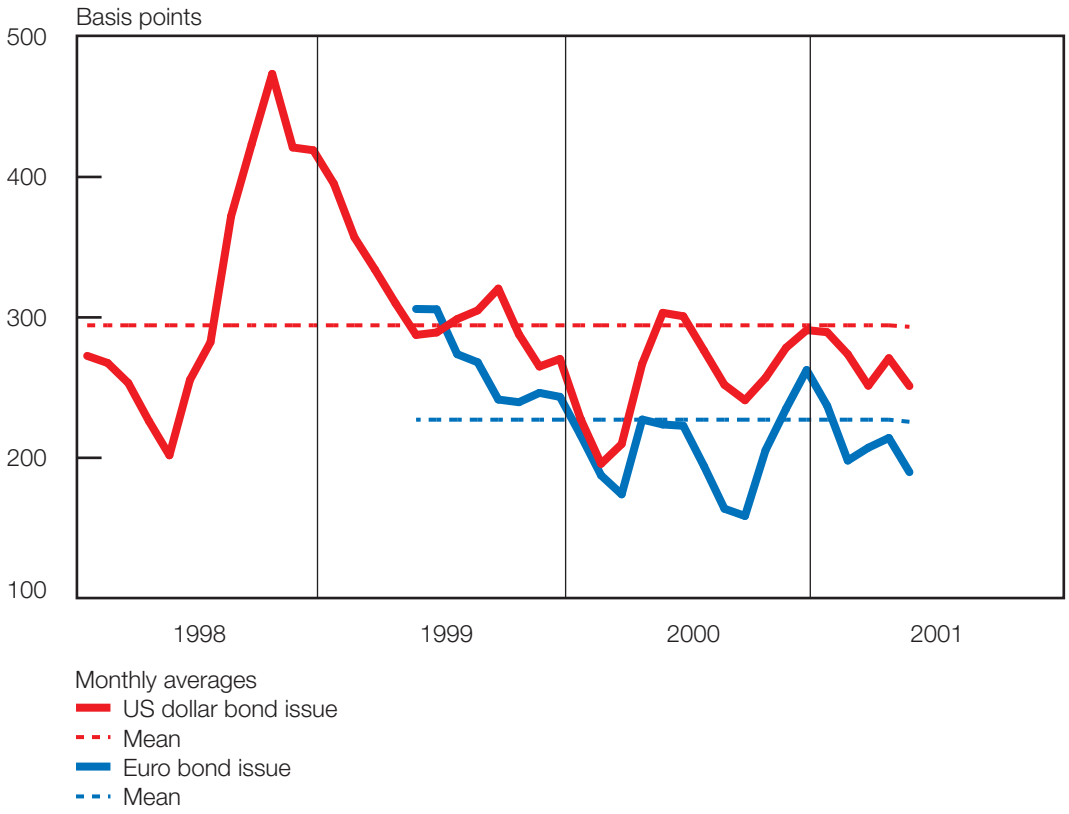
Total *net issues of fixed-interest securities* by the *public sector* in the *domestic primary bond market* fell from R4,9 billion in fiscal 1999/2000 to R2,5 billion in fiscal

2000/01. The main reason for this steep decline was the smaller demand for loanable funds following the reduction in the public-sector borrowing requirement and national government's increased recourse to offshore borrowing. Furthermore, for the greater part of the past fiscal year, government preferred to meet its funding requirements by issuing lower-cost Treasury bills rather than long-term paper. There were also major redemptions of debt by national government and Transnet, especially in the fourth quarter of 2000 and in the first quarter of 2001.

Potential pressures on the domestic capital markets were relieved during 2000 when public-sector borrowers mobilised a total amount of R10,1 billion on *international markets* through three *foreign-currency denominated bond issues*. The offshore borrowing programme of the public sector for fiscal 2001/02 was opened in April 2001 when an amount of €500 million was raised through the issuance of a 7-year bond. The proceeds of this loan accounted for about 32 per cent of the budgeted foreign borrowing programme of R11,3 billion for the current fiscal year.

The eurobond issue in April 2001 carried a coupon interest rate of 7,0 per cent and was priced at 272 basis points above securities of the German Federal Government with a similar maturity. However, the effective cost of the loan in rand terms will eventually be determined by changes in the exchange rate of the rand against the euro over the maturity of the bond. Borrowing-cost considerations apparently favoured issuing bonds in the eurobond market; as indicated in the accompanying graph, the sovereign risk premium on South African debt over the past two years has consistently been lower in Europe than in the United States.

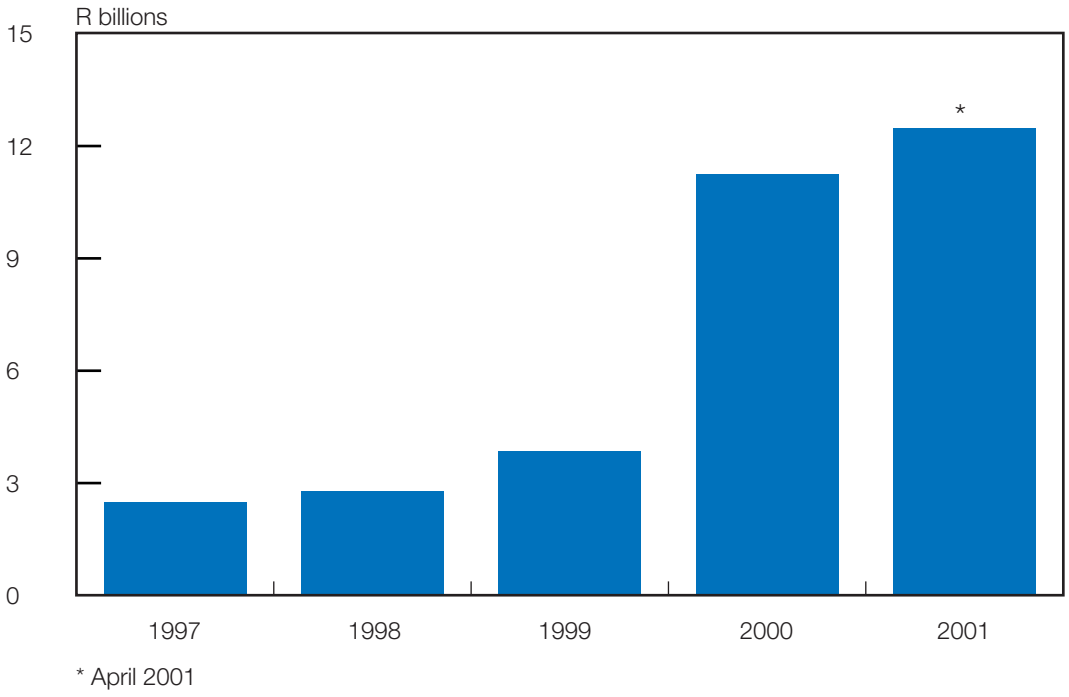
Sovereign risk premium on South African government bonds



In contrast to the interest shown by foreign investors in the market for South African foreign-currency denominated debt, net redemptions of rand-denominated bonds in the *eurorand market* by non-resident borrowers amounted to R3,0 billion in the whole of 2000 and R0,3 billion in the first four months of 2001. Mainly because of this obvious lack of interest, South African issuers also refrained from issuing rand-denominated debt in the eurorand market, having last made an issue in March 1999.

Activity in the corporate bond market is picking up quite strongly. The increase in *private sector issues of fixed-interest securities* that began in calendar year 2000, gained further momentum in the first three months of 2001. The outstanding nominal value of private-sector loan stock listed on the Bond Exchange of South Africa, excluding "stripped bonds", increased almost threefold from R3,8 billion in December 1999 to R11,2 billion in December 2000 and rose further to R12,5 billion in March 2001.

Outstanding nominal value of private-sector loan stock listed on the Bond Exchange of South Africa at 31 December



* April 2001

The value of bonds traded on the Bond Exchange of South Africa receded from a record quarterly value of R2,8 trillion in the first quarter of 2000 to a quarterly average of R2,6 trillion in the remainder of 2000, but increased slightly to R2,7 trillion in the first quarter of 2001. Despite heightened volatility in bond yields and continued non-resident participation, turnover in the *domestic secondary bond market* decreased from a monthly average of R0,9 trillion in the first quarter of 2001 to R0,8 trillion in April, essentially because of the bunching of public holidays in that month. The value of bonds traded amounted to R1,1 trillion in May – a monthly all-time record.

On a net basis, *non-residents* sold bonds to the value of R20,2 billion in 2000 and R3,5 billion in the first five months of 2001. Net sales of bonds by non-residents in the *secondary bond market* more than doubled from a quarterly average of R2,4 billion in the third and fourth quarters of 2000 to R5,8 billion in the first quarter of 2001,

even though they bought bonds to the net amount of R3,2 billion in March. In April 2001, non-resident investors once again sold bonds on a net basis to the amount of R0,5 billion, but they returned to the market as net buyers in May to the amount of R2,8 billion.

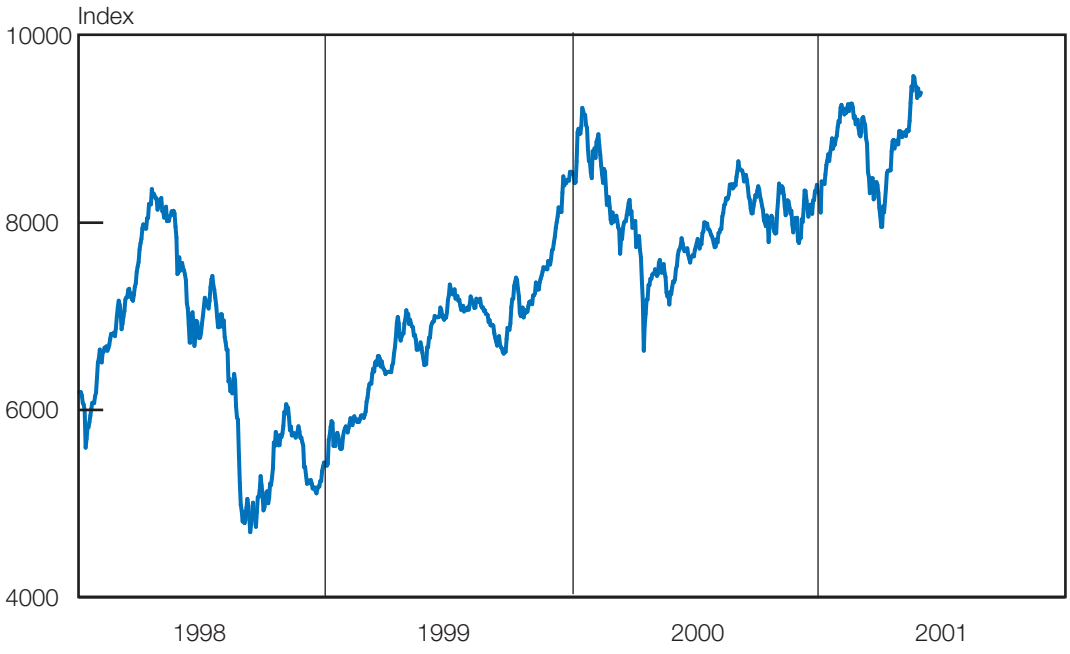
Share market

The *monthly average price level of all classes of shares* increased by 24 per cent from a most recent low in May 2000 to February 2001. Fund managers' and other investors' outlook on corporate profitability in South Africa became less favourable in the ensuing two months, consistent with a downward revision of expectations of dividend and earnings growth. The average monthly level of share prices consequently declined by 7 per cent from February 2001 to April.

The rerating of earnings growth in South Africa was probably influenced more by price movements in the major international equity markets than by profit warnings and other news about the potential earnings of local companies. Particularly sharp falls occurred in the share prices of companies operating in high-technology sectors. These were followed by a noticeable recovery in global equity markets after the fourth and the fifth reductions in the US official interest rate in 2001, reversing the downward movement of prices in the US market over the previous year. South African shares rallied too and the monthly average share price level increased by 8 per cent in May 2001.

On a daily basis the closing level of the all-share price index fell by 14 per cent between 16 February 2001 and 3 April. The all-share price index subsequently recovered to a level on 21 May 2001 that was 20 per cent above the level of 3 April and 3 per cent above the previous all-time high of 16 February 2001.

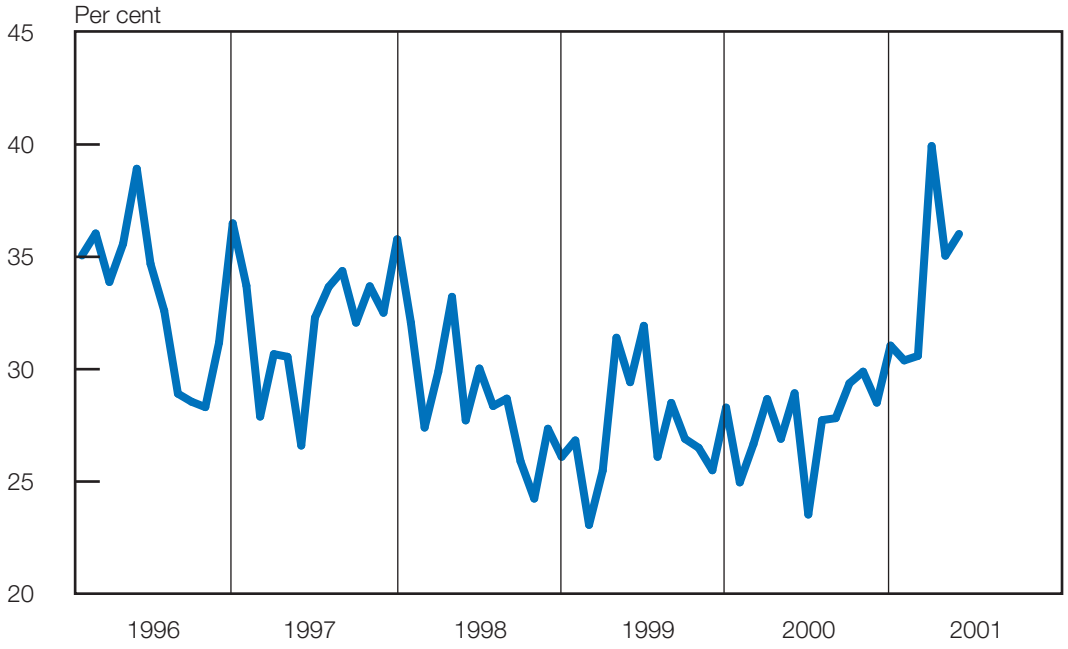
All-share price index



The quarterly value of net purchases of shares by *non-residents* in the *secondary share market* fell back from R9,3 billion in the third quarter of 2000 to only R2,2 billion in the fourth quarter, but rebounded to R9,4 billion in the first quarter of 2001. However, on a monthly basis, non-residents' net purchases declined from R4,0 billion in February 2001 to R2,3 billion in March and R2,8 billion in April before increasing to R3,7 billion in May. In the first five months of 2001, non-residents bought shares on a net basis to the value of R15,9 billion.

In the secondary share market the sudden price correction and heightened volatility encouraged the buying and selling of shares in the first quarter of 2001. Foreign participation in the *secondary share market*, measured as the gross transaction value of non-residents' purchases and sales of shares as a percentage of total purchases and sales of shares, increased sharply from an average level of 28 per cent in 2000 to almost 40 per cent in March 2001. The quarterly value of shares traded on the JSE Securities Exchange SA increased from R131 billion in the fourth quarter of 2000 to R147 billion in the first quarter of 2001 – i.e. only 5 per cent below the quarterly all-time high turnover of R155 billion in the first quarter of 2000. The small number of trading days caused turnover to fall back to R45 billion in April 2001, from a monthly average of R49 billion in the first quarter. The value of shares traded amounted to R57 billion in May, the highest level ever recorded in a calendar month.

Non-resident participation in the secondary share market



Volatile price movements were reflected in the amount of funding sought by listed companies in the *primary share market*. The total value of *equity capital raised* declined from R30,1 billion in the third quarter of 2000 to R12,5 billion in the fourth quarter and to only R3,9 billion in the first quarter of 2001. Equity financing in the primary share market amounted to R0,3 billion in April.

Strong earnings growth took the *price-earnings ratio* of all classes of shares, excluding gold-mining shares, down from 16,4 in January 2000 to 10,4 in April 2001,

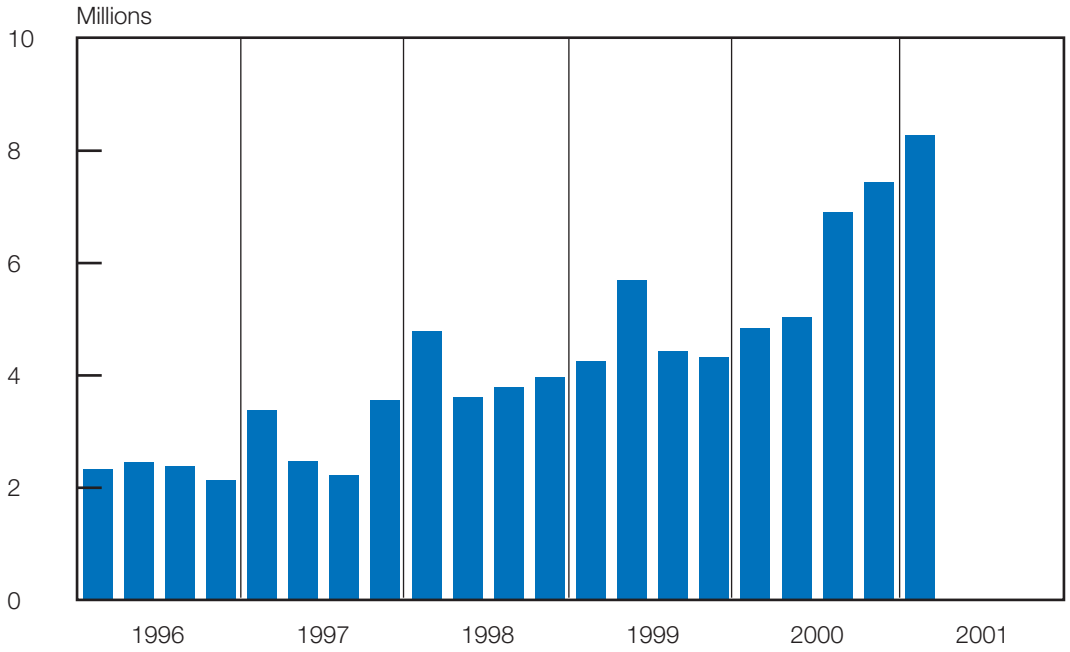
i.e. to its lowest level since the last quarter of 1998 at the time of the international financial crises. In May 2001, the price-earnings ratio rose to 11,4. The *earnings yield* of the non-gold sector rose from 6,1 per cent in January 2000 to 9,6 per cent in April 2001 and 8,8 per cent in May. The *dividend yield on all classes of shares* increased too, from 1,9 per cent in January 2000 to 3,1 per cent in April 2001 and 2,9 per cent in May.

Market for derivatives

Price volatility in the domestic securities markets and non-resident participation prompted trading in the market for derivative products in the first five months of 2001.

The combined number of *futures and options on futures contracts* traded on the South African Futures Exchange in a quarter reached consecutive all-time highs of 7,4 million in the fourth quarter of 2000 and 8,3 million in the first quarter of 2001. The number of these contracts traded subsequently decreased from a monthly average of 2,8 million in the first quarter of 2001 to 1,5 million in April and then increased to 3,0 million in May.

Derivatives market



Number of futures and options on futures contracts traded

The number of *commodity futures contracts and options* on such contracts traded in the Agricultural Market Division of the South African Futures Exchange increased from 134 000 in the fourth quarter of 2000 to a quarterly all-time high of 209 400 in the first quarter of 2001. The monthly number of such contracts traded peaked at 81 300 in February 2001. Trading decreased from a monthly average number of about 69 800 contracts in the first quarter of 2001 to 38 000 in April and then increased to 63 000 in May.

The number of *warrants* traded on the JSE Securities Exchange SA increased from 3,2 billion in the fourth quarter of 2000 to an all-time quarterly high of 5,0 billion in the first quarter of 2001. Trading subsequently declined slightly from a monthly average of 1,7 billion contracts in the first quarter of 2001 to 1,5 billion contracts in April and then increased to the highest number ever of 2,2 billion in May.

Real-estate market

Activity in the real-estate market became increasingly buoyant in 1999 but then levelled off in 2000. The seasonally adjusted value of transactions increased from R5,9 billion in the first quarter of 1999 to R9,9 billion in the first quarter of 2000 in reaction to the decline in mortgage bond rates. The value of transactions then levelled off at a relatively high average amount of R9,8 billion per quarter for the remainder of 2000 as mortgage rates remained unchanged at their lowest levels in 12 years.

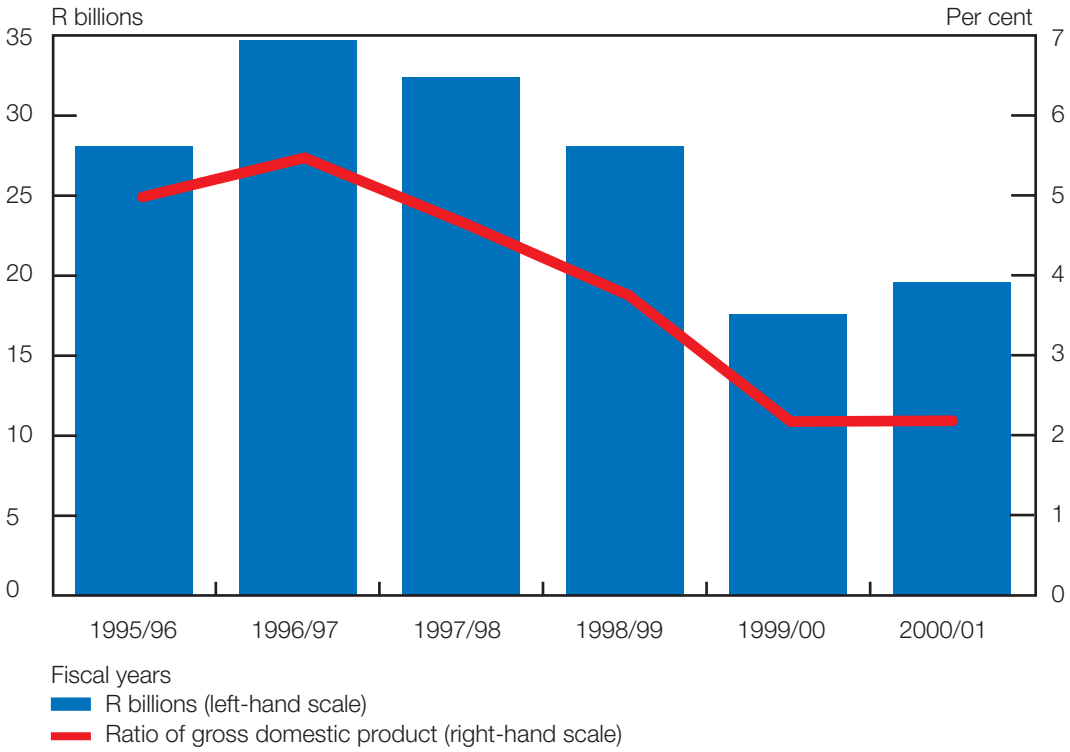
The movement in share prices of companies listed in the real-estate and building, construction and engineering sectors of the JSE Securities Exchange SA reflected positive sentiment in the real-estate market. Optimism in the construction sector was also buoyed by expectations of increased construction activity stemming from infrastructural development and flood damage repairs by the national government and other public-sector agencies.

Public finance

Non-financial public-sector borrowing requirement

The financial activities of the *non-financial public sector* (i.e. those of the consolidated central government, provincial governments, local authorities and non-financial public enterprises and corporations) led to a deficit of R6,8 billion in the first quarter of 2001. This brought the non-financial public-sector borrowing requirement for fiscal 2000/01 to R19,6 billion which was R2,0 billion more than in the previous fiscal year. Although the borrowing requirement widened in nominal terms, it remained unchanged as a ratio of gross domestic product at 2,2 per cent. The latest ratio was nevertheless markedly lower than the average ratio of 4,2 per cent in the preceding five fiscal years.

Non-financial public-sector borrowing requirement

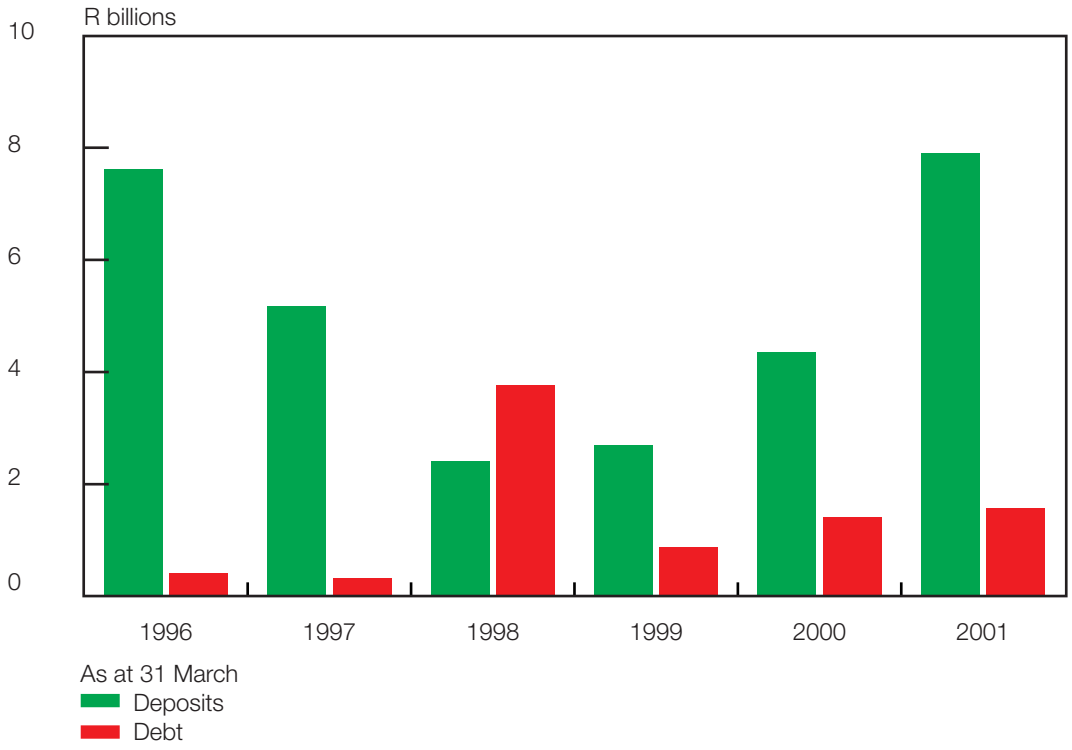


The widening of the overall borrowing requirement was largely due to an increase in the borrowing requirement of the general government. The financial position of the non-financial public-sector businesses deteriorated slightly from a borrowing need of R1,7 billion in fiscal 1999/2000 to R1,8 billion in fiscal 2000/01.

The finances of the *consolidated general government* were turned around from a surplus of R3,7 billion in the October to December quarter of 2000 to a deficit of R5,4 billion in the January to March quarter of 2001, bringing the borrowing requirement for the full fiscal year to R17,7 billion. Prudent financial management by the provincial governments caused their combined surpluses to increase, but this was offset by an increase in the borrowing requirement of the consolidated central government.

For the full fiscal year 2000/01 the provincial governments recorded a surplus of R3,6 billion – R2,2 billion more than in fiscal 1999/2000. The bank indebtedness of the provincial governments nevertheless rose from R1,4 billion at the end of March 2000 to R1,6 billion at the end of March 2001, but their balances with the banking sector increased from R4,4 billion to R7,9 billion over the same period.

Bank debt and deposits of provincial governments

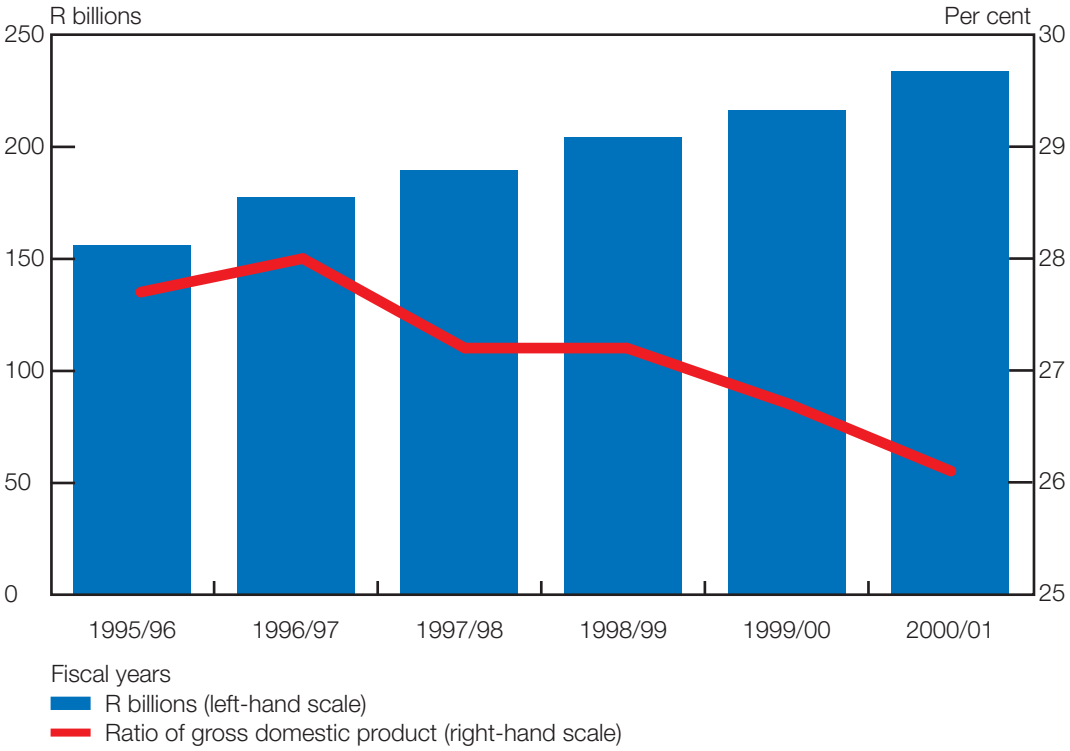


The borrowing requirement of the *consolidated central government* in fiscal 2000/01 widened at the level of national government and social security funds. This deterioration was mainly because extraordinary receipts and payments were included in the accounts. Consolidated central government finances would have improved had it not been for these extraordinary transactions.

National government finance

National government expenditure in the final quarter of fiscal 2000/01 amounted to R66,4 billion, bringing the unaudited expenditure of national government in fiscal 2000/01 to R233,8 billion – R0,3 billion more than the amount originally budgeted. The year-on-year rate of increase in government expenditure amounted to 8,0 per cent in fiscal 2000/01, only just exceeding the target of 7,9 per cent set in the Budget. The year-on-year increase of 8,0 per cent in national government expenditure in fiscal 2000/01 was higher than the increase of 6,1 per cent recorded in the previous fiscal year, but substantially lower than the average year-on-year rate of increase of 10,0 per cent in the preceding five fiscal years. In the budget proposals for fiscal 2001/02, national government expenditure was estimated to amount to R258,3 billion, representing an increase of 10,5 per cent on the actual expenditure for fiscal 2000/01.

National government expenditure



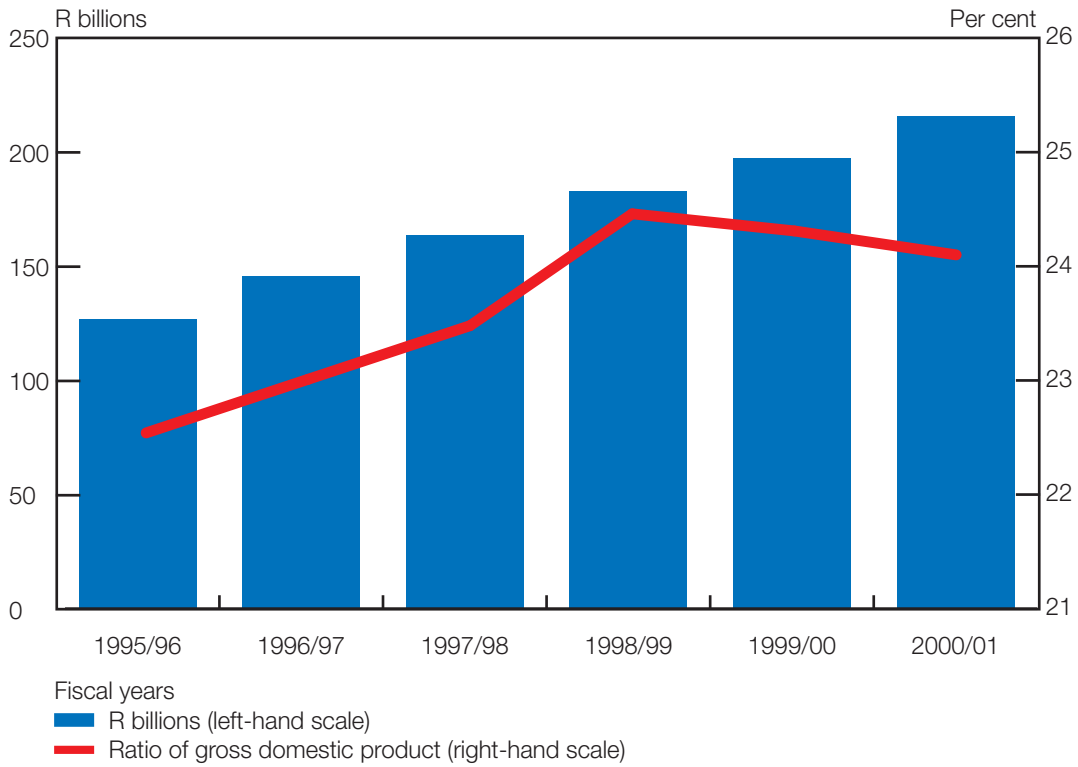
Interest payments of national government increased to R46,2 billion or by 4,9 per cent in fiscal 2000/01. Although this rate of increase was somewhat higher than the 3,2 per cent increase recorded in the previous year, it was significantly lower than the average rate of increase of 13,8 per cent in the preceding five fiscal years. Appropriate borrowing strategies, together with the continuous annual decrease in the borrowing requirement of government, jointly contributed to the decrease in debt service cost. In the Budget presentation for fiscal 2001/02, the Minister of Finance projected that debt service cost would decrease from 5,5 per cent of gross domestic product in fiscal 1999/2000 to 4,4 per cent in fiscal 2003/04. In fiscal 2000/01 interest payments as a ratio of total expenditure amounted to 19,8 per cent.

National government transferred 40,4 per cent of its total expenditure to provincial governments as their equitable share of the revenue pool. Only 3,0 per cent of overall national government spending was allocated for acquiring capital assets.

As a ratio of gross domestic product, national government expenditure in fiscal 2000/01 amounted to 26,1 per cent, compared with 26,7 per cent in the preceding fiscal year. This decline in national government expenditure as a ratio of gross domestic product is a continuation of the trend established since fiscal 1996/97.

After allowing for cash-flow adjustments (i.e. transactions recorded as a result of timing differences between the recording of transactions and bank clearances, and late departmental requests for funds), government expenditure amounted to R234,3 billion in fiscal 2000/01, which was 9,4 per cent higher than in the previous fiscal year.

National government revenue



National government revenue in the final quarter of fiscal 2000/01 amounted to R64,0 billion or 16,1 per cent more than in the corresponding period of the previous fiscal year. This brought the unaudited revenue for fiscal 2000/01 as indicated in the preliminary Statement of National Revenue, Expenditure and Borrowing to R216,1 billion, representing a year-on-year rate of increase of 9,5 per cent. The preliminary outcome was R5,7 billion more than projected in the original Budget and the rate of increase was appreciably higher than the 6,6 per cent growth envisaged at that time, mainly because of the improved efficiency of tax collection. The rate of increase in national government revenue in fiscal 2000/01 was also higher than the rate of increase of 7,8 per cent recorded in the previous fiscal year, but was well below the average year-on-year rate of increase of 12,1 per cent recorded in the preceding five fiscal

National government revenue in fiscal 2000/01

R billions

Revenue source	Budgeted	Actual
Taxes on income and profits	121,3	125,9
Payroll taxes	1,4	1,2
Taxes on property	3,3	4,0
Domestic taxes on goods and services	79,4	79,0
Taxes on international trade and transactions	6,5	8,3
Other revenue	6,9	6,1*
Less: SACU** payments	8,4	8,4
Total revenue	**210,4**	**216,1**

* Including R0,8 billion received in the National Revenue Fund but not yet cleared to a specific tax source

** Southern African Customs Union

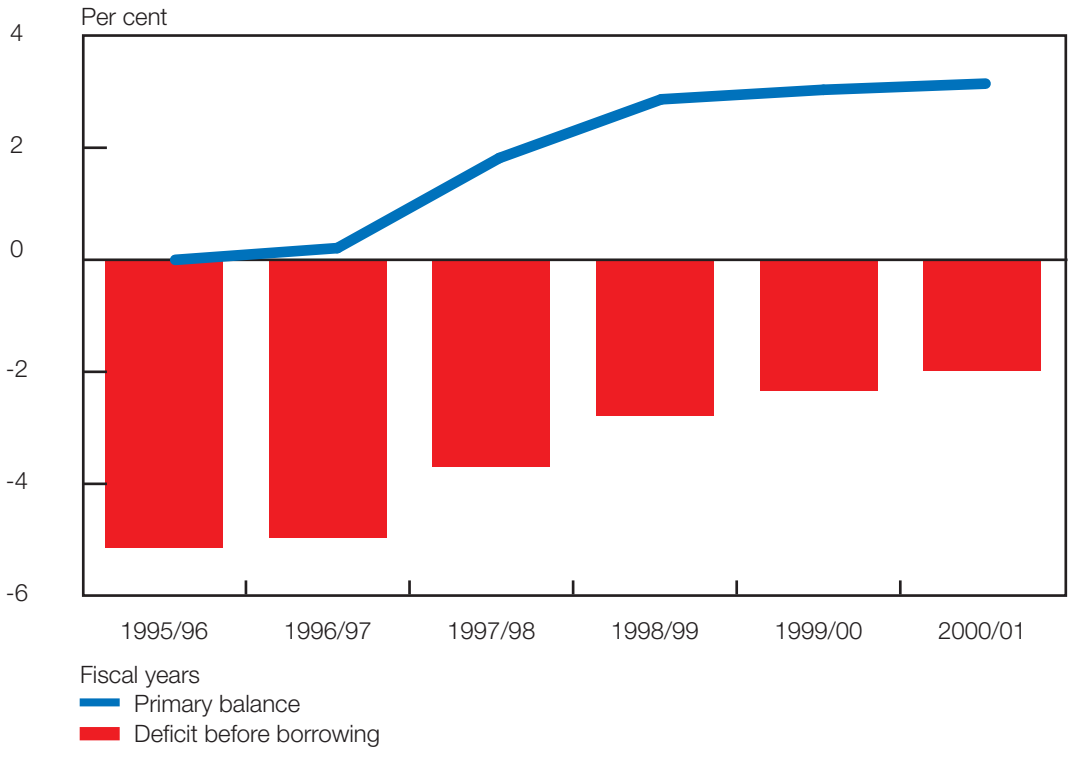
years. At the time of presenting the Budget for fiscal 2001/02 to Parliament, national government revenue was projected to increase to R233,4 billion – representing an increase of 8,0 per cent on the actual outcome of the preceding fiscal year.

As indicated in the table, the increase in national government revenue was primarily due to strong growth in taxes on income and profits and in taxes on international trade and transactions. An amount of R0,8 billion was received by the National Revenue Fund but not yet allocated to any specific tax source. However, current indications are that none of the revenue categories seriously underperformed relative to the original Budget projections.

National government revenue as a ratio of gross domestic product amounted to 24,1 per cent in fiscal 2000/01 compared with 24,3 per cent in the previous fiscal year. National government revenue, adjusted for differences in timing between the recording of transactions and bank clearances, amounted to R216,0 billion, representing an increase of 9,4 per cent in fiscal 2000/01 compared with the previous fiscal year.

The net result of the higher-than-budgeted revenue and close-to-budgeted expenditure was a *national government deficit before borrowing and debt repayment* of R17,7 billion in fiscal 2000/01 – well below the deficit of R23,1 billion envisaged in the original Budget and the revised estimate of R21,7 billion announced in February 2001. As a ratio of gross domestic product, the national government deficit before borrowing and debt repayment amounted to 2,0 per cent in fiscal 2000/01 compared with 2,3 per cent in the previous fiscal year and the 2,8 per cent originally budgeted for the full fiscal year. The primary balance (i.e. the deficit recalculated by excluding interest payments from total expenditure) reached a surplus of 3,2 per cent of gross domestic product in fiscal 2000/01, slightly higher than the 3,1 per cent recorded in the previous fiscal year.

National government balances as a ratio of gross domestic product



The deficit before borrowing and debt repayment, adjusted for cash flows, amounted to R18,3 billion in fiscal 2000/01. Apart from financing this deficit, national government also had to fund the cost of revaluing maturing foreign loans and some debt of the South African Rail Commuter Corporation.

Although the proceeds from the restructuring of state assets were less than anticipated in the original Budget, they nevertheless contributed significantly to financing the national government deficit in fiscal 2000/01. Receipts from this source included R0,4 billion from the restructuring of the South African Special Risks Insurance Association (Sasria), R1,8 billion from a special restructuring dividend paid by the transport utility Transnet and R0,6 billion received from the telecommunications corporation, Telkom. In a public announcement by the Minister of Public Enterprises, government's commitment to the National Framework Agreement on the restructuring of state-owned enterprises was reaffirmed. The Minister acknowledged organised labour's concerns regarding these developments, but stated clearly that interaction among all parties involved in the process would continue and that progress would be sought within the principles of sound corporate governance.

After taking the extraordinary transactions into consideration, the net borrowing requirement of national government amounted to R18,6 billion. The greater part of this borrowing requirement was financed by means of new issues of Treasury bills in the first eleven months of fiscal 2000/01. However, Treasury bills to the amount of R5,6 billion were redeemed in March 2001, making government bond issues the preferred financing instrument for the full fiscal year. During March 2001 a small amount of R14,4 million was drawn on the export credit facility that had been arranged specifically for the Special Defence Procurement Programme, bringing the total utilisation of this facility in fiscal 2000/01 to R2,0 billion and total foreign loans to R2,6 billion.

Long-term funding in fiscal 2000/01 was obtained at an average rate of 11,8 per cent per annum and short-term instruments were sold at an average rate of 9,9 per cent per annum. These rates were appreciably below the Budget assumptions of 13,6 per cent and 11,0 per cent respectively.

National government financing in fiscal 2000/01

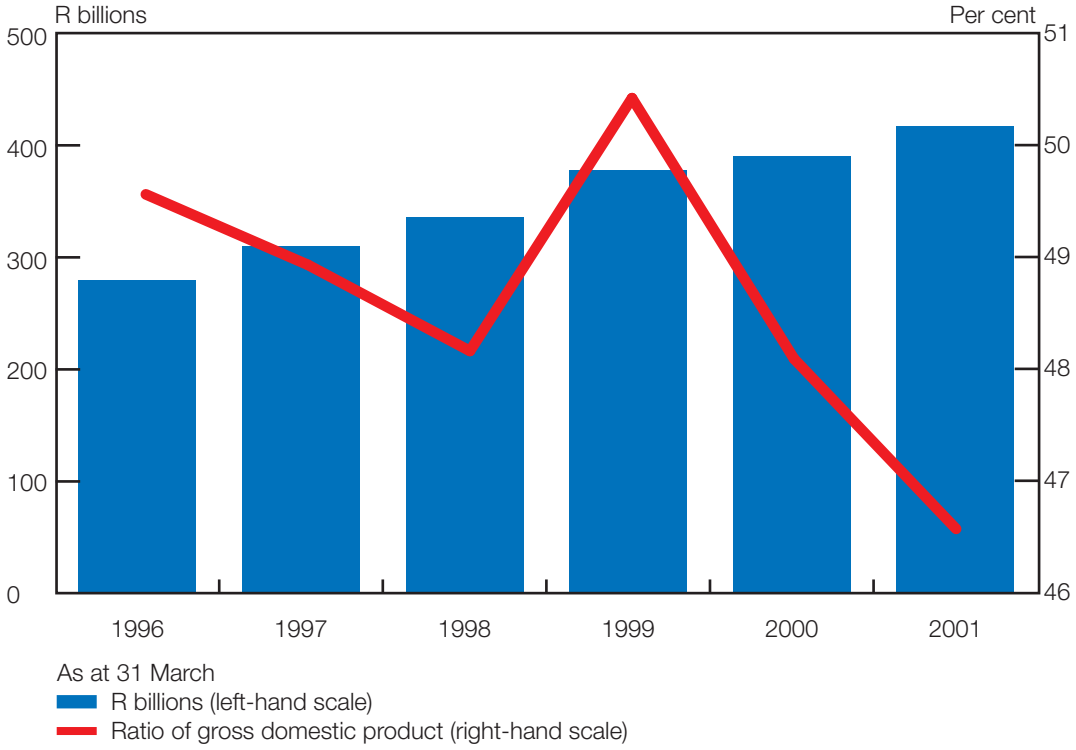
R millions

	Originally budgeted	Actual
Deficit	**23 052**	**18 256**
Plus: Extraordinary payments	2 200	2 281
Revaluation of maturing foreign loans	560	735
Less: Extraordinary receipts	5 000	2 706
Net borrowing requirement	**20 812**	**18 566**
Domestic primary capital market		
Government bonds	...	6 892
Less: Discount on government bonds	...	576
Net receipts from domestic government bonds issued	**10 140**	**6 316**
Treasury bills	3 500	4 979
Foreign loans	5 172	2 637
Change in available cash balances*	2 000	4 634
Total net financing	**20 812**	**18 566**

* Increase -, decrease +

The borrowing requirement of the national government and the discount on new government bond issues led to an increase in the *total debt of national government* from R390,4 billion at the end of March 2000 to R417,5 billion at the end of March 2001. Included in this aggregate is the unaudited balance on the Gold and Foreign Exchange Contingency Reserve Account which increased from R9,2 billion at the end of March 2000 to R18,2 billion at the end of March 2001. As a ratio of gross domestic product, national government debt decreased from 48,1 per cent at the end of March 2000 to 46,6 per cent at the end of March 2001.

National government debt



Statement of the Monetary Policy Committee

16 March 2001

Issued by Mr T T Mboweni, Governor of the South African Reserve Bank, at a meeting of the Monetary Policy Committee in Pretoria

The Monetary Policy Committee reviewed current and likely future economic developments at a meeting on 15 and 16 March 2001 to evaluate the monetary policy stance. The main conclusions of the committee are summarised in this statement.

International economic developments

After the world economy had registered strong growth during the first half of 2000, it slowed down during the rest of the year. Particularly notable was the slowdown in the growth of the gross domestic product of the United States from a seasonally adjusted and annualised rate of 5½ per cent in the second quarter of 2000 to only 1 per cent in the fourth quarter. Economic activity in the United Kingdom and the euro area also became less robust, while Japan's aggregate production remained weak. There is as yet no clear picture of the impact of this slowdown on the emerging-market economies of Latin America, Asia and Africa. A severe downturn in the world economy could negatively affect international commodity prices and the exports of these countries.

A more benign inflationary environment is generally expected after oil prices settled at levels of between US$23 to US$28 per barrel in recent weeks. Oil price developments and a stronger euro brought down the rate of increase in the overall harmonised index of consumer prices in the euro area from 2,9 per cent in November 2000 to 2,4 per cent in January. Japan is still experiencing deflationary conditions, while the inflation rate in the United Kingdom of 1,8 per cent in January 2001 continued to be well below the target rate of 2,5 per cent. In the United States there were signs of increased inflationary pressures with the year-on-year change in the all-goods consumer price index rising from 3,4 per cent in November 2000 to 3,7 per cent in January 2001. In the same month of the preceding year, the corresponding rate of increase was still only 2,7 per cent.

The marked slowdown in economic activity in the United States resulted in a 100-basis-point reduction in the Federal Funds rate in two steps during January, from 6,5 per cent at the beginning of the month to 5,5 per cent at the end of the month. This led to a general decline in the interest rates in a number of advanced as well as emerging-market economies. A notable exception in this regard was the euro area, where the European Central Bank maintained its official rate at a level of 4,75 per cent.

The gold price has moved somewhat from its low of US$256 per fine ounce on 16 February 2001. A sharp rise in gold lease rates helped to underpin the firmer gold price, probably because central banks have shifted their gold deposits out towards longer-dated deposits to achieve a higher return on their assets. As a result, gold has traded between US$260 and US$275 per fine ounce in the past two weeks. However, the prices of palladium and platinum have moved down to lower levels.

Domestic real economic developments

Economic activity in South Africa remained buoyant despite the slower growth experienced in industrialised countries. In fact, the annualised rate of increase in real gross domestic product amounted to 4 per cent in the third quarter of 2001, before decreasing slightly to 3 per cent in the fourth quarter. This lower growth rate had more to do with a moderation in the increase in agricultural output following an exceptionally strong rise in the preceding quarter, than with any general weakness in output. Strong growth continued in the manufacturing and tertiary sectors, and real value added by the mining sector picked up despite a further fall in the output of gold mines.

Aggregate domestic final demand and exports remained strong throughout the second half of 2000. This was the combined result of a sharp rise in real consumption expenditure and gross fixed capital formation. Growth in spending on durable consumer goods slowed down somewhat in the fourth quarter of 2000, but this was mostly caused by prospective buyers of new motorcars delaying their purchases until after the year end. The recorded increases in new car sales in January and February 2001, seem to confirm that strong demand conditions might have persisted in the first two months of 2001.

The increase in domestic final demand was countered to some extent by a more subdued accumulation of inventories in the fourth quarter of 2001. Together with the increase in exports, the slower rate of increase in inventories contributed to an improvement in South Africa's transactions in goods and services with the rest of the world.

The growth in unit labour cost was contained to a year-on-year rate of about 1,5 per cent in the first three quarters of 2000 (the latest period for which this information is available). This was largely brought about by a further decline in the demand for labour. The consequent under-utilisation of labour resources contributed to a significant moderation of nominal wage growth and a substantial improvement in productivity.

Domestic monetary and fiscal conditions

The monetary aggregates started to reflect the stronger real economic activity and easier monetary conditions from the fourth quarter of 2000. The seasonally adjusted and annualised rate of increase in M3, for instance, accelerated from 4,7 per cent in the third quarter of 2000 to 14,7 per cent in the fourth quarter and to 23,5 per cent in January 2001. The twelve-month growth in M3 amounted to 9,1 per cent in January 2001. Such high growth rates in money supply, if sustained, are not conducive to low and stable inflation.

Banks' loans and advances to the domestic private sector expanded at a firm pace from the middle of 2000. This aggregate, which includes instalment sale credit, leasing finance, mortgage and other loans and advances, recorded an annualised rate of increase of 9,6 per cent over the six months up to January 2001, i.e. at a pace considerably in excess of the overall inflation rate.

The easier monetary conditions were accompanied by continued fiscal prudence reflected in a low borrowing requirement during the current fiscal year. The latest Budget indicates that government intends maintaining fiscal discipline in the coming year, while at the same time stimulating the domestic economy by lowering the tax rates for especially the lower and middle-income groups and increasing expenditure

on social and infrastructural development. The relatively small projected budget deficit will mainly be financed by the expected proceeds from the restructuring of state assets and by making use of foreign financing.

Domestic financial markets

Capital market turnovers remained high in the first 2½ months of 2001, following the record levels reached in 2000. Interest in this market was supported by a further increase in bond prices and a corresponding decline in yields. Nominal bond yields have receded considerably since early November 2000. On 5 March 2001 the R150 - yield briefly broke the 11 per cent level, reflecting receding inflation fears and the conservative deficit financing of government. These changes in longer-term bond yields resulted in both a flattening and a downward shift of the yield curve.

Other asset prices have generally also recorded increases during the second half of 2000 and the beginning of 2001. Share prices rose in early 2001 to a new record level on 16 February and then receded up to 15 March 2001. On this date they were nevertheless 28 per cent above their lower turning point on 17 April 2000. Starting from a low base, housing prices were rising at year-on-year rates of around 20 per cent towards the end of 2000.

The money market was characterised by continued stability with relatively stable rates and the liquidity requirement fluctuating between R8,3 billion and R10,2 billion since the previous meeting of the Monetary Policy Committee. However, forward rates continued to reflect market expectations of moderate decreases in interest rates in the course of 2001.

Balance of payments and foreign exchange market

A favourable export performance in the last quarter of 2000 counteracted the effects of high crude oil prices and increases in the volume of imports. As a result, the seasonally adjusted and annualised deficit on the current account of the balance of payments of R6,3 billion in the third quarter of 2000 turned into a surplus of R2,5 billion in the fourth quarter of 2000. This change occurred despite a further worsening in the deficit on the services and income account. In January 2001 the three-month centred moving average trade surplus fell from R37,0 billion (seasonally adjusted and annualised) from October to December 2000 to R31,9 billion in the three months from November to January 2001.

The financial account of the balance of payments was in deficit to the amount of R1,0 billion in the fourth quarter of 2000, following a surplus of R10,9 billion in the third quarter. Judging by the net sales of securities by non-residents on the South African financial markets, the financial account remained fairly weak in the early months of 2001. However, prospects seem favourable for a strong inward movement of capital later in the year with the planned external borrowing programme of the government and the restructuring of state assets. Optimism was buoyed even further by the proposed restructuring of stockholdings in the De Beers diamond company which is expected to precipitate an inward movement of foreign capital of roughly R22 billion.

The net result of the balance of payments movements was a small addition to the country's overall holdings of international reserves since the end of September 2000. The net oversold position in foreign currency nevertheless remained unchanged at US$9,5 billion.

In tandem with international currency markets, the nominal effective exchange rate of the rand continues to be characterised by great volatility. The trade-weighted value of the rand nevertheless has declined by 1,5 per cent from the end of 2000 up to 15 March 2001. This brought the total decline from the beginning of 2000 to as much as 13,7 per cent. This reflects the strength of the US dollar as reflected by substantial depreciations of other currencies such as those of Australia and New Zealand.

Monetary policy

The depreciation of the rand exerted upward pressure on the prices of imported intermediate and final goods. Other upward pressure arose from high international oil prices. The effect of these factors was countered to some extent by the low growth in unit labour costs, and by cost absorption in industry and commerce, which is not uncommon in the early stages of an upturn in economic activity. The twelve-month rate of increase in the production price index nevertheless picked up from 8,6 per cent in July 2000 to 10,0 per cent in December and declined to 9,2 per cent in January 2001. Measured from quarter to quarter, production price inflation accelerated from 7,4 per cent in the third quarter of 2000 to 10,6 per cent in the fourth quarter.

The targeted CPIX inflation (i.e. the overall consumer price inflation for metropolitan and other urban areas, excluding changes in mortgage bond rates) slowed down from a twelve-month rate of increase of 8,2 per cent in August 2000 to 7,6 per cent in December and 7,7 per cent in January 2001. The rate of increase in the quarter-to-quarter seasonally adjusted CPIX also declined from 8,8 per cent in the second quarter of 2000 to 6,2 per cent in the fourth quarter.

These changes show that the normal long-established relationship between movements in production and consumer prices has apparently broken down. In the past, changes in production prices usually led changes in consumer prices by two or three months. The breakdown of the relationship between production and consumer prices was mainly due to the fact that oil price changes had a more serious impact on production prices than on consumer prices. Another factor was that the rate of increase in retail food prices had slowed down in the last half of 2000, whereas the inflation rate of food prices in the production price index remained virtually unchanged.

The baseline forecast for CPIX inflation falls within the target range, although close to the upper limit. The inflation expectations survey of the Bureau for Economic Research of the University of Stellenbosch showed that inflation expectations have improved slightly from the fourth quarter of 2000 to the first quarter of 2001.

In view of the above considerations, the Monetary Policy Committee has decided to keep the monetary policy stance unchanged.

Statement of the Monetary Policy Committee

25 April 2001

Issued by Mr T T Mboweni, Governor of the South African Reserve Bank, at a meeting of the Monetary Policy Committee in Pretoria

The Monetary Policy Committee evaluated the monetary policy stance at a meeting on 25 April 2001. After taking the impact of current and likely future economic and price developments into consideration, the Committee decided to maintain the current monetary stance. This decision was based primarily on the following considerations:

International economic developments

The international economic outlook continues to be dominated by the downturn of activity in the United States and the effect that this is likely to have on the rest of the world economy. Recent information indicates that economic growth in the United States will probably remain subdued for much of the year. Although industrial production rose in March after it had declined from September 2000, other data indicate that the economy remains under pressure. These include lower retail sales, a rise in the unemployment rate, a decline in imports, lower fixed investment, the erosion in current and expected profitability and the possible negative effects that lower equity prices may have on consumption.

The full extent of the impact of the United States' downturn on the rest of the world is still unclear. The countries that will probably be most affected will be those with a strong export orientation to the United States, particularly the East Asian economies specialising in high-technology products. Sluggish conditions in Japan are likely to accentuate the overall weakness of Asian trade. The World Bank nevertheless still predicts only a modest fall in the growth rate of gross domestic product in all developing economies from 5,4 per cent in 2000 to 4,2 per cent in 2001, whereas growth in high-income countries is expected to fall from 3,7 per cent to 1,7 per cent over the same period.

As a result of the continued poor performance of the United States' economy, the Federal Reserve Board announced a further cut of 50 basis points in its targeted federal funds rate on 18 April 2001. This brought the federal funds rate to 4,5 per cent, representing a decrease of 2 percentage points since the beginning of the year. The decline in interest rates in the United States has resulted in generally lower interest rates internationally, in both developed and emerging-market economies. A notable exception in this regard is the euro area, where the European Central Bank has maintained short-term rates at the levels prevailing since October 2000. Another exception is Brazil where interest rates have been raised on two occasions in the past two months when inflation exceeded the target range.

Generally there has been little evidence of an increase in inflationary pressures internationally. In the United States, United Kingdom and the euro area, the rate of inflation is lower than the levels recorded at the end of 2000 because of declines in oil prices. The inflation rate in the euro area at 2,6 per cent in March, compared with the same month in the preceding year, was nevertheless still above the target ceiling of 2 per cent. With the exception of Asia, consumer prices in developing countries are increasing at considerably higher rates than those in advanced economies.

Domestic real economic developments

Information on real domestic economic activity for the first quarter of 2001 is still incomplete and due to conflicting signals, it is difficult to determine whether the strong growth in the last half of 2000 has been maintained. All in all, it seems that economic growth levelled off during the first three months of 2001, although activity remained at a relatively high level. This is confirmed by a downward movement in the volume of imports in the first two months of the year, a decline in the physical volume of manufacturing and non-gold mining production in January and February and a decrease in wholesale and retail sales during January from the high levels reached in December. In contrast to these developments, the quarter-to-quarter growth in new vehicle sales was substantial in the first quarter of 2001 and the value of unfilled orders in manufacturing rose to a new record level in February 2001. The volume of merchandise exports was not significantly affected by the slower international economic growth and continued to rise in the first two months of 2001.

The creation of employment opportunities for South Africa's growing population remains the major challenge facing the country. The new *Labour Force Survey* of Statistics South Africa reports an increase in the unemployment rate during 2000 because of the majority of new work seekers who were unable to find jobs. The oversupply of labour, rationalisation of production processes and increases in output contained the increase in the cost of labour per unit of output. The growth in nominal unit labour cost therefore decreased from an already low level of 2,8 per cent in 1999 to 2,3 per cent in 2000, alleviating pressures on price increases. Towards the end of 2000 there was a moderate acceleration in the growth of nominal unit labour cost when the year-on-year rate of increase rose from 1,8 per cent in the third quarter to 3,7 per cent in the fourth quarter.

Domestic monetary and fiscal conditions

The growth in the monetary aggregates continued to reflect the higher level of real economic activity and easier monetary conditions. The year-on-year rates of expansion in the broadly defined money supply (M3) accelerated from 6,0 per cent in July 2000 and 7,5 per cent in December to 9,3 per cent in February 2001. More rapid growth was also discernible in the narrower monetary aggregates, with the exception of M1A.

The relatively high level of economic activity resulted in a moderate expansion in the loans and advances of banks to the domestic non-bank private sector. The year-on-year growth in this aggregate amounted to 8,2 per cent in February 2001. The demand for instalment sale credit and mortgage finance continued to strengthen in line with brisk motor vehicle sales and better property market conditions. In contrast to these developments, other loans and advances by banks to the private sector, including bank overdrafts, declined from a high of R239,6 billion in November 2000 to R233,4 billion in February 2001.

Preliminary information about the national government's finances for the full fiscal year 2000/01 indicates that the deficit before borrowing was even smaller than had been anticipated at the time of the Budget. This deficit is now estimated at 1,9 per cent of gross domestic product, largely owing to higher revenue collections than had initially been expected as well as prudent management of the fiscus.

Domestic financial markets

In the first quarter of 2001 turnover in the secondary bond and share market slid back slightly from the record levels reached in the fourth quarter of 2000. Bond rates and share prices fluctuated considerably during the first few months of 2001. Bond yields reached a lower turning point in early March following a bull run of about ten months, but then rebounded by about half a percentage point as a result of profit taking by investors. Share prices peaked on 16 February 2001, but have declined by about 14 per cent up to 3 April 2001. Subsequently share prices have recovered again somewhat. Early indications are that property rents and real-estate prices rose less rapidly in the first quarter of 2001 than during most of the preceding year.

Money-market conditions remained relatively stable throughout the first quarter of 2001 with slight fluctuations in short-term interest rates and a liquidity requirement that fluctuated between R8 billion and R10,4 billion. Since the previous meeting of the Monetary Policy Committee on 16 March 2001, money-market rates have generally firmed. This led to a steepening of the money-market yield curve. The short end of the money-market yield curve is now higher than immediately after the 25-basis-point increase in the repo rate on 16 October 2000.

Balance of payments and foreign exchange market

South Africa's overall balance of payments position is expected to have remained sound during the first quarter of 2001. This is firstly indicated by a trade surplus, at a seasonally adjusted and annualised rate, of R23 billion in the first two months of 2001. Although this surplus was smaller than in the fourth quarter of 2000 it was brought about by a continued strong export performance. In particular, the exports of platinum and manufactured goods did well, reflecting a firm international demand and the improved price competitiveness of South African goods related to the depreciation of the rand. The improvement in exports was partly neutralised by a rise in the value of imports, largely capital and intermediate goods.

Secondly, transactions by non-residents in domestic securities indicate some improvement in South Africa's financial flows with the rest of the world. Non-residents have been net buyers on the JSE Securities Exchange to an amount of R11,4 billion since the beginning of 2001, compared with R2,6 billion in the first four months of 2000. In the bond market they were net sellers in January and February 2001, but became net buyers in March. These purchases have brought their cumulative net bond sales since the beginning of the year down to R6,5 billion.

Despite these favourable developments, the exchange rate of the rand remained under pressure in 2001, and heightened volatility was experienced in the market for foreign exchange. Since the previous meeting of the Monetary Policy Committee, the rand has declined to new record levels against the dollar and traded in a range between R8,00 and R8,20 per dollar during April. This reflected to a significant extent the strength of the US dollar. The trade-weighted value of the rand nevertheless declined by 3,0 per cent from the end of 2000 to 25 April 2001.

Monetary policy

Although the depreciation of the rand exerted upward pressure on the prices of imported goods, the overall effect on prices was counteracted by the lower international prices of oil combined with moderate inflation rates in South Africa's main

trading-partner countries. As a result, the year-on-year rate of increase in the prices of imported goods moderated from 15,0 per cent in December 2000 to 12,3 per cent in March 2001. Slower rates of increase in domestic food prices further contained the inflation in production prices in 2001. The year-on-year rate of increase in the all-goods production price index consequently declined from 10,0 per cent in December 2000 to 8,9 per cent in March 2001.

The same factors were responsible for a marked slowdown in consumer price inflation during the first three months of 2001. In fact, the quarter-to-quarter seasonally adjusted and annualised rate of increase in the consumer price index excluding mortgage costs (CPIX) has declined consistently from 8,8 per cent in the second quarter of 2000 to 6,1 per cent in the first quarter of 2001. The year-on-year increase in the CPIX also decreased from a high of 8,2 per cent in August 2000 to 7,5 per cent in March 2001.

The South African Reserve Bank remains focused on achieving the inflation target. Factors mentioned in previous statements of the Monetary Policy Committee, such as surplus production capacity, no signs of excessive domestic demand, low increases in nominal unit labour cost, low growth in monetary aggregates, fiscal prudence and monetary discipline, all point to lower future domestic inflation. Projections for the year 2002 accordingly indicate that the average annual rate of increase in the CPIX should fall within the target range of 6 to 3 per cent if all other things remain the same. The main risk in this projection is the impact of the prices of imported goods on domestic prices.

The dynamics of capital flows in South Africa: an empirical investigation

by G R Wesso[1]

South Africa needs foreign capital in order to support economic growth in the country. Tax reforms, fiscal discipline and the gradual liberalisation of exchange control were all aimed at increasing South Africa's attractiveness as a destination for foreign investment. Apart from changes in investor sentiment, capital flows are also sensitive to changes in economic growth, government deficits, exchange-rate-adjusted returns on investment and domestic inflation relative to the rest of the world. Identifying relevant factors is therefore important in formulating effective policy. This paper investigates capital mobility into and out of South Africa by examining the commonly used determinants of capital flows in developing economies. An error-correction technique and an unrestricted vector auto-regression (VAR) model are used to determine the dynamics between capital flows and other relevant economic variables, using South African quarterly data from 1991 to 2000. The results show that there is a negative relationship between net capital flows (R millions) and relatively high domestic inflation rates, whereas the effect of economic growth is positive in the long run. It is also shown that higher exchange-rate-adjusted government bond rates relative to those in the US attract foreign capital, but larger government deficits reduce net capital flows into the country.

1. Introduction

Many investors have rediscovered South Africa since the democratisation process started in 1994. Political developments paved the way for the re-introduction of the South African economy to the world economy, and for the awakening of new interest in its economic potential. South Africans have suddenly found themselves in a world where there is keen competition, and where a number of emerging and developing countries are sometimes slightly ahead in a race for the excess savings of more developed communities.

South Africa has re-entered this changing environment in full awareness of the pressing need for economic growth and development, for the creation of jobs and for the generation of income to improve the standard of living of its entire population. Out of its own saving, running at an unsatisfactorily low rate of only 15,5 per cent of gross domestic product in the fourth quarter of 2000, it will hardly be possible to sustain a high economic growth rate. A net inflow of foreign capital therefore becomes a basic precondition if South Africa is to catch up on the huge backlogs of existing unemployment. Tax reforms, fiscal discipline and the gradual liberalisation of exchange control are all aimed at increasing South Africa's attractiveness as a destination for foreign investment. Apart from changes in investor sentiment, capital flows are also sensitive to changes in economic growth, government deficits, exchange-rate-adjusted returns on investment and domestic inflation relative to those in other economies. Identifying relevant factors is therefore crucial in designing an effective policy.

This article therefore investigates capital mobility in South Africa through an examination of the commonly used determinants of capital flows in developing economies. Following the introduction, Section 2 gives an overview of capital flows into and from South Africa since 1991. Determinants of capital flows and their composition appear in Section 3. Section 4 summarises the empirical evidence on the factors influencing capital flows. In this section, error-correction techniques and an unrestricted vector autoregression (VAR) model are used to determine the dynamics between capital flows and other relevant economic variables, using quarterly South African data from 1991.1 to 2000.4.[2] Section 5 offers some concluding remarks and directions for future research.

1 Valuable assistance in the preparation of the article was provided by Messrs C Pretorius and S Walters from the Research Department of the Reserve Bank, Prof B Smit from the Bureau for Economic Research of the University of Stellenbosch, and Dr L Mahadeva from the Bank of England. Assistance in the form of helpful comments and suggestions by various staff members of the Reserve Bank is also gratefully acknowledged. However, the views expressed in this article are those of the author and do not necessarily reflect those of the South African Reserve Bank.

2 Due to the capital flow reclassification of the South African Reserve Bank, data on the various components of capital flows are, at this stage, only available from 1991. The study was based on statistics released in the March 2001 Quarterly Bulletin.

2. An overview of capital flows in South Africa since 1991

The South African Reserve Bank has recently reclassified capital flows by using three main categories for describing foreign investment flows, namely: foreign direct investment, which involves investment in a firm where foreign investors have at least 10 per cent of the voting rights; foreign portfolio investment which includes the purchase and sale of bonds and equities listed on international and domestic capital markets; and other foreign investment which consists of foreign loans and deposits between banks, companies and governments. For the purpose of this study, total net capital flows represent the change in capital transfer and financial accounts, including unrecorded transactions, measured in millions of rands. It includes the net value of liabilities and assets in the financial account.

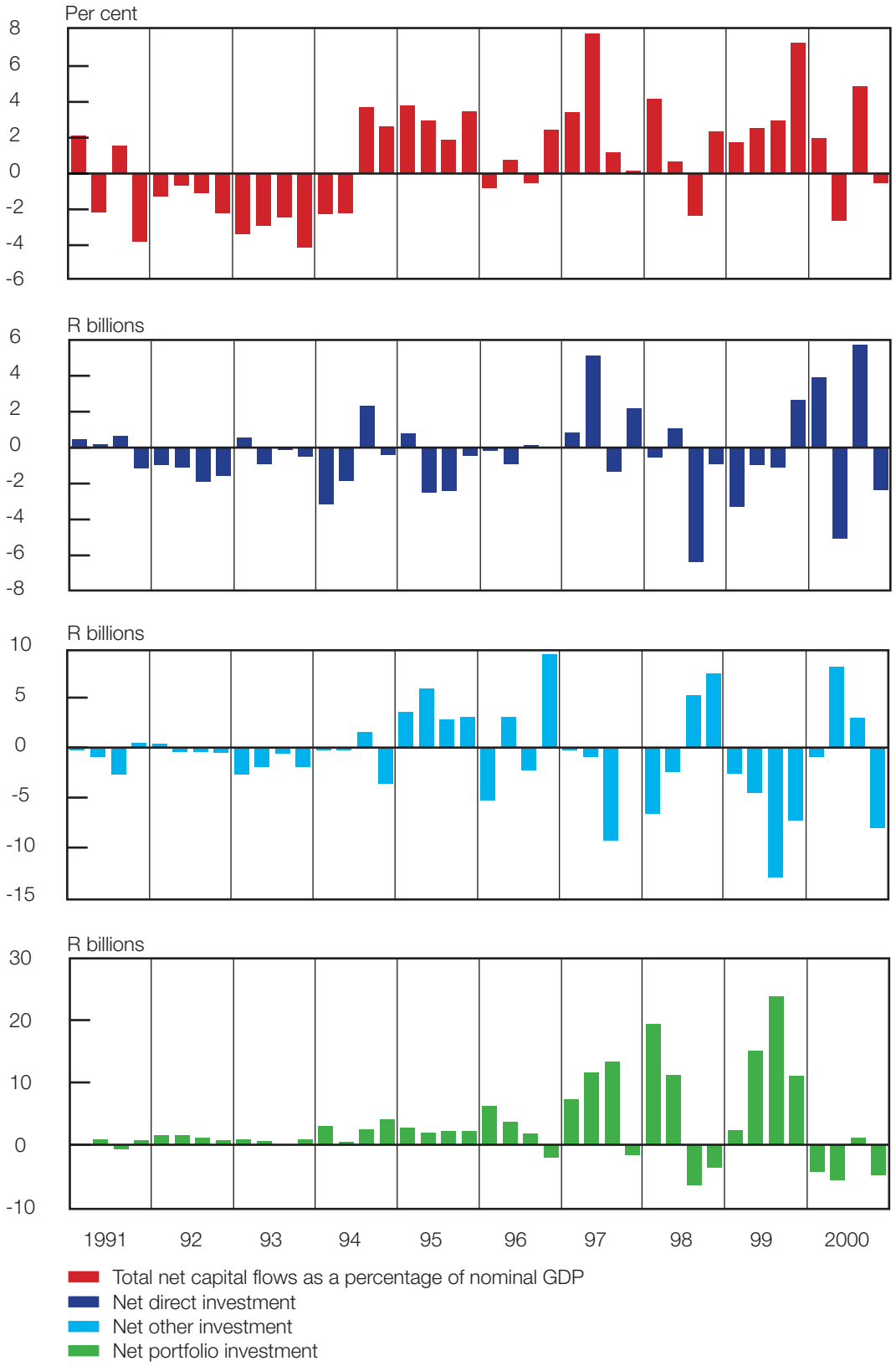
Several developing countries have recorded large capital inflows in recent years, reversing a trend of outflows for most of the 1980s (see Gooptu, 1993). Much of this new capital inflow has been in the form of portfolio investment. This surge in portfolio flows has raised the question whether these flows will be sustained or will instead be reversed in the near future. Some observers argue that the recent flows are inherently unsustainable because in many cases they have short maturities (see Reisen, 1993:2). In South Africa, the size of portfolio flows, and therefore their importance, is much larger than other types of investment.

After having recorded large outflows from 1991 up to the middle of 1994, South African capital flows switched from a net outflow of R13,7 billion in 1993 to a net inflow of R2,6 billion in 1994. During 1995 there was a further net inflow of capital, totalling R16,6 billion. Various factors contributed to the large net inflow of capital over the twelve months ending in June 1995. These included the normalisation of international financial relations, the regaining of access to international capital markets, and the availability of foreign trade financing at relatively favourable costs. In addition, there was a marked improvement in non-resident investor confidence, helped in part by the inclusion of the Johannesburg Stock Exchange in the International Finance Corporation's emerging-market index, and the significant number of foreign companies which returned or made new investments in South Africa.

The improved financial-account position also led to a marked strengthening of the overall balance of payments position from the middle of 1994. After having dropped by R3,2 billion in the first half of 1994, South Africa's net gold and other foreign reserves rose by R6,4 billion in the second half of 1994, and by R4,2 billion in the first half of 1995. Since 1994, South Africa has annually received foreign capital averaging 1,0 per cent of gross domestic product. Inflows of portfolio capital represented a sizeable portion of foreign financing in the period since 1994.

The significant improvement in the overall balance of payments position in 1994, and the first half of 1995, allowed the Reserve Bank to turn its attention to dismantling the exchange controls on non-residents by abolishing the financial rand mechanism. This eventually took place in the middle of March 1995, and proved to have had very little effect as the discount between the financial rand and the commercial rand was in any case very small at the time of the abolition of the financial rand. The new unified exchange rate for the rand initially appreciated modestly against the dollar.

Graph 1 Composition of net capital flows in South Africa



For the five years from 1995 to1999, South Africa recorded an aggregate current-account shortfall of about R42 billion. The dangers of over-reliance on foreign portfolio capital inflows are only too well known internationally, even more so if they

also lead to an overvalued exchange rate. Indeed, South Africa has had painful first-hand experience of these dangers. From the second half of 1995 into 1996, a wave of foreign concerns about South Africa's political prospects led to a huge decline in the level of net capital inflows. At the same time, the current account was in deficit – a shortfall well above the modest support to the gold and foreign exchange reserves from the capital account. The result was that the rand depreciated strongly. Previous momentum kept economic growth high in 1996, by South African standards, but a downswing of the business cycle was evident by the second half of that year and that trend worsened during 1997 and 1998.

International capital flows to and from South Africa during 2000 were dominated by flows of portfolio capital, which are known for their volatility. Net foreign direct investment was reversed from a net outflow of R2,7 billion in 1999 to a net inflow of R2,2 billion in 2000, despite the large-scale selling of interest-bearing securities. As a result, South Africa in the second quarter of 2000 experienced its first net capital outflow since the third quarter of 1998, when the Russian financial crisis shocked emerging markets.

The deficit on the current account of the balance of payments in the middle quarters of 1999 had been comfortably financed by relatively strong inflows of international capital. In fact, the surplus on the overall balance of payments enabled the Reserve Bank to accumulate international reserves and reduce its net open position in foreign currency. However, the Bank's December 1999 *Quarterly Bulletin* states that the net inflow of international capital during the first three quarters of 1999 was more than fully accounted for by inflows of portfolio capital. It warns that such flows, and more specifically those that enter the economy through the fixed-interest securities market, are known for their capricious behaviour; they are volatile and their direction of flow is often reversed abruptly. The R52,4 billion net foreign portfolio inflows in 1999 had been substantially reversed to a net outflow of R13,8 billion in 2000. In the bond market alone, foreigners had sold a net R18,5 billion since the beginning of 2000, according to Bond Exchange statistics. This means that the money that has been flooding into the bond market can flow out again as quickly as it came in. The implications of that assessment are or should be cause for real concern, and identifying the factors that would help to explain capital flows is therefore important.

3. Determinants of capital flows

Identifying the relative importance of the factors influencing capital flows is crucial for formulating effective policy and therefore worthy of investigation. This has been shown by Fernández-Arias and Montiel (1996), who first summarised a number of arguments describing why large capital flows may, under various circumstances, adversely affect developing countries, unless policies designed to neutralise such effects are adopted.

The World Bank (1997) has provided the most systematic evidence about the importance of domestic factors influencing capital flows. The Bank noticed several trends suggesting that flows have been driven by more than only external factors. Among them, the following should be mentioned:

- Fundamentals affect the long-term rates of return to investors. Countries with the strongest fundamentals (i.e. a high investment to gross domestic product ratio, low inflation and low real exchange-rate variability) have received the largest flows as a percentage of gross domestic product whereas countries with very poor fundamentals have not attracted private flows;

- foreign direct investment is the largest component of private flows to emerging markets but, although sensitive to macroeconomic fundamentals, it is not explained by global interest rates; and
- portfolio flows are more sensitive to interest rates. As a matter of fact, many have assigned to interest rates the predominant role in the current episode of capital flows (see, among others, Calvo, Leiderman and Reinhart, 1996).

Country-specific pull factors reflect domestic opportunity and risk. High domestic real economic growth can be seen as an indication of a favourable domestic investment climate and therefore diminishes capital outflows. As developing countries' creditworthiness is restored, capital (bond and equity) flows are likely to become an increasingly prominent source of external finance. For example, equity-related capital flows may be very large and come in the form of either foreign direct investment or portfolio investment. Economic growth and the opportunity to use local raw materials or employ a local labour force may attract foreign direct investment. Although portfolio equity flows to developing countries have increased sharply in recent years, they are expected to be extremely sensitive to a country's openness, particularly to rules concerning the repatriation of capital and income (see Williamson, 1993). The right to repatriate dividends and capital may be the most important factor in attracting significant foreign equity flows (Goldstein, Mathieson and Lane, 1991). Following the traditional literature in financial economics, share assets are priced so that the riskiest assets offer the highest rate of return. Moreover, as the international financial system becomes more integrated and porfolios more diversified, asset prices are more likely to change than are net capital flows to restore market equilibrium (see Taylor and Sarno, 1997). Therefore, most econometric models express financial linkages in terms of interest rate parity conditions (Goldstein, et al., 1991).

Studies based on interest rate differentials generally provide evidence that there is a high and increasing degree of international capital mobility among the major industrial and developing countries (Montiel, 1993). Rates of return – obviously a crucial determinant of capital flows – are often far higher in the financial markets of developing countries than in many major markets in industrialised countries, reflecting the high risk generated by their typically high volatility. Due to diminishing returns on capital, one would also expect yields to be higher in small economies with limited capital stocks. The credit ratings and secondary-market prices of sovereign debt, reflecting the opportunities and risks of investing in the country, are likely to be important in determining capital flows as well (Bekaert, 1995). Exchange rate overvaluation is seen as an important determinant for capital flight. An overvalued exchange rate leads to an expected future depreciation. To avoid capital losses in terms of domestic currency, residents are encouraged to hold their assets abroad. The problem, however, is determining the equilibrium exchange rate. There are some indications that the real exchange rate of African countries has been adjusted towards its equilibrium since the 1980s (see Hermes and Lensink, 1992). High domestic inflation rates will furthermore reduce the real value of domestic assets. Residents are induced to divert their wealth into foreign assets to avoid this 'inflation tax'. Moreover, present high inflation relative to the rest of the world may lead to an expected depreciation of the exchange rate in the future.

In respect of the relationship between government deficits and an outward movement of capital, theory suggests (see Hermes and Lensink, 1992, and Ajayi and Khan, 2000) that residents expect higher future taxes or increased price instability if government deficits rise, which in turn could encourage an outflow of capital. Higher foreign borrowing by the government increases future repayment obligations. Residents may then expect that the government will pass the costs of

these repayments on to them in the form of higher inflation. Moreover, government guarantees on private debt may explain why capital flight is stimulated by capital inflows. An increasing larger foreign debt position also encourages domestic asset holders to keep their funds abroad if a rising foreign debt forces the government to stimulate exports by a devaluation of the real exchange rate. 'In that case ... the gross real returns on assets held abroad could be higher than the gross real returns on domestic assets' (Fry, 1991: 11).

Interpreting the effectiveness of capital controls on recorded flows is difficult. There is abundant literature on methodologies to test the effectiveness of capital controls. However, data on capital control are either unreliable or scarce, and few empirical studies introduce them directly. Moreover, to the extent that controls themselves respond to fluctuations in capital flows, there is a strong element of endogeneity, and it would not be unexpected for new controls on inflows to be associated with increased inward flows – as in the case of Chile. Cardoso and Goldfajn (1998) point out a number of empirical studies that have failed to use capital control indices as a significant determinant for capital flows. The studies reviewed contain significant econometric problems that cast doubt on the robustness of the estimates. Furthermore, Rogoff (1999) argues that empirical work aimed at understanding the relationship between capital flows and exchange controls is in its infancy. Progress in this area will require constructing suitable indices that are able to adequately capture the 'true' degree of capital mobility in different countries. Since no reliable capital control index has been constructed and tested for South Africa, using such an index is therefore considered to be beyond the scope of this study.

The second set of determinants of capital flows to developing countries is global push factors. For example, the sharp increase in United States (US) capital outflows, which represent a significant share of the portfolio flows received by emerging markets, may have been induced to some extent by the fast and marked fall of US interest rates (short, medium, and long term) in the late 1980s. Moreover the slowdown of the US economy in the late 1980s may also have attracted flows from the US, especially because during that period macroeconomic policies, labour market conditions and exchange rate policies in many developing countries were becoming noticeably more stable (Calvo, Leiderman and Reinhart, 1996). Short-term interest rates in the US declined steadily in the early 1990s and the recessions in Japan made profit opportunities in developing countries more attractive. Agénor et al. (1997) found that variance decompositions indicated that world interest rate shocks explain a large component of medium-term fluctuations in capital inflows in Brazil. Fernandez-Arias and Montiel (1996) conclude that formal evidence shows that falling interest rates in advanced economies have played a dominant role in driving capital to developing countries and that flows were not restricted to countries with good reform records. Foreign interest rates can therefore be an explanatory factor since, if interest rates abroad exceed domestic interest rates, residents will be encouraged to hold their wealth in foreign bank accounts or borrow from their home countries. Portfolio flows from foreigners into South Africa will decrease under such circumstances.

Finally, there are also the contagion effects. Capital flows to a few countries in a region generate externalities to neighbouring countries and an external crisis in one country may spread to others. Negative perceptions of South Africa among international investors also remain a huge hurdle in the country's bid to gain increased foreign investment (see Mboweni, 2000). These trends, although sometimes difficult to quantify, raise important issues concerning the factors motivating capital flows and their effect on the performance of developing countries.

4. Empirical investigation

4.1 Measurements of capital flows

When the uses of international capital movements are studied, the flows of capital are usually measured as the difference between outflows and inflows (net), rather than by examining outflows and inflows separately (see Lipzey, 1999). This is sometimes partly from necessity, for lack of gross flow data. However, in South Africa the components of the financial account are currently observed in the form of changes in foreign liabilities and assets.

Questions regarding the volatility of certain types of capital flows are sometimes caused by concerns about the volatility of the total financial account. Policy makers therefore wish to assess the likelihood of sudden and destabilising changes in total capital flows. Claessens, Dooley and Warner (1995) provide evidence that, in general, movements in the overall financial account are little influenced by the type of capital flow. Because there is much substitution going on between the various flows, analysing individual flows may not be particularly meaningful. For the purpose of this study, attention is paid only to the determination of the overall financial account; for example, the impact of the aggregate external shocks the economy is exposed to, and the overall macroeconomic policies the government pursues. On this basis, only those factors explaining the total net capital flows (represented by the change in capital transfer and financial accounts, including unrecorded transactions) are tested for their statistical significance in this study.

4.2 The model

Research findings on international capital flows differ on whether it is more accurate to treat the flows as exogenous (in respect of the country in question) or endogenous. In this study, although it is not necessary to take a stand on the issue, the way that the interpretation of the findings depends on this issue is clarified.

If capital flows are exogenous from the point of view of the domestic economy, perhaps because they are driven by changes in international financial variables and market perceptions of the country, then the policy maker's concern about the volatility of capital flows makes good sense. Depending on the exchange rate policy being pursued by the country, volatile capital flows may translate into exchange rate volatility (in the case of a flexible exchange rate) or into variations in official reserves (in the case of a fixed or pegged exchange rate). Either consequence may be undesirable because it leads to temporary signals to shift resources in the trade and non-traded sectors or because it requires monetary adjustments. If flows were exogenous, it would clearly be useful to know whether the data support the conventional view that certain kinds of flows are inherently more volatile and that certain flows can be predicted better. If capital flows are endogenous, however, an analysis of the behaviour of capital flows in isolation makes little sense. Here, everything depends on the nature of the shock that gives rise to changes in, for example, the current account. The behaviour over time of the flows would reflect the behaviour over time of the underlying shocks. In the unlikely event that different flows have different ultimate causes and that the causes have different time-series properties, the flows themselves would have different time-series properties. But this seems to be a remote possibility (see Claessens et al., 1995). If capital flows are predominantly endogenous, there is no deep reason to expect any particularly close relationship between types of flows and time-series properties.

It may be argued that, rather than taking a diagnostic approach to the causality question, it would be better to present a model and try to identify the important causes, and then to use that framework to assess the question of persistence of financial flows. It has proven difficult, however, to develop such a structural model empirically using the underlying sources of shocks. Capital flows in general and perhaps even more so portfolio flows to developing countries are difficult to explain. Studies by Calvo, Leiderman and Reinhart (1996); Chuhan, Claessens and Mamingi (1993); and Fernandez-Arias (1994) find low explanatory power, and the authors have difficulty identifying which factors exactly determine capital flows.

In this article the general model for net capital flows states that:

$$NFY = f(INFD, GDPMP6R, IRD, GVDEF5Y, X, \varepsilon) \quad (1)$$

where *NFY, INFD,GDPMP6R, IRD, GVDEF5Y* and *X* are, respectively, the net capital flows as a percentage of nominal gross domestic product (GDP), the domestic inflation rate relative to foreign inflation (difference between the percentage change in foreign wholesale prices and the domestic inflation rate), the real GDP growth rate, the ratio between exchange-rate-adjusted South African and US government bond rates (also known as a financial incentive variable), government deficit (public-sector borrowing requirement) as a percentage of nominal GDP, and *X*, which could include a group of variables such as government spending as a percentage of nominal GDP, the current-account deficit as a percentage of nominal GDP, credit extension, price-earning ratios of shares, and dummy variables for irregular data (ε is a vector of reduced-form residuals). The US Government bond rate is used as a proxy for international interest rates. The data are described below the relevant equation and the results are summarised in Section 4.3.

The error correction mechanism developed by Engle and Granger (1987) is a means of reconciling the short-run behaviour of an economic variable with its long-run behaviour. The conventional general-to-specific procedure for estimating a parsimonious error-correction model (ECM) is adopted, as suggested by Hendry (1983). In practice few macroeconomic time series are stationary in level terms, but most are stationary in first or second differences. The augmented Dickey-Fuller (ADF) test statistics were used to determine stationarity.

The first step of the ECM procedure involves the estimation of a long-run equation, supported by relevant economic theory. After preliminary stationarity tests were executed on the series in order to identify their order of integration I(d), the residuals of the co-integrating regressions described by the long-run equation were tested to see if they are stationary. The second step involves the estimation of a short-term equation or an error-correction model. Given that the dependent variable is I (1), there must be at least one I (1) variable among the explanatory variables; if all of the explanatory variables are I (0), then the short-term equation will be misspecified (see Baffes, 1997). In this study, the final short and long-run components of the equation were estimated simultaneously as described by Amano and van Norden (1995).

A VAR model is used to determine the dynamics between net capital flows and other relevant economic variables. This framework permits inference of the dynamic response of capital flows to other determinants over time. The estimated VAR for net capital flows over nominal GDP *(NFY)* includes the four explanatory variables of Equation 1.

Formally, one can express the system in a reduced-form format:

$$X_t = B(L)X_{t-1} + \varepsilon_t \quad (2)$$

where X is the set of endogenous variables, and $B(L)$ is a lag operator of order L.[3] The system above can be inverted and represented as a moving average of past shocks:

$$X_t = [I-B(L)L]^{-1}\ \varepsilon_t \quad (3)$$

where ε is a vector of reduced-form residuals. The objective is to plot on a graph the impulse response of structural shocks to the endogenous variable. In general, the reduced-form residuals are a linear combination of the structural innovations that can only be obtained once sufficient identifying assumptions are made. It is crucial to disentangle the simultaneous correlation of net flows and the other explanatory variables. Different orderings of the VAR variables were experimented with. Such methodology allows inference of the dynamic response of the system to a shock (of one standard deviation) in any of the variables.

3 The optimal lag order was estimated using the Akaike criterion. In most of the VARs estimated in this section, the optimal lag was calculated as two.

4.3 Results

In this study the determinants of South African capital flows are examined over the period 1991 to 2000, using quarterly data. All tests are performed at a 5 per cent level of significance.

The volatility of capital flows makes the implementation of monetary policy extremely difficult. It will therefore be interesting to determine the sources of volatility in total net capital flows. Turner (1991:95), in his review of capital flows for industrial countries, ranks short-term bank lending as most volatile and long-term bank flows as least volatile, followed by foreign direct investment (FDI) as the next-to-least volatile. Many studies have examined the composition of capital inflows from the point of desirability. Usually they highlight FDI as the most desirable form of capital flow because FDI engenders positive externalities, such as technology and management expertise. In addition, there is the popular perception that portfolio flows have greater volatility because they are less costly to reverse than FDI. It is also argued that FDI has a low sensitivity to international interest rates and is driven by considerations of long-term profitability. Claessens et al. (1995), however, found no statistical support for the argument that long-term flows are less volatile and easier to predict than short-term flows.

Graph 1 in Section 2 provides data on net capital flows in South Africa (in R millions) by type of flows. The graph provides the best corroboration found for conventional ideas about the persistence of various kinds of flows. It shows that net portfolio investment (NPI) displays less volatility over the period of study than net direct investment (NDI) does, and that the net other investment (NOI) is somewhere in between.

Table 1 provides means, standard deviations, and coefficients of variation (CV) for various kinds of flows, broken down by type. To provide an indication of the relative magnitude of these flows compared with the total financial account, the third column of Table 1 presents the average for the flows as a percentage of the balance on the financial account (positive figures denoting inflows). In terms of average share in total financing, net portfolio investment is more important in South Africa. Direct

investment by foreigners was positive and the volatility in net direct investment (as indicated by the CV) was mainly due to South African firms receiving exchange control approval to invest offshore. Note further that the total financial account is sometimes less volatile than its components.

Table 1: Basic statistics on components of net capital flows in South Africa

Period and type of flow	Mean (R millions)	Standard deviation	Average share in total financing (per cent)	Coefficient of variation (CV per cent)
1991.1 – 2000.4				
Financial account				
Direct investment				
Liabilities	1151	1800	54,2	156,4
Assets	-1538	2122	-72,4	-137,9
Net direct investment	-386	2334	-18,2	-604,6
Net portfolio investment	3153	6501	148,5	206,2
Net other investment	-642	4590	-30,3	-714,9
Total net flows	1721	4714	81,0	273,9
Balance on financial account	2124	5756	100,0	271,0

Note: net outflows (-)

One efficient way to summarise the idea of persistence is to calculate autocorrelations for each type of capital flow. The question is whether persistence – as measured by autocorrelations – matches the categories examined, and it is found that often there is no close correspondence. A persistent series will be positively autocorrelated, whereas a transitory series will have a low or negative autocorrelation. In general, the classic case of a long-term investment would be a flow that is highly positively autocorrelated, whereas portfolio capital would exhibit zero or even negative autocorrelations.

One would expect the NDI flows for South Africa to have large positive autocorrelations and the NPI to exhibit far lower or even negative autocorrelations. From the autocorrelations in Table 2, there is little evidence that the allegedly persistent flows – such as net direct investment – exhibit more memory than the other flows, given the time-series plots. Note that net portfolio investment also has fairly low negative autocorrelations. It basically reflects the fact that the lag coefficients in an estimated autoregressive equation will be small.

In the econometric analysis the use of total government deficit *(GVDEF5Y)* may be interpreted as a proxy for determining the influence that debt-increasing capital inflows have on capital flows, whereas relatively high domestic inflation rates *(INFD)* lead to an expected depreciation of the exchange rate in the future. *IRD*, which is the exchange-rate-adjusted interest rate ratio, introduces elements of standard portfolio theory into the equation. It tests the impact of expected rates of return and expected depreciation on capital flows, since higher exchange-rate-adjusted government bond rates relative to US rates attract foreign capital to South Africa. The ninety-day forward rand/dollar exchange rate was used to determine the expected devaluation in local currency.

Table 2: Autocorrelations

Net portfolio investments (NPI)

Sample: 1991.1 to 2000.4
Included observations: 40

Autocorrelation (AC)	Partial correlation (PAC)		AC	PAC	Q-stat	Probability
. |*** |	. |*** |	1	0,372	0,372	5,9703	0,015
.*| . |	**| . |	2	-0,129	-0,310	6,7029	0,035
**| . |	.*| . |	3	-0,232	-0,069	9,1485	0,027
.*| . |	. | . |	4	-0,134	-0,046	9,9849	0,041
. | . |	. | . |	5	0,026	0,041	10,017	0,075
. |*. |	. |*. |	6	0,169	0,112	11,426	0,076
. |*. |	. | . |	7	0,128	0,004	12,264	0,092
. |*. |	. |** |	8	0,167	0,213	13,730	0,089
. |*, |	. |*. |	9	0,186	0,139	15,603	0,076
. | . |	.*| . |	10	-0,035	-0,107	15,670	0,109
**| . |	.*| . |	11	-0,236	-0,114	18,898	0,063
.*| . |	. |*. |	12	-0,101	0,084	19,511	0,077
. | . |	.*| . |	13	-0,025	-0,132	19,549	0,107
. | . |	. | . |	14	0,025	-0,056	19,588	0,144
.*| . |	**| . |	15	-0,073	-0,219	19,945	0,174
. | . |	. | . |	16	-0,048	0,053	20,106	0,215
. | . |	.*| . |	17	-0,050	-0,121	20,289	0,260
. | . |	.*| . |	18	-0,053	-0,084	20,503	0,305
. | . |	. |*. |	19	-0,041	0,066	20,641	0,357
. | . |	. | . |	20	-0,030	0,032	20,716	0,414

Net direct investment (NDI)

Sample: 1991.1 to 2000.4
Included observations: 40

Autocorrelation (AC)	Partial correlation (PAC)		AC	PAC	Q-stat	Probability
**| . |	**| . |	1	-0,230	-0,230	2,2726	0,132
. |** |	. |*. |	2	0,235	0,193	4,7224	0,094
.*| . |	. | . |	3	-0,081	0,007	5,0230	0,170
.*| . |	.*| . |	4	-0,076	-0,148	5,2891	0,259
**| . |	**| . |	5	-0,195	-0,246	7,1082	0,213
.*| . |	**| . |	6	-0,158	-0,230	8,3366	0,214
. | . |	. | . |	7	0,006	0,006	8,3388	0,304
**| . |	**| . |	8	-0,240	-0,230	11,369	0,182
. |*. |	. | . |	9	0,143	-0,051	12,480	0,188
.*| . |	.*| . |	10	-0,074	-0,087	12,790	0,236
. |** |	. |*. |	11	0,283	0,165	17,426	0,096
.*| . |	.*| . |	12	-0,149	-0,157	18,755	0,095
. |** |	. | . |	13	0,202	-0,051	21,294	0,067
. | . |	. | . |	14	0,000	0,043	21,294	0,094
. | . |	. | . |	15	0,007	0,045	21,298	0,128
.*| . |	.*| . |	16	-0,087	-0,131	21,827	0,149
. | . |	. | . |	17	-0,029	-0,049	21,889	0,189
.*| . |	.*| . |	18	-0,076	-0,069	22,334	0,217
. | . |	. |*. |	19	0,007	0,160	22,338	0,268
. | . |	. | . |	20	0,005	-0,055	22,340	0,322

Note: Q-stat denotes the Ljung-Box statistic for residual autocorrelation computed for 20 lags;
* represents the magnitude of the correlation.

As a preliminary step to testing for co-integration, the Augmented Dickey-Fuller (ADF) unit root test statistics were performed on the series used. The results in Table 3 show that *NFY, INFD,* and *GDPMP6R* appear to be realisations from integrated processes of order one, while *IRD* and *GVDEF5Y* are stationary. The test statistics for the non-stationary variables based on first differences all exceeded the critical values at a 5 per cent level of significance and were therefore stationary. The order of integration of the residuals obtained from the long-term equation, which include *INFD, GDPMP6R* and *IRD*, was determined. The test results indicated stationarity and the residual item could therefore be included in the short-term error correction model. Consequently *INFD, GDPMP6R* and *IRD* potentially contribute to the long-run determination of *NFY.*

Table 3: ADF tests for stationarity in variables

Variables	ADF test statistic	5 per cent critical value	Order of integration, I(d)	Stationary
NFY	-2,640	-2,940		No
D(NFY)	-5,633	-2,942	I(1)	Yes
INFD	-2,014	-2,940		No
D(INFD)	-4,208	-2,942	I(1)	Yes
GDPMP6R	-2,329	-2,946		No
D(GDPMP6R)	-3,921	-2,936	I(1)	Yes
IRD	-4,844	-2,940	I(0)	Yes
GVDEF5Y	-7,448	-2,942	I(0)	Yes

Note: all ADF regressions contain a constant and one lag of the dependent variable. The sample period covers 1991.1 to 2000.4. *D* = first-level differences.

The ECM equation was estimated in first differences and the results are shown in Table 4. The final short and long-run (in square brackets) components of the equation were estimated simultaneously and the result is presented as one equation in Table 4 (see Amano and van Norden, 1995). Although space considerations preclude the study from reporting in detail each of the estimated equations experimented with, the equation estimated for net capital flows in South Africa is reasonably representative by the error-correction equation in Table 4.

In Table 4, R^2 denotes the coefficient of determination. The figures in parentheses are Student's t-statistics (a constant term was also included). The variables in square brackets represents the co-integrating residual or error-correction variable. The resulting model appeared to be quite adequate in terms of high coefficients of determination, t-values and residuals that are approximately white noise. The equation shows a strongly significant and relatively large error-correction coefficient, indicating a rapid adjustment in the short run.

The results show that there is a negative relationship between net capital flows and relatively high inflation rates, whereas the effect of economic growth is positive in the long run. The results go further in pointing out that exchange-rate-adjusted interest rates and the government deficits are important determinants in explaining

Table 4: Regression results of the error-correction model

Dependent variable: *D(NFY)*
Method: Least squares
Sample (adjusted): 1991.2 2000.4
Included observations: 39 after adjusting endpoints

Error-correction equation:
*D(NFY) = **[C(2)*NFY(-1)+C(3)*INFD(-1)+C(4)*IRD(-1)+C(5)* GDPMP6R(-2) +C(1)]**+C(6)*D(INFD) +C(7)*D(IRD)+C(8)*GVDEF5Y+C(9)*DUM972+C(10)*DUM0024*

	Coefficient	Std. error	t-statistic	Probability
C(2)	-0,934965	0,128164	-7,295050	0,0000
C(3)	-22,07132	10,06601	-2,192657	0,0365
C(4)	58,20660	28,48772	2,043217	0,0502
C(5)	0,343620	0,189021	1,817890	0,0794
C(1)	-36,62532	30,27150	-1,209895	0,2361
C(6)	-29,43443	19,37386	-1,519286	0,1395
C(7)	36,27617	19,01938	1,907327	0,0664
C(8)	-0,234244	0,132401	-1,769201	0,0874
C(9)	6,496409	2,181457	2,978013	0,0058
C(10)	4,742389	1,642336	2,887587	0,0073

R-squared	0,750048	Mean dependent variable	-0,067879
Adjusted R-squared	0,672477	S.D. dependent variable	3,362003
S.E. of regression	1,924062	Akaike info criterion	4,363309
Sum squared residuals	107,3584	Schwarz criterion	4,789863
Log likelihood	-75,08452	Durbin-Watson statistic	2,081302

D = first-level differences; c*(#)* = number of the coefficient; long-run equation and coefficients are in bold type.

List of variables: (the signs in parentheses denote the expected direction of influence on capital flows)

NFY		=	Total net flows as a percentage of nominal GDP
GDPMP6R (+)		=	Real GDP growth rate, year on year
GVDEF5Y (-)		=	Government deficit as a percentage of nominal GDP (public-sector borrowing requirement)
INFD (-)		=	Domestic inflation relative to foreign inflation, calculated as: *(1+(cpiinr / 100)) / (1+(forinf / 100)), where:*
	cpiinr	=	domestic inflation rate
	forinf	=	percentage change in the weighted combined index of foreign wholesale prices
IRD (+)		=	The ratio between exchange-rate-adjusted South African and US government bond rates, calculated as: *[1+((i-ee) / 100)] / [1+(iny/100)]*, where:
	ee	=	expected exchange rate devaluation = *((f-ner)/ner)*100*
	i	=	domestic interest rate on SA long-term government bonds
	iny	=	The 10-year US government bond rate
	ner	=	nominal R/US$ exchange rate
	f	=	3 months' forward cover rates (based on the commercial banks' foreign-exchange transactions)
DUM972 (+)		=	Dummy variable for the sudden upsurge in capital flows in 1997.2 = +1
DUM0024 (+)		=	Dummy variable for irregular data (2000.2 = -1 and 2000.4 = -1)

the dynamics of net capital movements in South Africa in the short run. As predicted by theory, the coefficient of the government deficit as a percentage of nominal GDP variable is negative and significant, emphasising the negative influence of government debt on capital flows in South Africa. The coefficient on *GVDEF5Y* suggests that a one-percentage-point increase in average quarterly deficit by the government in 1999 decreases net capital flows by about R42 million in the

corresponding year, holding all else constant. Conversely, a one-percentage-point increase in annual real GDP growth in 1999 increases total net capital flows by roughly R3 billion from the third quarter of 1999 to the second quarter of 2000. This result is consistent with the evidence for Latin America mentioned in Calvo et al. (1993), and with evidence for developing countries mentioned in Fernandez-Arias and Montiel (1996).

The dummy for the volatile quarters is significant and the coefficient of the exchange-rate-adjusted interest rate ratio is positive, as could be expected. The significance of the relative interest rate variable indicates that investors are chasing high-yield interest-bearing securities. It therefore means that capital will flow out of the country when there is a significant cut in local interest rates, creating a kind of vicious circle in which interest rates have to stay relatively high to prevent outflows, but in which the economy stagnates because of the high rates. The above relationships are also illustrated by the impulse response function discussed later in the text (see Graph 2).

The results are interpreted as evidence in favour of pull effects in explaining the variation in capital flows. The coefficients of other domestic factors do not help to explain the capital flows to South Africa. For example, other variables experimented with, such as credit extension, price-earning ratios and labour productivity, are insignificant. The coefficient of labour productivity has a different sign from what was expected. Furthermore, it should be noted that the above results, as with most of the analyses in the literature on capital flows, do not consider the effect of capital controls.

In order to gain further insights into the dynamic interactions between capital flows and the explanatory variables, a series of unrestricted VARs using quarterly data was estimated. Due to the small number of observations it was not possible to consider very long-lag structures (two lags were considered). The same variables used for the error-correction model were experimented with in the quarterly VAR, using total net capital flows over nominal GDP defined as the dependent variable. The VAR impulse response function was estimated using: *NFY; INFD; GDPMP6R; IRD* and *GVDEF5Y*. The impulse response function traces the effect of a one-time shock to one of the innovations on current and future values of the endogenous variables. The impulse response results are reported in Graph 2. It is well known that the ordering of the variables in a VAR could affect the impulse response functions and the variance decomposition results in a significant way if the correlation between the variables is 'large' (see Laurens and Cordoso, 1998). Given that a rule of thumb in practical work is that correlation is large when it is over 29 per cent, testing the robustness of results for changes in the ordering of the variables seems relevant (see Table 5). When alternative orderings were tried, most of the results reported in this study were not altered significantly.

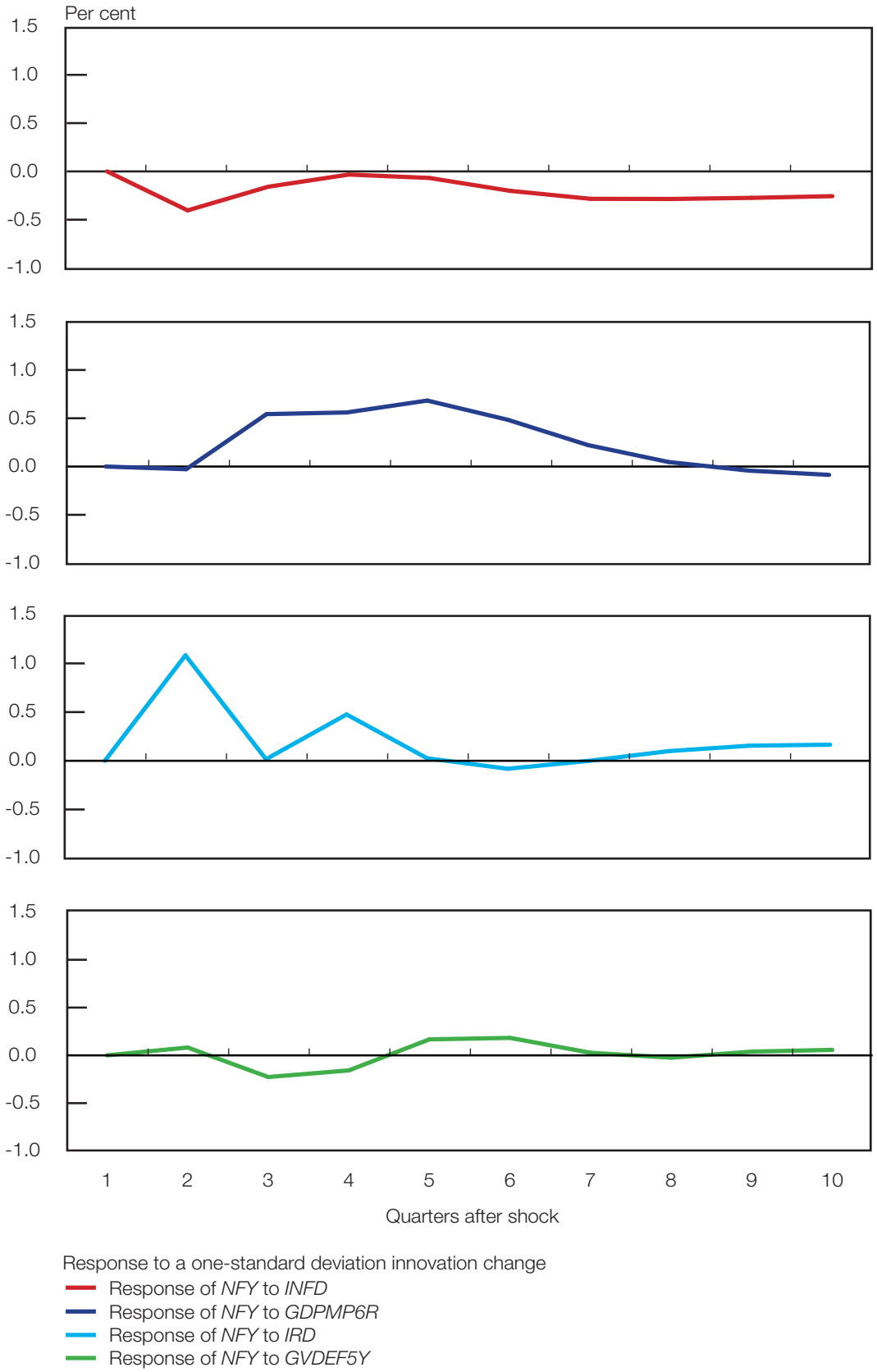
Table 5: Correlation matrices

Variables	*NFY*	*INFD*	*GDPMP6R*	*IRD*	*GVDEF5Y*
NFY	1,000000	-0,377782	0,368790	0,175058	-0,360424
INFD	-0,377782	1,000000	-0,554564	0,000113	0,267100
GDPMP6R	0,368790	-0,554564	1,000000	0,194203	-0,107988
IRD	0,175058	0,000113	0,194203	1,000000	-0,150288
GVDEF5Y	-0,360424	0,267100	-0,107988	-0,150288	1,000000

D = first-level differences

From Graph 2 it can be seen that, as a percentage of GDP, capital flows are negatively affected by government deficits after two quarters, but after four quarters the effect gradually disappears. In this regard it is found that a permanent increase in

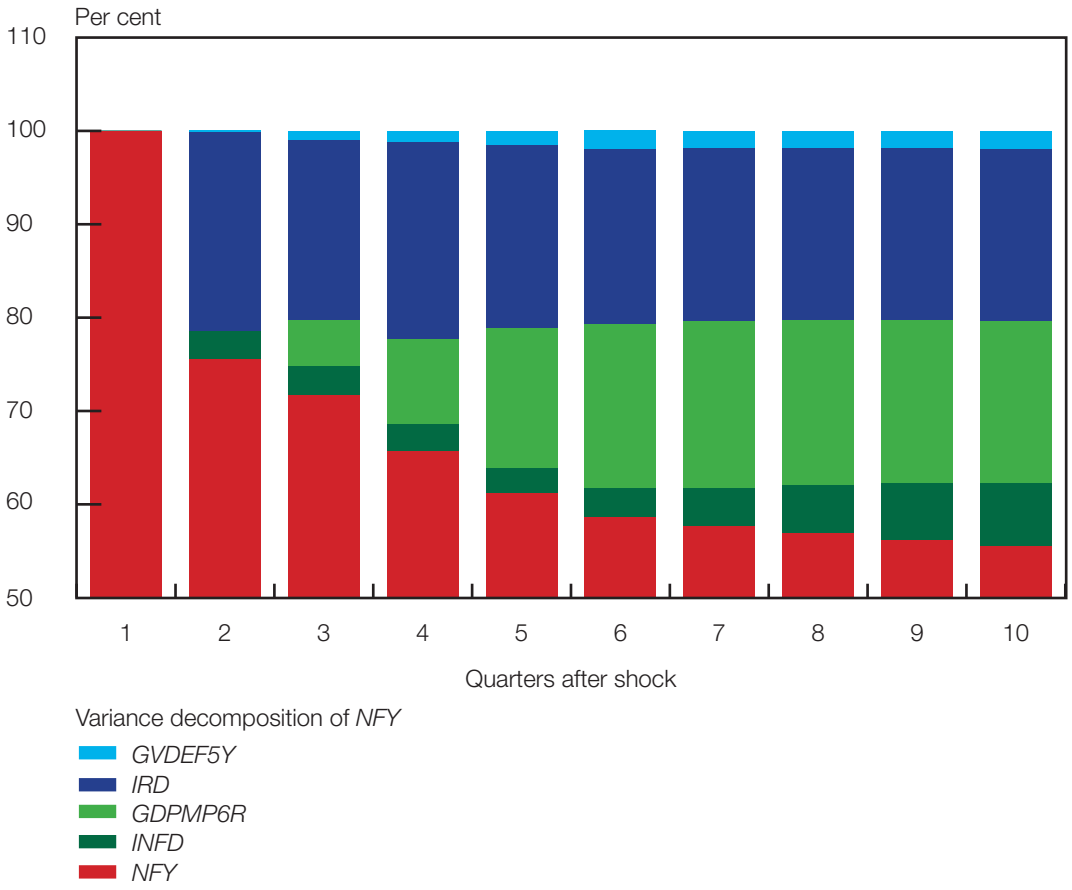
Graph 2 Impulse response functions from the vector auto-regression model



GVDEF5Y has a temporary positive effect on capital inflows with a peak at two quarters after the increase, and then becomes negative afterwards. Higher local inflation relative to foreign inflation has an immediate negative effect on capital flows, with capital flows reaching a minimum after two quarters. As expected, increases in domestic interest rates (adjusted by the exchange rate depreciation) relative to foreign rates and economic growth will boost capital flows to South Africa. Capital flows react immediately to a shock in the exchange-rate-adjusted interest rate ratio *(IRD)* with these flows peaking after two quarters. In the case of a shock in the real GDP growth rate, the flows only react after a two-period lag, peaking at five quarters.

The effectiveness of the explanatory variables can also be gauged by analysing the variance decomposition of a change in total net capital flows in Graph 3. After six quarters, the largest variance in *NFY* is caused by its own lag (58,9 per cent), followed by the exchange-rate-adjusted interest rate ratio (18,5 per cent), the real GDP growth rate (17,6 per cent), relative inflation (3,1 per cent), and the government deficit over nominal GDP (2,0 per cent).

Graph 3 Variance decomposition of total net capital flows



5. Concluding remarks

This study investigates capital mobility in South Africa by examining commonly used determinants of capital flows in developing economies using South African quarterly data from 1991.1 to 2000.4.

It was found that direct investment by foreigners was positive and that the volatility in net direct investment was mainly due to South African firms receiving exchange control approval to invest offshore.

Using an error-correction model, the results show that there is a negative long-run relationship between net capital inflows (in R millions) and relatively high inflation rates. It is also shown that larger government deficits in South Africa reduce net capital inflows, but strong economic growth and higher exchange-rate-adjusted government bond rates relative to those in the US attract foreign capital. The exchange-rate-adjusted interest rate ratio introduces elements of standard portfolio theory into the study. Portfolio flows are more important in South Africa in terms of average share in total financing. Portfolio investors usually chase high-yield interest-bearing securities. Although foreigners have been steady buyers of equities in South Africa, the study shows that this kind of investor will sell when there is a significant cut in local interest rates relative to those in foreign countries. One should furthermore keep in mind that investment decisions may also depend on sentiment, or perceptions of emerging markets as a whole, rather than being based on sound economic fundamentals. The results are interpreted as evidence in favour of pull effects in explaining net capital movements.

Having established the endogeneity of capital flows, the study estimates an unrestricted VAR and derives impulse responses to check the effectiveness of the variables identified for the error-correction model. Higher domestic inflation relative to other economies has an immediate negative effect on net capital flows, with capital flows reaching a minimum after two quarters. Capital flows react positively to a shock in the exchange-rate-adjusted interest rate ratio and real GDP growth, with these flows peaking after two and five quarters, respectively. An increase in the government deficit leads to a capital outflow after two quarters. Higher debt by the government and the associated expectation that this might result in future tax obligations could lead to a reduction in net capital flows into South Africa. Debt reduction may lead to larger capital inflows and better economic performance, which would encourage residents to hold their wealth at home or even repatriate funds from abroad. The results also show that, in order to increase capital flows to South Africa, real economic growth is needed and at the same time a good return should be offered to potential investors after allowing for exchange-rate depreciation.

It therefore appears that in the absence of adequate macroeconomic and financial policies, financial-account liberalisation may increase vulnerability to external and domestic shocks. Macroeconomic conditions and government economic policies will crucially influence the future trend of capital flows in South Africa.

However, some of the main shortcomings of the study are firstly, that the time period of the study covers only 40 quarters. This may bias the results to downplay the effectiveness of interest rates. Secondly, it should be noted that the above results, as well as most of the analyses in the literature on capital flows, do not consider the effect of capital controls. Finally, since many studies consider only the determinants of total net capital flows, research on the individual components of capital flows could enhance policy formulation even further.

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Note to tables

Unit trusts – S-34

This table presents aggregated data for the unit trust industry in South Africa. The table has been revised to include unit trusts classified as "fund of funds" from July 1998 and institutional funds from October 2000. The methodology for the consolidation of data on unit trusts and fund of funds eliminates double-counting by excluding the domestic intra-industry holdings of assets and transactions. Institutional funds target institutional clients such as linked-service providers, pension funds and other companies investing large amounts.