A note on cash holdings in South Africa during the transition to the year 2000

by V V Mamba and J P van den Heever[1]

Introduction

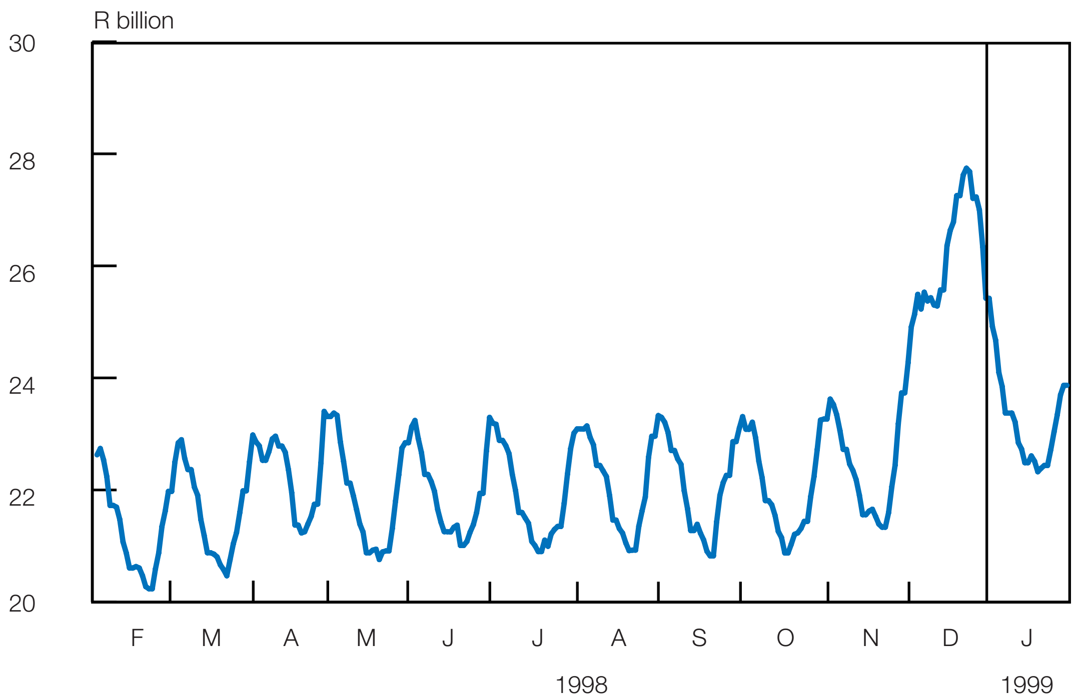
In many quarters predictions were made that the public's demand for cash would rise excessively towards the end of 1999. It was generally expected that people would withdraw money from banks in order to protect themselves against the possible failure of banks' computer systems at the time of the changeover to the Year 2000 (Y2K), and to have cash at hand during the many public holidays in the festive season. This note describes the actual changes in banknotes and coin in circulation in South Africa over the Y2K transition period.

1 The authors are indebted to the major South African banks for providing data, and to colleagues in the Reserve Bank's Research Department for processing and graphically presenting data.

The usual pattern of notes and coin in circulation outside the Reserve Bank

Notes and coin in circulation have a distinct behavioural pattern during the course of a month, as is seen in Graph 1. The amount in circulation usually has an upper turning point on the last day of the month, but from then on it tapers off until a lower turning point is reached on or around the 20th of the month. This pattern results from conventions and habits regarding wage and salary payments and household consumption expenditure. Many employers pay their employees at or close to the end of the month, and at that time convert deposits into cash. Though many other employees are paid by means of direct credits to their bank accounts, they invariably have a high transactions demand for notes and coin on payday and withdraw

Graph 1 Notes and coin in circulation outside the Reserve Bank, 1998/1999



cash from their bank accounts. Soon afterwards, the cash is spent on goods and services or is used to redeem outstanding debts. Businesses and other suppliers accumulate the notes and coin in their cash registers and then deposit the cash in their bank accounts. The banks, in turn, deposit the cash with the Reserve Bank, causing a decline in the amount of notes and coin in circulation.

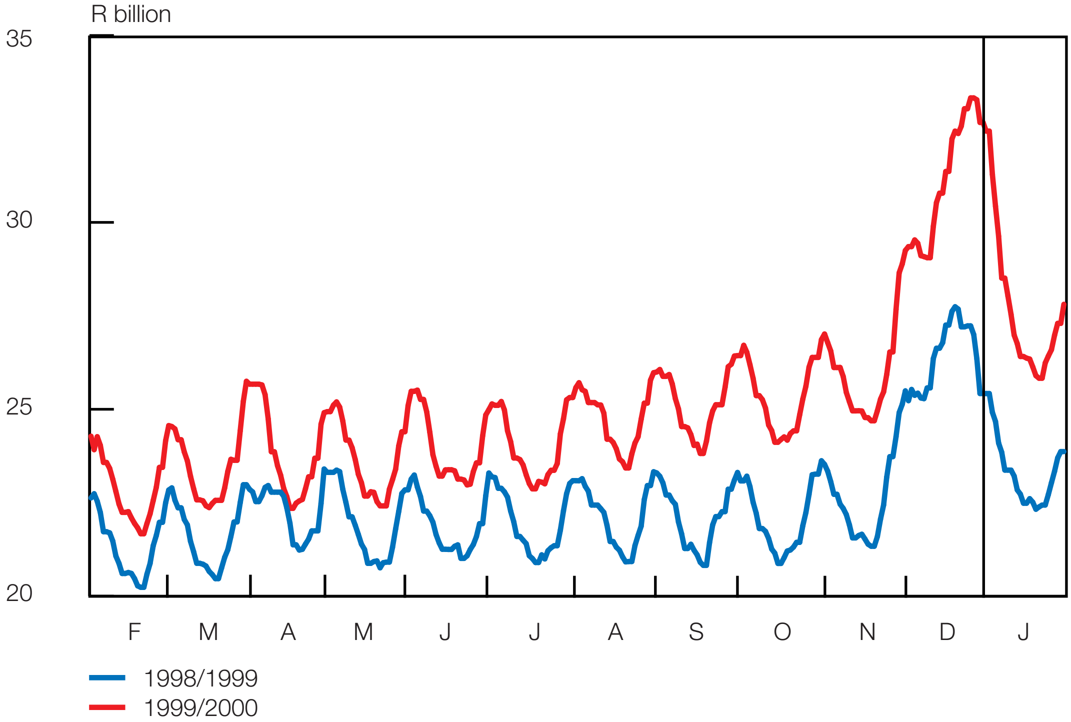
This general monthly scenario is somewhat different for the months of November, December and January. From early November in any year, the amount of notes and coin in circulation starts rising strongly on a daily basis, usually reaching a peak on one of the four days before Christmas. This trend is strengthened by the payment of annual wage and salary bonuses in November and December, when many people enjoy an extended holiday and migrant workers return home. People generally require more cash when travelling. Most important, the greater spending on gifts, recreation and other holiday goods during the festive season creates a strong demand for notes and coin. Conversely, during January the amount of notes and coin in circulation declines considerably as pay patterns return to normal.

The behaviour of notes and coin outside the Reserve Bank during the Y2K transition period

As shown in Graph 2, the level of notes and coin outside the Reserve Bank was consistently higher in 1999 than in 1998. This could be attributed to a higher level of nominal transactions in the economy resulting from inflation and some real growth, and the lower opportunity cost of holding interest-free cash, following the decline in interest rates from their high levels in the second half of 1998.

When comparing the level of notes and coin outside the Reserve Bank on a daily basis with the level on the same day of the previous year, year-on-year growth in both October and November 1999 averaged 15 per cent and thereafter fluctuated

Graph 2 Notes and coin in circulation outside the Reserve Bank, 1998/1999 and 1999/2000



between 13½ and 17 per cent up to 15 December. The year-on-year growth accelerated to 21½ per cent on 24 December, and to between 22 and 27½ per cent from 28 December 1999 to 8 January 2000. The highest rate recorded was 27,6 per cent on 3 January 2000. From 10 January the growth in notes and coin in circulation decelerated to below the 20 per cent mark, stabilising at between 14,4 and 16,9 per cent in the final two weeks of January 2000.

Notes and coin in circulation peaked a few days later than in a normal year. The highest total nominal value of notes and coin in circulation outside the Reserve Bank over the Y2K period was R33,33 billion on 28 December 1999. This implied that an amount of more than R750 was in circulation for every man, woman and child in South Africa. The Reserve Bank, of course, also held substantial additional amounts of notes in its vaults.

At the 1999 year-end the value of notes and coin stood at R32,67 billion. A year before, on 31 December 1998, the amount was R25,42 billion. Growth of 15 per cent (as had been the norm in October, November and the first half of December 1999) would have increased the amount of notes and coin in circulation to R29,23 billion on 31 December 1999. The difference of R3,44 billion or 11,8 per cent between the actual value of R32,67 billion and the hypothetical R29,23 billion may be attributed to the special circumstances surrounding the Y2K period.

As mentioned before, the value of notes and coin circulating outside the Reserve Bank amounted to R32,67 billion on 31 December 1999. As shown in the accompanying table, the increase in the value of cash outside the Reserve Bank over December 1999 was concentrated in the R100 denomination. More than 26 million R100 notes with a value of more than R2,6 billion were added to the quantity in circulation from the end of November to the end of December. R20 notes recorded the second-highest increase in terms of physical quantities in circulation; some 15 million R20 notes were added during December.

Notes and coin outside the Reserve Bank by denomination
R billions

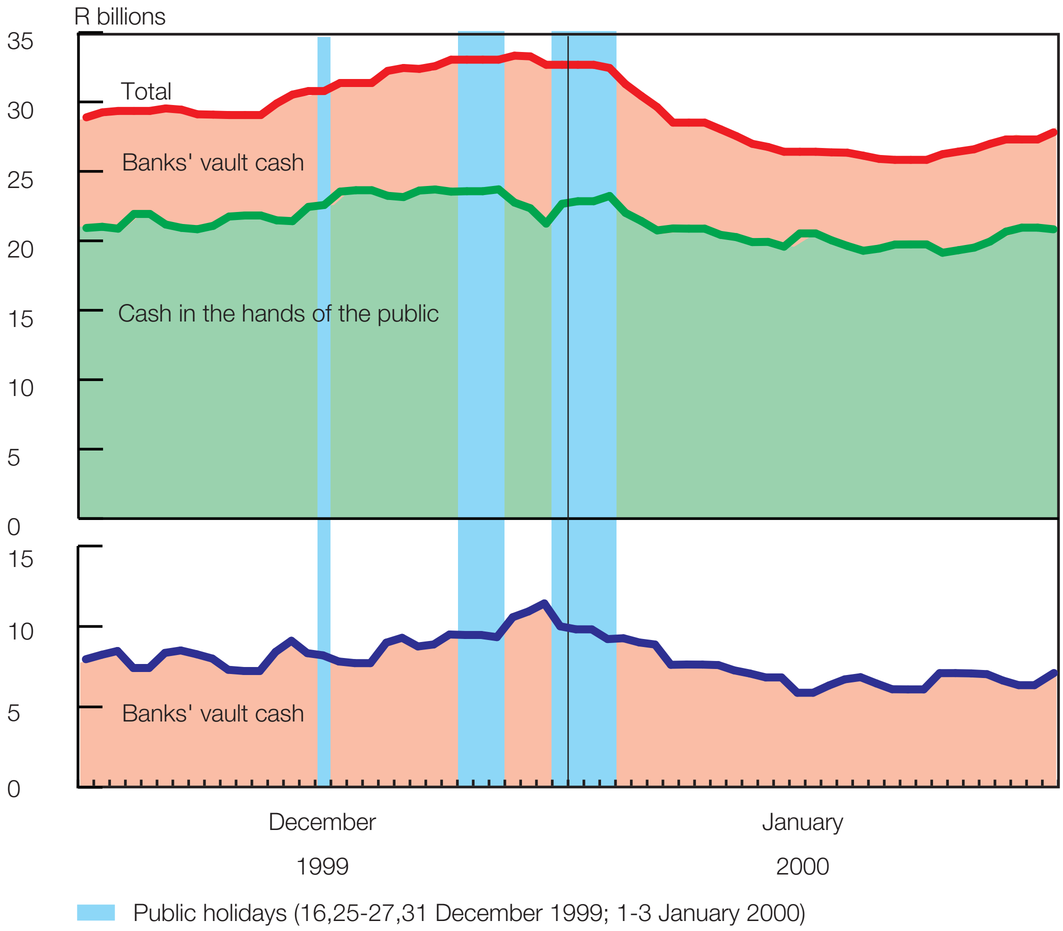
Denomination	30 Nov 1999	31 Dec 1999	31 Jan 2000
R200	4,78	5,33	4,83
R100	10,57	13,19	10,99
R50	8,00	8,44	6,93
R20	2,26	2,56	2,10
R10	1,15	1,23	1,05
Coin*	1,89	1,92	1,91
Total	**28,65**	**32,67**	**27,81**

* Including small amounts of "old" R5, R2 and R1 notes

Banks' vault cash versus cash held by the non-bank public

Total notes and coin outside the Reserve Bank may be divided into the private banks' holdings of notes and coin in bank vaults and automated teller machines (ATMs), on the one hand, and the non-bank public's holdings, on the other. The separate movements in these two components during December 1999 and January 2000 are depicted in Graph 3.

Graph 3 The distribution of cash held in bank vaults and by the public, December 1999 - January 2000



The banks' vault cash rose from R7,70 billion on 30 November to around R9,5 billion over the Christmas long weekend, and to a maximum amount of R11,43 billion on 30 December, dropping sharply to R10,01 billion on 31 December. The non-bank public's holdings increased from R20,94 billion on 30 November to more than R22 billion from 15 December and to peak values of R23,70 billion on 23 December and R23,71 billion on 27 December, but declined to R22,66 billion on 31 December.

Judging by the increases from the end of November up to the respective maximum values in December, the build-up of cash clearly featured more prominently in the banks' vault cash. The non-bank public's cash holdings recorded a year-on-year increase of 22,4 per cent up to the end of December 1999, but the banks' vault cash rose by 44,8 per cent over the same period. It was probably because of the banks' ample holdings of cash in their vaults and ATMs that the public, finding that notes were available normally, tailored their demand for cash to the needs of an extended long weekend, but not to the calls of Y2K alarmists.

Once into the year 2000, banks' vault cash declined from the level of approximately R10 billion recorded on 31 December 1999 and 1 January 2000 to around R9,2 billion on 3 January as the public withdrew notes from ATMs. The Reserve Bank also accepted some cash deposits from the banks, opening its doors for such business from 3 January. Vault cash levels receded further, reaching a lower turning point of R5,88 billion on 15 January 2000.

The non-bank public, using ATMs over the long weekend, increased their cash holdings from R22,66 billion on 31 December to R23,23 billion on 3 January. Then they worked down their cash holdings to a low point of R19,14 billion on 24 January.

Conclusion

The unique circumstances surrounding the changeover to the Year 2000 led to a higher-than-usual amount of bank notes and coin being held in banks' vaults and ATMs and in the hands of the non-bank public. It is estimated that over the year-end note and coin holdings increased by an additional R3,44 billion, or by 11,8 per cent, on account of these unique circumstances.

The additional demand for cash fell far short of the huge amounts mentioned by alarmists. This favourable outcome was largely due to the programmes launched to get key systems Y2K compliant and to inform the public of the state of readiness of the banking system. Actions along these lines began long before the critical date-change; as early as 3 October 1996 the Registrar of Banks, in Banks Act Circular 12/96, highlighted to banking institutions the possibility of systemic risk that could result from the failure of computer systems to recognise or store more than two digits in the identification of a year after the end of 1999. Intensive preparations followed, not only in the technical area but also in communicating the true state of affairs to the public. These efforts involved key players, from the Governor of the Reserve Bank and the Registrar of Banks to banks' chief executive officers and information technology experts.[2] This was rewarded when there was little or none of the panic demand for cash that some observers had forecast.

2 See for example the booklet Year 2000 readiness status of the South African banking system, issued in November 1999 by the South African Reserve Bank and the Banking Council South Africa.