SOUTH AFRICAN RESERVE BANK
OFFICE OF THE GOVERNOR

2001-04-17

To all **Chief Executive Officers**
Of all banks/mutual banks in South Africa

Dear Sir/Madam

MODIFICATION OF THE REFINANCING SYSTEM OF THE SOUTH AFRICAN RESERVE BANK

The current refinancing system of the Reserve Bank was introduced in March 1998 with the expectation that banks would provide signals about the liquidity conditions in the market by tendering for funds at the repo auctions on a floating-rate basis. Although the system has worked fairly well during the three years since its implementation, various shortcomings became apparent. For example, money-market rates are relatively inflexible, participation in the daily repo auctions is limited to a few banks and the interbank market does not always clear effectively. Furthermore, there is a need for the Reserve Bank to give unambiguous monetary-policy signals.

The Bank has conducted comprehensive research on ways in which the refinancing system could be modified in order to address these shortcomings. After extensive consultations with the South African banking sector as well as experts from a number of other central banks, the Bank for International Settlements and the International Monetary Fund, it was decided that the following modifications to the current accommodation system would be introduced:

1. A one-off adjustment to the spread between the Reserve Banks repo rate and the interbank call rate will be made by appropriately lowering the Reserve Bank's repo rate. The adjustment is purely for administrative reasons, and does not imply any change whatsoever to monetary policy.

2. The Reserve Bank will on a daily basis calculate a South African Ovemight Index Average (SAONIA), intended to serve as a benchmark for money-market interest rates in order to enhance the functioning of the interbank market.

3. The repo rate will be fixed by the Reserve Bank in order to eliminate any ambiguity in the Bank's monetary policy signals.

4. In order to create an incentive for banks to square off in the interbank market, the Reserve Bank will discontinue its practice of announcing the estimated liquidity requirement prior to the repo auctions. Instead, the tender amount provided and the amount allotted in the repo tenders will be announced shortly after the tender.

5. As an additional incentive for the interbank market to clear, weekly repo tenders with a seven-day maturity will be conducted, instead of the current daily tenders.

6. The Reserve Bank will, at its discretion, conduct daily final clearing repo, reverse repo or supplementary tenders in order to enable banks to square off their positions.

7. The net daily amount that banks can withdraw from or deposit in their cash-reserve contra accounts will be limited.

8. For purposes of calculating the minimum reserve balance to be held in an account with the Reserve Bank, the amount of vault cash that qualifies as a deduction will be limited to 75 per cent of the total amount of vault cash

held. This limit will be reduced by a further 25 percentage points per year over a three-year period.

The full report on the above-mentioned adjustments to the refinancing system is attached for your information. Please communicate any enquiries or serious concerns about these changes to our Mr C J Hugo at telephone number (012) 313-4952, fax number (012) 313-3841, or e-mail address Callie.Hugo@resbank.co.za before **11 May 2001**.

Yours faithfully

T T MBOWENI
GOVERNOR

NICOLAW\MASURVEY\BANKSCOVERLETTER

SA RESERVE BANK

PROPOSALS TO IMPROVE THE FUNCTIONING OF THE SOUTH AFRICAN RESERVE BANK'S REFINANCING SYSTEM AND THE INTERBANK MARKET

1. EXECUTIVE SUMMARY

1.1 The current refinancing procedures of the South African Reserve Bank was introduced in March 1998 in order to address certain weaknesses experienced with the previous system. As could be expected with the implementation of a new accommodation system, certain shortcomings soon emerged. In particular, the efficiency of the operational procedures was restricted by continuous inefficiencies in the functioning of the money market. An efficient money market is essential for the rapid transmission of monetary policy. Certain technical shortcomings in the current system also became apparent as experience was gained with its implementation.

1.2 In order to re-evaluate the monetary policy operational procedures, a subcommittee of the Reserve Bank's Monetary Policy Implementation Committee (MPIC) was appointed. This subcommittee conducted extensive research on ways of improving the functioning of the refinancing system and of the money market. Firstly, information was gathered about the effectiveness of the accommodation systems used by several other central banks. Secondly, a questionnaire was completed by banks and other money-market participants, in which they expressed their views on the functioning of the money market and monetary policy operational procedures in South Africa. Thirdly, comments by the Financial Stability Assessment Program group, a joint IMF/World Bank mission to South Africa (the FSAP mission), regarding shortcomings in the money market were considered.

1.3 Based on the outcome of the research project, the Reserve Bank will adjust its

refinancing system, with the intention of improving the functioning of the refinancing system and the interbank market, as follows.

1.3.1 The spread between the repo rate and the interbank overnight call rates in the market will be reduced appropriately in order to enhance participation and competition in the main repo auctions and to create level playing fields in the interbank market. This is a purely administrative adjustment and does not imply any changes to the current monetary policy stance.

1.3.2 A weighted average of overnight lending rates will be calculated in order to provide a benchmark reference rate for the interbank overnight call rate in the market.

1.3.3 The repo rate will henceforth be fixed by the Reserve Bank in order to prevent any uncertainty about the Bank's monetary policy stance.

1.3.4 Weekly repo auctions with two-week maturities will be introduced as a further incentive for banks to participate actively with one another in the interbank market transactions.

1.3.5 The Reserve Bank will discontinue announcing its estimate of the market's daily liquidity requirement prior to the repo auctions, and will instead announce both the tender amount (the sum of all bids received) and the amount allotted after the closure of the tender. It is believed that this procedure will encourage banks to square off in the interbank market.

1.3.6 Banks with short or long liquidity positions will still be accommodated by way of final clearing repo or reverse repo auctions, respectively, in order to prevent unduly large fluctuations in interbank rates. In instances where the behaviour of the overnight interbank rate is unacceptable to the Bank, short or long liquidity positions will be accommodated at a spread of 1,50 percentage points to the

repo rate. In cases where the Bank had unintentionally over- or under-estimated the market's liquidity requirement, supplementary tenders will be conducted at the level of the fixed repo rate, provided that the level of the interbank overnight rate is acceptable to the Bank.

1.3.7 A limit of R100 million will be placed on the net daily amount that a bank may withdraw from or deposit on its cash-reserve contra account, in order to further encourage the efficient functioning of the interbank market and prevent possible delays in the transmission of monetary policy. The cumulative withdrawals should, however, not exceed the cash-reserve balance of the particular bank with the Reserve Bank.

1.3.8 The Bank could use open-market operations involving short-term money-market instruments (for example Treasury bills) to regulate liquidity in the money market.

1.3.9 For purposes of calculating the minimum reserve balance to be held in an account with the Reserve Bank, the amount of vault cash that qualifies as a deduction will be limited to 75 per cent of the total amount of vault cash held. This limit will be reduced by a further 25 percentage points per year over a three-year period.

2. BACKGROUND

2.1 The current refinancing system was introduced in March 1998. The objective of introducing this new system was to address shortcomings in the previous overnight loan accommodation (or Bank rate) system. Despite the several adjustments already implemented, a number of weaknesses still hamper the functioning of the refinancing system. A first issue is that the system has not always been allowed to function as originally intended. Secondly, the system did not have the capability to address certain issues hampering the effective

functioning of the interbank market.

2.2 The Reserve Bank developed a unique refinancing system for South Africa, taking into consideration the inherent differences between domestic financial structures and those in other countries. It was not feasible to adopt entirely any other country's refinancing system, such as the European Central Bank (ECB) system or the Swedish system, despite the fact that these systems are highly effective in their respective environments. The Swedish system is probably the most sophisticated. The Sveriges Riksbank uses eight authorised primary money-market dealers to effect liquidity management. Despite the various advantages of this system, it could not be used in South Africa because of the differences in money-market structures.

2.3 The Reserve Bank noted several shortcomings in the functioning of the domestic interbank market, for example the severe rigidity in the interbank overnight call rates in times of extreme turbulence, as had been observed during the emerging-market crisis in 1998. The responses to the questionnaire on the functioning of the money market, which formed an integral part of the Monetary Policy Implementation Committee's money-market research project, also raised several issues of concern about the domestic money market. In addition, certain inefficiencies in the interbank and other money markets were highlighted in the report of the FSAP Mission following its visit to South Africa in 1999.

2.4 The interbank market plays a pivotal role in the implementation of monetary policy, because interbank and other money-market rates should respond immediately to any changes in the central bank's refinancing rate. An effective interbank market ensures effective pricing in the money market as a whole. Temporary imbalances may arise from time to time, but the market should restore equilibrium and close undesirable arbitrage gaps, without the intervention of the central bank.

2.5 Stability, combined with some flexibility, is a prerequisite for the effective

functioning of the interbank market. The Reserve Bank should provide stability to this market via its refinancing rate without creating market uncertainty about its monetary policy stance, whereas the interbank market should be competitive, liquid and flexible to accommodate liquidity shocks. The interbank rate, especially the overnight rate, should be sensitive to changes in the repurchase (repo) rate and should reflect underlying liquidity conditions in the market. Effective monetary policy implementation implies in the final instance that the central bank should manage liquidity in such a manner that the interbank overnight rate stays near (generally slightly below) the level of the repo rate.

2.6 The purpose of this document is to focus on the issues that should be considered in order to improve the functioning of the current refinancing system. The proposals in the document embrace adjustments that should enhance the effectiveness of the domestic money market, in particular the interbank market, and which would make the interbank overnight rate an effective indicator of liquidity conditions in the money market.

3. THE IMPLEMENTATION OF MONETARY POLICY

3.1 Monetary policy in South Africa is implemented by announcing, or effecting, a change in the central bank's repo rate. Such a change influences banks' lending rates, sometimes immediately and sometimes with a lag. By changing interest rate levels, the central bank has an impact on domestic demand and also on the exchange rate and the balance of payments of the country. For the more effective operation of this transmission mechanism, it is important that the interbank market should be developed to the extent that interbank rates and short-term rates in general will become more sensitive to changes in the repo rate.

3.2 In many countries, effective monetary policy implementation requires the liquidity position in the market to be managed in a way that the interbank overnight rate is

maintained as closely as possible to the repo rate. The repo rate, as a major policy instrument of central banks worldwide, is normally supported by other facilities, such as marginal lending, the level of deposit and lending rates, the averaging of reserve requirements, final clearing transactions and open-market operations.

3.3 The approach of central banks to their operational targets is aptly elucidated by Borio and Van't dack from the Bank for International Settlements (BIS). According to Borio, virtually all central banks implement monetary policy through the market-oriented instruments that they gear to influence very short-term interest rates. The behaviour of the interbank overnight rate in the money market is, therefore, the focus point (operational target) for most central banks. In addition, Van't dack states that "often, the operating target is the overnight rate, which is mainly determined in the interbank market. This is the case in most industrial countries and in several of the emerging market economies". He explains that practicality is the reason for this preference. "The overnight rate is usually the rate that the central bank can control most easily. Being the monopolist supplier of bank reserves *[i.e. liquidity]* and being able to affect the demand for them through a system of required reserves and/or by determining the terms of interbank clearing and settlement, the central bank can, in theory, control the overnight rate with a high degree of precision. Indeed, its greatest influence is almost invariably exerted in the overnight market."

3.4 South Africa's refinancing system does not function in a manner similar to those of other central banks. The interbank overnight rate has never been the central focus of monetary policy implementation in South Africa. The Reserve Bank, after several adjustments to the refinancing system, still has little or no control over the behaviour of the overnight rate in the interbank market, and changes in the repo rate often do not impact immediately on the interbank overnight rate. Adjustments to the repo rate are often directly reflected in corresponding changes in the prime and other lending rates of banks, which then affect money-market

interest rates and eventually real economic activity. It would be better for the efficient and effective functioning of the money market if adjustments to the repo rate had a more direct bearing on changes in the interbank overnight rate.

3.5 One of the reasons that the interbank overnight rate cannot currently be regarded as a reliable indicator of liquidity conditions in the money market, is the fact that the interbank market is not well developed. This was also pointed out by the FSAP mission, as discussed in the following section.

4. REPORT OF THE FSAP MISSION

4.1 The mission, which visited South Africa late in 1999, was of the opinion that the money market and the monetary policy operational procedures generally functioned well. It specifically appreciated the decision to establish a subcommittee of the MPIC to investigate the effectiveness of the interbank market and to what extent the operational procedures of the Reserve Bank could be improved.

4.2 The mission nevertheless raised several specific concerns about the functioning of the interbank market and the operational procedures of the Bank, which are listed in the table below. The mission observed that it was difficult even to establish the precise levels of interbank rates and that some interbank dealing took place at rates substantially different from those posted. The mission noted that the interbank market was a two-tier market, with the clearing banks forming one segment and the non-clearing banks another segment. The main deficiencies identified by the mission are summarised in the table below.

4.3 Deficiencies in the refinancing system identified by the FSAP mission to South Africa

CURRENT PRACTICE	EFFECT ON THE MARKET	PROPOSED ACTION TO BE TAKEN
▪ Limited participation in the daily repo tenders	▪ Inhibits development of interbank market activities ▪ Repo leading short-term interest rate indicator, but reflects only liquidity position of participating banks ▪ Banks bid according to signal without taking own liquidity position into account	▪ Less frequent repos ▪ Extended repo maturities as this would: - Hand over more responsibility to the market for liquidity management - Promote a more effective interbank market ▪ Option to intervene intra-week to be retained through fine-tuning operations ▪ "...make the interbank market rate the best short-term liquidity indicator for the banking sector"
▪ Interbank money market not fully developed	▪ Price discovery ineffective ▪ Difficult to establish precise level of interbank rates ▪ Clearing and non-clearing banks at different levels ▪ Large differential between Reserve Bank repo and interbank rate	▪ Once-off adjustment of spread between Reserve Bank repo rate and market rates (especially call rates) ▪ Reserve Bank should create environment through its liquidity management structure in which the interbank market can flourish
▪ Use of repo and swap transactions to address liquidity flow conditions	▪ These tools should be used for fine-tuning purposes only	▪ Distinguish between fine-tuning operations and structural operations
▪ Three of four instruments used to create structural shortages are short-term instruments	▪ Not an ideal situation ▪ Only variable part of shortage to be managed with short-term instruments	▪ Convert part of the reverse repos into outright sales
▪ Vault cash included in the calculation of reserve requirements	▪ A1 and A2 banks not equally treated ▪ Increase the need for special foreign-exchange swaps	▪ Eliminate cash-in-vault for the calculation of reserve requirements
▪ Marginal lending rate (MLR) too high	▪ Severe penalisation if a bank utilises the marginal lending facility	▪ Reduce MLR to level where it can be reasonably enforced without exception

5. MONEY-MARKET RESEARCH PROJECT

5.1 Prior to the visit of the FSAP mission in 1999, a decision had already been taken to appoint a subcommittee of the MPIC, consisting of Reserve Bank officials as well as representatives from private banks, to investigate possible shortcomings in the money market. The mandate of the subcommittee was to investigate and report on:

i. the functioning of the interbank and money market in industrial and developing countries; and

ii. the functioning of the interbank market and the market in the securities of ultimate borrowers and financial intermediaries in South Africa.

5.2 The endeavours of the subcommittee to obtain information about the functioning of the money markets in industrial and developing countries were met with little success. To obtain such information would have been costly, as it was not domestically available. The subcommittee was therefore unable to report in detail on this subject, but practices in other countries were taken into consideration in formulating the proposals of the subcommittee.

5.3 In order to obtain information about conditions in the domestic interbank and other money markets, a questionnaire was sent to local banks, institutional investors and issuers of money-market instruments. The questionnaire focused on the following:

i. The size of the interbank market and the secondary market for money-market instruments, the types of instruments traded and the determination of money market interest rates/yield;
ii. the inter-relationship between interbank rates and the Reserve Bank's accommodation rates;
iii. possible shortcomings in the functioning of the money market; and
iv. proposed adjustments to improve the markets as well as the Reserve Bank's current refinancing system.

5.4 The responses to the money-market questionnaire are summarised according to the various issues raised.

5.4.1 Comments on the general functioning of the interbank and money market

5.4.1.1 Respondents indicated that they generally regarded the money market as being small, isolated from foreign participation, illiquid, non-transparent and unsophisticated in comparison with other financial markets in South Africa. Although the domestic money market works reasonably well in a bull market, it becomes especially illiquid in a bear market when quoted

doubles tend to widen. Certain restrictions affect the tradability of some money-market instruments, such as:

i. liquid asset status of certain instruments enhances their tradability as opposed to others.
ii. The development of the commercial paper market is hampered by the preferential status of other instruments.
iii. The cost that banks incur when trading certain parastatal instruments, hinders the tradability of such instruments.
iv. The lack of active involvement of corporates in the trading of commercial paper reduces the availability of instruments, concentrates investor credit risk in the banking sector and prevents the development of a traded commercial paper market.
v. The Unit Trust Control Act still prohibits money-market funds from entering into repurchase agreements or carries on negotiable certificates of deposit and short-dated bonds.

5.4.1.2 The interbank market does not attract a wide range of market participants. The market is divided into two segments, namely the large A1 banks and the other banks. The four big banks dominate the market and have the power to influence rates. As a result of this market structure, actions taken by the Reserve Bank do not always have the desired effect.

5.4.1.3 The money market is effectively closed for half of each trading day, because a combination of same-day settlement and the absence of a centralised depository for money-market scrip impede the settlement process. This means that significant price changes in interest rate derivatives could occur without any response in the money market.

5.4.1.4 Although the dematerialisation of Treasury bills has decreased liquidity in

the money-market, this is probably a temporary problem. The immobilisation of Treasury bills and the ultimate immobilisation of all money-market instruments should eventually improve liquidity.

5.4.2 Comments on the price-discovery process in the money market.

5.4.2.1 The price-discovery process in the money market is hampered by the lack of a credible benchmark rate. The Johannesburg Interbank Agreed Rate (JIBAR) as calculated by SAFEX has various defects, making it unrepresentative of actual trades in the market. Only 17 banks quote JIBAR rates and often trade off quoted rates, leading to low transparency in the price-discovery process. The Rand Overnight Deposit Rate (RODR) is generally regarded as a better rate, but represents only a small fraction of activity in the money market and can be manipulated. A further hindrance in the price-discovery process is that all prices have to be determined through over-the-counter enquiries.

5.4.2.2 There is a perception that money-market rates can be (and sometimes are) manipulated by the four large banks, as well as by large issuers who manipulate the levels and volumes of their funding. The spreads in banks' quoted prices are too wide, also owing to market illiquidity. These wide spreads, in turn, decrease liquidity and may lead to a vicious circle of even wider spreads and further decreases in liquidity.

5.4.3 Comments on the current repo system.

5.4.3.1 The main concerns about the current repo system raised by respondents are the following:

i. Although the repo rate has the potential to become an effective benchmark rate that can drive the short end of the yield curve, it

currently bears no resemblance to market rates.

ii. The spread between the repo and the interbank rates should be smaller in order to ensure wider participation in the daily repo tender and facilitate better price discovery in the market. Wider participation in the repo tender would, in turn, provide a better indication of liquidity conditions in the market.

iii. The liquidity shortage is currently small relative to the size of the market, detracting from the Reserve Bank's influence over rates. The big banks are to some extent "immune" to the open-market transactions conducted by the Reserve Bank.

iv. A system where both the repo rate and the repo tender are fixed is inappropriate for the implementation of monetary policy. One of the two should be floating in order to send signals from the banks to the Reserve Bank.

v. The magnitude and timing of changes in the Reserve Bank's accommodation rates and the other rates are not closely linked.

vi. The fact that the floating repo rate is *de facto* a fixed rate is confusing and gives ambiguous monetary policy signals. It was suggested that having a fixed repo would remove this ambiguity.

vii. Repos with longer maturities were suggested in order to stimulate the interbank market.

viii. The Reserve Bank was criticised for a lack of transparency in its refinancing procedures, and especially in its current open-market transactions aimed at draining liquidity from the market.

6. PROPOSED ADJUSTMENTS TO THE CURRENT REFINANCING SYSTEM

6.1 The spread between the Reserve Bank's repo rate and the interbank overnight call rates in the market should be narrowed.

6.1.1 As indicated in the preceding section, the wide differential between the Reserve

Bank's repo rate and market rates is regarded as one of the shortcomings of the current system. The interbank overnight rate is approximately 200 basis points below the repo rate. The margin between the repo rate and interbank call rate should be reduced. If the gap were smaller, there would be more participants in the daily auction because the present costly differential allows only large banks with big books to spread the risk to other participants in the interbank market. The participation of a larger number of banks would allow the Reserve Bank to monitor liquidity problems more closely, lead to better price discovery and remove perceptions of manipulation. Since overnight interbank transactions are quite often uncollateralised, the overnight rates are normally established in other countries at a slightly higher level than the central bank's repo rate to provide for credit-risk spreads among banks.

6.1.2 A once-off adjustment in the spread between the Reserve Bank's repo rate and the interbank call rate should enhance participation and competition in the main repo auctions and create level playing fields in the interbank market. Broader participation in the repo auction should eventually also improve liquidity in the interbank market. It is, therefore proposed that the repo rate should be reduced to an appropriate level. It should be explained to the market that such an adjustment is conducted purely for administrative reasons without any immediate policy implications.

6.2 **Developing a benchmark interbank rate index.**

6.2.1 Many respondents identified insufficient price discovery as a reason for the rate rigidity in the domestic interbank market. To address this problem, central banks in overseas markets calculate and publish a weighted average for interbank overnight transactions, which serves as a benchmark or reference rate for the interbank market, e.g. the Euro Overnight Index Average (EONIA) in the ECB system. This rate is calculated by the ECB at the request of the banks and represents a weighted average of all overnight unsecured lending transactions in

the interbank market.

6.2.2 In the domestic market, the South African Futures Exchange (SAFEX) has recently introduced the Rand Overnight Deposit Rate (RODR) and the Johannesburg Interbank Agreed Rates (JIBAR) as benchmark rates. Although both efforts are laudable, some shortcomings in the calculation methodologies lessen their credibility. The RODR represents a rate on the approximately R2,0 billion of SAFEX margin money that is placed with certain banks. Since the end of 1999, no SAFEX margin money has been deposited with A2 banks. The RODR is, therefore, not a representative money-market rate. The one-month JIBAR is the average of the rates quoted to SAFEX by 17 banks. The 3-month to 12-month JIBAR is the average middle NCD rate quoted by these banks, after eliminating the highest and lowest two quotes. Therefore, in addition to the fact that many banks are excluded from the calculation of JIBAR, the rates at which actual transactions take place often differ substantially from the quoted rates.

6.2.3 The calculation of a South African Overnight Index Average (SAONIA) could enhance the price discovery process and therefore the effective functioning of the interbank market. Like the EONIA, the SAONIA could be computed as the weighted average of all the overnight lending transactions in the interbank market. This would mean that all market participants would have to report the necessary information to the Reserve Bank on a daily basis. Only the weighted average rate would be made available to the market.

6.2.4 Some A1 banks have indicated that they are reluctant to participate in the calculation of an EONIA-type reference rate. They are concerned that this may force them to disclose their competitiveness to the rest of the market. As all information reported to the Bank is treated with the highest confidentiality and only a weighted average rate would be published, the concern of these banks is difficult to understand.

6.3 **A fixed repo rate.**

6.3.1 The floating repo rate system applied by the Reserve Bank, based on the argument that the banks would be allowed to signal their underlying liquidity positions to the Reserve Bank, has proved unsuccessful. Various other countries also indicated that they had unsuccessfully experimented with a floating repo rate. The main problem with this system is that the banks do not participate in the signalling procedures in the way originally intended. The final clearing at the same repo rate as that established at the auction of the day also hampers the functioning of the system.

6.3.2 The Reserve Bank had on occasion been compelled to switch between a variable and a fixed repo rate. A detailed analysis of recent domestic financial market data showed that relative stability was restored each time that the central bank reverted to a fixed repo rate. Market participants observed that the relative stability in the domestic money market during the second half of last year was remarkable in view of the negative sentiment in our markets originating from the Zimbabwean crisis, the high oil price and the severe depreciation of our currency against the US dollar. This stability was mainly the result of managing the repo in such a way that it was kept at a level of 11,75 per cent (12 per cent since October 2000).

6.3.3 The floating-rate system was introduced to improve the transparency of monetary policy under the previous framework of informal inflation targeting. The adoption of formal inflation targeting led to a more transparent process of monetary policy decision making. Clear signals about the monetary policy stance are now provided in the monetary policy statements of the Monetary Policy Committee.

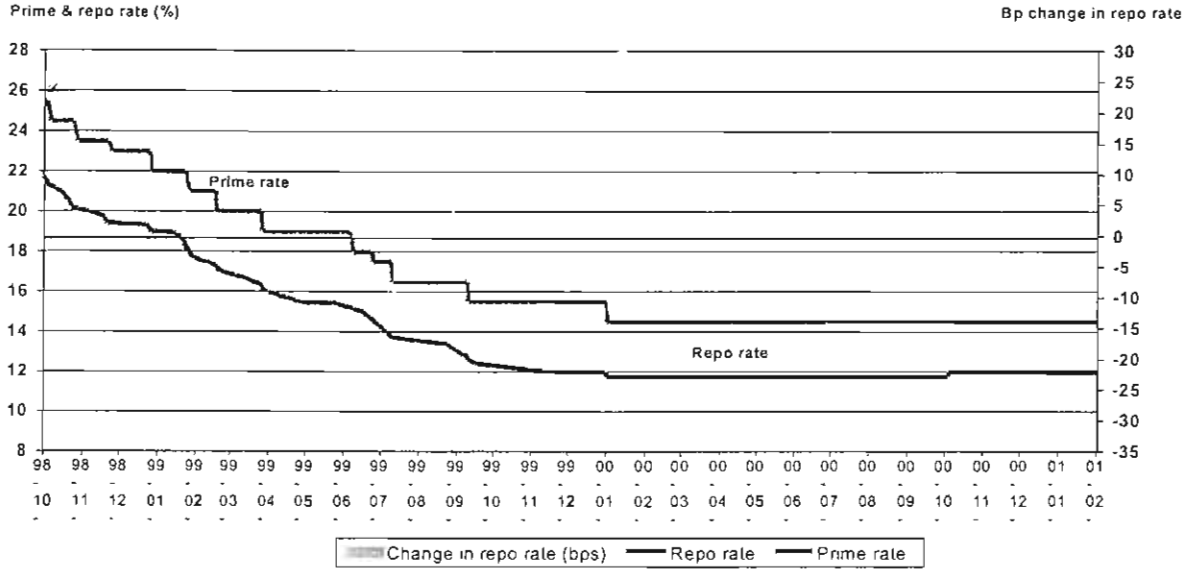
6.3.4 A central bank, as final provider or destroyer of liquidity, knows best what the liquidity position in the market is at any point in time, and how it will change. Furthermore, the central bank should also know best what the level of interest

rates should be to reach the inflation target and this should be signalled to the market in no ambiguous way. In line with this principle, a fixed repo rate system should provide an unambiguous signal to the market.

6.3.5 The ECB has recently reverted from a fixed to a floating repo rate in order to address several technical shortcomings, such as overbidding at the auctions. However, it still sets and announces a minimum acceptable level for the floating repo rate (the minimum rate). For the purpose of signalling the monetary policy stance, the minimum bid rate is designed to play the role performed, until now, by the rate in fixed-rate tenders. This change does not in any way rule out the option that, in the future, the main refinancing operations of the euro system may again be conducted in principle as fixed-rate tenders.

6.3.6 Immediately following the introduction of floating-rate tenders, the ECB was successful in keeping the marginal rate (the lowest rate accepted) close to the minimum rate at the tenders. However, once the market mood shifted towards expecting higher repo rates, the ECB found it difficult to control the impact of these expectations on the marginal rate and therefore on other money-market rates. The ECB warned that "creeping interest rate increases" could cause uncertainty and instability in the euro markets. Recent experience with the Reserve Bank's repo system supports this view. In a declining interest-rate environment, a floating repo rate could probably be used as an operational instrument. However, the graph below shows that a reduction in the banks' prime lending rates is not really the consequence of an effective interest-rate transmission mechanism, but rather the culmination of various interbank market inefficiencies caused by the dominant role of a few large players in this market, as well as conventions that have developed over a long period.

RELATIONSHIP BETWEEN THE DAILY CHANGES IN THE REPO RATE
THE PRIME RATE



6.3.7 In a situation where interest rates are moving upwards, markets tend to be confused and the uncertainty results in rate volatility such as that occurring in the period from May to July 1998 in the domestic market and in the past three months in the euro markets[1]. The current ECB system, in reality a hybrid of a freely floating repo rate and a fixed repo rate, is therefore not the best solution for South Africa.

6.3.8 The Federal Reserve system, where the Federal Open Market Committee sets a target for the Fed funds rate and, through the extensive use of open-market operations, the Fed funds rate (interbank rate) is pushed towards the targeted level, is akin to the current ECB approach. However, in addition to actively managing the Fed funds rate, the system also provides for a refinancing facility at a discount rate which is on average 50 basis points below the Fed funds target rate.

---

1 IDEAGLobal, a London-based research unit, in July 2000 expressed its concern that, once the uncertainty over the rate outlook was transmitted to a higher marginal rate, this would actually hurt sentiment towards the euro instead of providing support.

6.3.9 After considering some other systems and taking South African circumstances into consideration, it was concluded that in South Africa's circumstances, and as part of an improved interest-rate transmission mechanism, a fixed repo rate should be adopted in order to give unambiguous signals to the market.

6.4 Announcing the tender amount and allotment, but not the liquidity requirement.

6.4.1 For the interbank market to be effective and to have an interbank overnight rate that is a true reflection of the underlying liquidity conditions in the market, an element of uncertainty is required in the process of rate determination.

6.4.2 With a floating repo rate the banks tender for a fixed amount, which is publicly announced prior to the main repo auction. With a fixed repo rate, interbank transactions can be encouraged by not pre-announcing the central bank's estimate of the market's liquidity requirement. However, both the tender amount (the sum of all bids received) and the amount allotted should be published immediately after the auction. Under these arrangements, the banking counterparties would not know the final liquidity requirement of the market or how the remaining shortage, if any, would be accommodated. This uncertainty should be an incentive for banks to try actively to square off their positions in the interbank market.

6.5 Introducing weekly repo tenders with a longer maturity.

6.5.1 An additional way in which the Reserve Bank could encourage the development of the interbank market would be to reduce the frequency of auctions and to extend the maturity of repurchase transactions. The ECB, in addition to a monthly repo with a three-month maturity, also conducts a weekly repo with a two-week maturity. Lengthening the maturity of the repos creates the need for banks to operate in the interbank market for liquidity management. At the same

time it is important that the Reserve Bank should provide facilities to the market so that the necessary flexibility would continue to exist. As indicated in the next sections, this would be provided by means of a final clearing auction and the averaging procedure on banks' cash reserve requirements. As a final recourse, the banks could also make use of the marginal lending facility.

6.5.2 Extending the maturity of the Reserve Bank's repos should not harm the Bank's ability to estimate the liquidity requirements on a weekly basis. Estimates of government spending and income have improved substantially recently and are quite accurate. The current calculation method for notes and coin in circulation outside the Bank could still be used. With the Bank's policy of not intervening in the foreign-exchange market, together with fairly accurate calculations of the losses on the forward book, the impact of gold and foreign-exchange transactions on money-market liquidity could be estimated with a substantial degree of accuracy.

6.5.3 The daily liquidity estimates between auction days would, of course, not necessarily differ from the current mechanisms. Final Corporation for Public Deposit flows, foreign-exchange swaps, other open-market transactions and unexpected (or adjusted) government figures would be readily available and, together with final figures on the daily use of the cash-reserve contra-account facilities, should enable the Bank to facilitate the banks' final daily square-off.

6.5.4 It is therefore recommended that the Reserve Bank should switch to weekly auctions with a seven-day maturity.

6.6 Final clearing auctions.

6.6.1 It will nevertheless not always be possible to accurately forecast the liquidity needs of banks. In such cases, central banks conduct fine-tuning open-market transactions either to steer the interbank overnight rate close to their repo rates,

or to influence the liquidity position in the market in a way that subsequently affects the overnight rate. This can be done either through transactions entered into at the "discretion" of a central bank or through "standing facilities", i.e. central bank facilities available to counterparties at their initiative.

6.6.2 On the introduction of the current operational procedures in South Africa, it was decided that discretionary operations should be used and that the main instrument for managing liquidity would be repurchase transactions. The system allowed for fine-tuning measures to neutralise temporary fluctuations in bank liquidity and to avoid unduly large fluctuations in money-market rates. It was at that stage decided that the instruments that would be used for fine-tuning would consist of repurchase transactions in the form of additional or quick tenders, sales or purchases of short-term Treasury bills, adjustments in the portfolio of the Corporation for Public Deposits, the transferring of government funds between Tax and Loan Accounts at private banks and the Exchequer Account at the Reserve Bank, and foreign currency swaps. If the banks still experienced an unbalanced liquidity balance they are allowed to square it off by making use of the cash reserve contra accounts or the marginal lending facility.

6.6.3 In practice the Reserve Bank mainly uses foreign-currency swaps and final clearing auctions for purposes of fine-tuning. On a regular basis and under clearly specified circumstances, the MCMD conducts final clearing auctions at about 08:30 for value the previous day. The final clearing auction is made at the same repo rate as that established the previous day at the formal auction of repurchase transactions. In this way the Reserve Bank ensures the stability of the repo rate, while the participating banks know that they will receive cash in the case of a shortfall. This has a negative impact on the development of the interbank market.

6.6.4 It is proposed that, in the revision of the operational procedures, the Reserve

Bank should continue this practice of a final clearing auction, but that it should take place at a penalty rate. In order to accommodate a short or long cash position in the market, a final clearing repo or reverse repo should be entered into at a rate of 1,50 percentage points above or below the repo rate [2]. The spread of both the final clearing repo and the reverse-repo rates to the repo rate should be wide enough to be effective, but at a level appropriate to enhance the A2 banks' participation in the interbank market.

6.6.5 Recourse to the final clearing repo/reverse repo would be subject to the discretion of the Reserve Bank. If the banks have not cleared effectively in the interbank market, the Reserve Bank could stand back. In this case, the banks could either use their cash reserve contra accounts or the marginal lending facility to manage their liquidity positions. If the change in interbank rates is unacceptable to the Reserve Bank, it could be "managed" back to a more acceptable rate by making use of the final clearing repo or reverse repo.

6.6.6 A situation may arise where the Reserve Bank is satisfied with the level of the interbank rate, but there is a long or short cash position in the market resulting from an over- or underestimation of liquidity requirements by the MCMD. In these circumstances, it would be unfair to accommodate the banks at the penalty rates of the final clearing repo or reverse-repo rate. Accommodation should be conducted at the main repo rate. In such a situation, other central banks, depending on money-market conditions and movements in the overnight rates, use fine-tuning operations to square off the market. These fine-tuning operations could, *inter alia*, be conducted on the basis of supplementary tenders at the applicable main repo rate. If the Reserve Bank wanted to square off the market with no intention of influencing the interbank rate, it should be on the basis of

---

2. In Sweden, the rate on standing facilities is 10 basis points above and below the repo rate, respectively, and in the ECB, one percentage point in both cases. As a further incentive for banks to square off in the interbank market, Sweden also limits banks' utilisation of standing facilities to a specified percentage of capital and reserves. If banks exceed those limits, they can still enter the standing facility, but at a severe penalty.

supplementary tenders at the main repo rate.

6.6.7 Money-market settlement should preferably be conducted on the basis of same-day settlement. Although a fully real-time gross settlement system (RTGS) is not a prerequisite for the effectiveness of the final clearing repo facility, it would enhance the effectiveness of liquidity management.

6.7 Limit on the use of statutory cash reserves.

6.7.1 To achieve a narrower spread between the repo and overnight rates, the central bank ought to have the power to make an immediate impact on the overnight interbank rate. The averaging of cash-reserve balances provides an "escape route" to banks, which may sometimes impede the central bank's objectives, namely to influence the overnight rate without delay. The Reserve Bank has also experienced several problems recently where the interbank market could not clear effectively because some banks preferred to use their cash-reserve contra accounts instead of squaring off with other banks. The problem is exacerbated over weekends, as some non-clearing banks do not work on Saturdays, causing other banks to end up with a large surplus or short position.

6.7.2 In view of the problems experienced with the transmission of monetary policy, it is proposed that a limit of R100 million should be placed on the net daily amount that banks can withdraw or place on their cash reserve contra accounts. The cumulative withdrawals should, however, not exceed the cash-reserve balance of the particular bank with the Reserve Bank. If this facility continues to affect the transmission process adversely, the abolition of the averaging procedure should be considered. At present this is not recommended because it still provides some flexibility to banks in managing liquidity, particularly where a final clearing auction does not take place.

6.8 Open-market operations in money-market paper.

6.8.1 At present open-market operations are only irregularly used to fine-tune liquidity. In the past, outright transactions in long-term government paper have at times been undertaken to influence the structural shortage in the liquidity of banks. In some operational systems such as in the United States, these transactions are regularly employed to move interest rates to officially targeted levels. In most other countries they are usually employed in circumstances where reserve shortages or surpluses are expected to be large and to extend over a long time. Outright sales and purchases of government paper are, however, a very useful monetary policy instrument, *inter alia* where surges in capital flows occur.

6.8.2 Open-market operations in money-market paper are regarded as essential for the efficient management of liquidity in South Africa. It is proposed that these kinds of transactions should be more regularly undertaken by the Reserve Bank to manage domestic liquidity. At present the domestic money market is unfortunately still relatively illiquid. The liquidity in the market could probably be improved if the Reserve Bank more regularly operates in it. For this purpose, it would perhaps be best if the Reserve Bank at first concentrated its activities in only one market segment. Treasury bills seem to be the logical candidate in this regard.

7. CONCLUSION

7.1 The proposals outlined in this paper should considerably improve the current monetary policy operational procedures of the Reserve Bank. It should, however, be stressed that these proposals are an inter-related package, which would be difficult to apply if only certain of them are approved. A fixed-rate repo, a one-off adjustment in the spread between the Reserve Bank's repo rate and the interbank call rate and the development of a reference rate could be implemented

without the other changes. However, if it is decided that weekly repo tenders with longer maturities should be introduced, it would probably lead to inefficiencies if the other proposals are not implemented.

8. SOURCES

1. BIS Conference Papers Vol 3, *Implementation and tactics of monetary policy*, March 1997.
2. BIS Policy Papers No 5, Monetary Policy Operating Procedures in Emerging Market Economies, March 1999.
3. World Bank / IMF, *Financial Sector Assessment Program*, November 1999.
4. IMF, International Capital Markets: Developments, Prospects and Key Policy Issues, September 1999.