

Forward exchange cover transactions of the South African Reserve Bank

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Deficits have generally been incurred by the South African Reserve Bank on its so-called forward book over at least the past twenty years. Only over relatively short periods has the Bank been able to show surpluses on its forward operations. On an annual basis deficits have been recorded in most financial years. These deficits were still comparatively small during the late 1960s under the then relatively fixed exchange rate system, but started to increase rapidly from 1978 onwards. The size of these deficits has depended closely on the strength of the spot exchange rate of the rand during a specific year; they therefore increased substantially from 1985 onwards with the then sharp depreciation of the rand.

Although these "deficits" and "surpluses" result from a deliberate over- or under-pricing of the cost of forward cover with the intention of pursuing certain pre-determined macro-economic policy objectives, they are normally referred to as "losses" and "profits" on the Reserve Bank's forward exchange transactions. As will be explained in this article, these "losses" and "profits" are regarded as capital transfers between the Government and private sectors for purposes of macro-economic analyses. This should not be confused with the accounting concept of losses and profits that arise from normal commercial trading operations.

The persistent forward losses sustained by the Bank and the substantial increases that have occurred in them have recently received considerable attention. Questions are being asked as to why such losses continue to be made and why they should be as large as they are. The purpose of this article is to discuss some of these questions, namely:

- What causes the Reserve Bank to incur forward losses?
- How are these losses recorded in the macro-economic accounts of South Africa?
- What macro-economic implications do these losses have for the country?
- What can the monetary authorities do to redeem losses already incurred and to prevent future losses?

Factors responsible for losses on forward book of the Reserve Bank

Three separate but interdependent reasons can be distinguished why the Reserve Bank makes losses on its forward exchange book, namely:

- (a) The Bank acts as a "market-maker". This means that the Bank is an active participant in the forward exchange market providing cover to authorised

foreign exchange dealers *on the dealer's initiative* and not solely as a part of the Bank's own intervention policy to influence short-term movements in the exchange rate of the rand.

- (b) The Bank has a large net oversold forward position which is not "closed" by the simultaneous buying of spot or forward exchange and which has shown a substantial increasing trend.

- (c) The Bank provides cover at "market-approximating" forward exchange rates. These rates are derived simply from the difference between local and foreign interest rates, adjusted for the transaction costs of foreign banks and domestic authorised dealers.

Active participant in market

The Reserve Bank has been an active participant in the forward exchange market since the market's inception. This active involvement of the Bank was mainly aimed at the development of the market. Various attempts have been made from time to time to improve the arrangements governing the operations of the forward exchange market in South Africa. Substantial changes were made, especially after 1979, based on the recommendations of the Commission of Inquiry into the Monetary System and Monetary Policy in South Africa (De Kock Commission). Despite these attempts, the forward market can still be described as highly administered, relatively underdeveloped, artificial and tightly restricted by exchange control rules and regulations.

The Reserve Bank has therefore maintained its role as "market-maker" even though attempts have been made to make the market less heavily administered. The ultimate objective of the authorities nevertheless remains to bring about "a forward market outside the Reserve Bank in which both residents and non-residents are at liberty to deal forward freely with one another and in which as a result of arbitrage transactions, forward rates for the rand would tend to be the same in South Africa and overseas and to settle close to interest rate parity"¹. It is felt that this would eliminate the two main deficiencies of the forward market, namely the imbalance in the Reserve Bank's forward book and the fact that forward transactions do not play their full part in determining spot and forward exchange rates.

In accordance with the De Kock Commission's¹ recommendations, the monetary authorities have

¹ Republic of South Africa, Commission of Inquiry into the Monetary System and Monetary Policy in South Africa: *The Monetary System and Monetary Policy in South Africa* (Final Report), RP 70/1984, Government Printer, Pretoria, 1985, p. 129

sought to withdraw from the forward market gradually rather than immediately and abruptly. The Commission believed that an immediate withdrawal of the Reserve Bank would be too drastic and disruptive. It was felt that such a withdrawal "would probably bring excessive downward pressure to bear on the Reserve Bank's foreign reserves and/or the exchange rate of the rand, while at the same time probably also causing interest rates to rise sharply. This is because in the absence of both Reserve Bank forward cover and financial limits on banks other than normal supervision requirements, the banks would probably seek to cover their forward sales with spot purchases and thus absorb more of the official reserves."²

Particularly in the period 1983 to 1985, the Reserve Bank had a definite plan of gradually withdrawing from the market. Quotas were allocated to each dealer for the maximum net amount such a dealer could buy from or sell forward to the Bank by means of "swaps". For the first year, i.e. from 5 September 1983 until 31 August 1984, the total amount of this exposure was fixed at US\$10 000 million for all authorised dealers. On 1 September 1984 this amount was reduced by one-third to US\$6 667 million; the intention was that it would be reduced by an additional one-third on 1 September 1985 and that the obligation of the Reserve Bank to supply forward cover to authorised dealers would be withdrawn completely on 31 August 1986.

Circumstances surrounding the foreign debt standstill introduced in September 1985 forced the Reserve Bank to postpone this plan. If at that time the Bank had carried on with the plan, this would probably have caused domestic parties with debt obligations denominated in foreign currencies to repay these loans as soon as possible. If these loans were not affected by the standstill arrangements, they would actually have been repaid. This would have caused even more pressure on the exchange rate of the rand and would have led to an even lower level of the foreign reserves. If these loans were inside the so-called standstill net and had already reached their original maturity dates, they would have been transferred to restricted deposit accounts at the Public Investment Commissioners. Any losses arising from exchange rate movements would then still have been for the account of the Treasury. Also important is that the funding of the repayment of these foreign loans would probably have caused increases in domestic interest rates, at a time when considerable uncertainty and a general lack of confidence existed about the future of the domestic economy.

These circumstances led to an increase in the forward commitments of the Reserve Bank. It is, however, still the intention of the Bank to withdraw from the forward market in an orderly fashion in due course.

This was again made clear by the Bank in a letter to authorised dealers on 8 December 1988. In order to facilitate such a gradual withdrawal, the Bank also indicated in this letter that it would resume paying the gold mines in US dollars for their production of gold sold to the Bank, and that it would allow the gold mines to sell forward, within specified limits, the dollar proceeds of their known future gold production. Despite these stated intentions, however, the Bank was at the same time forced by international and domestic circumstances to actually extend its operations in the forward market in order to protect the foreign exchange reserves. From the beginning of 1989 the Bank started providing forward cover at preferential rates for foreign credit lines that have been obtained for trade purposes. In addition, the Bank also extended the maturities of forward contracts to periods longer than a year in order to encourage longer-term foreign financing.

The Reserve Bank has, therefore, become even more heavily involved in the market than it used to be. Its current commitments on forward book now consist mainly of:

- Swap transactions concluded with authorised dealers for a maximum period of twelve months. In accordance with current arrangements, an authorised dealer who, for example, sells US dollars forward to a client, will first buy the required dollars in the spot market and then sell them spot and buy them forward, preferably again in the market. If the dealer is unable to conclude this second leg of the transaction in the market, he may conclude the swap transaction with the Reserve Bank. This buy-back transaction ensures that the dealer will, at the fixed future date concerned be in a position to obtain the dollars at a predetermined price for delivery to his client in terms of the original forward contract. A large part of the forward transactions of the Bank consists of this type of transaction.
- Outright forward exchange purchase and sale contracts with authorised dealers against documentary proof that the underlying transactions are consumer based. Such deals are concluded for a maximum amount of US\$10 million per deal. This arrangement was introduced in December 1985 and was designed to discourage speculation against the rand at that time. These deals are undertaken under exceptional circumstances only. The amounts involved are relatively small.
- Outright forward cover for public corporations and other institutions with the public sector for periods longer than twelve months on the rand/dollar leg of their foreign loan transactions. Although this facility was terminated in January 1987, a large part of the losses on the forward book of the Reserve Bank still arises from these transactions where cover has been provided for periods ranging from one to fifteen years.

² Republic of South Africa, Commission of Inquiry into the Monetary System and Monetary Policy in South Africa, *op.cit.* p. 130

- Forward cover on debt credited to special restricted deposit accounts with the Public Investment Commissioners in accordance with the standstill arrangements with foreign creditor banks. The total amount of these deposits, which was relatively large during 1986 and 1987, started to decline during 1988. At present the forward cover facilities provided by the Bank in this category are therefore relatively small.
- Forward cover at preferential rates through authorised dealers for credit lines to fund foreign trade. Such cover is only available against documentary evidence of the use of foreign credit lines and on condition that the maturity date of the cover matches the date of the relevant underlying foreign finance. Exporters are also encouraged under these measures to use pre-export foreign finance. Considerable use has been made of this facility and in the fourth quarter of 1989 sales of such cover averaged about R1,7 billion per month.
- Long-term forward cover for project financing and in respect of funds caught in the standstill net that have been converted into longer-term loans in accordance with the arrangements with foreign creditor banks. The forward cover for project financing is offered for the full period of such long-term finance, but must match the maturity date of the underlying transaction. Cover is provided, not only for the rand/dollar leg of transactions, but also in other freely transferable international currencies. As regards forward cover of affected debt that has been converted into longer-term loans, this must coincide with the maturity profile of the loans concerned and is restricted to US dollars only.

Large net oversold forward position

Not only has the Reserve Bank been an active participant in the market, but over the past twenty years it has normally had a large net oversold forward position. In the 1970s this net oversold position was mainly the result of the fact that a large part of the foreign exchange proceeds from exports and certain capital movements flowed directly to the Reserve Bank and did not reach the Bank via authorised dealers. The amounts of foreign exchange offered to the dealers by their clients therefore were almost invariably smaller than the amounts demanded from the dealers for imports and other payments to foreigners. This imbalance in the spot exchange market was inevitably accompanied by a similar imbalance in the forward market. Moreover, a fixed commission of 1 per cent on the spot rate by the Reserve Bank was charged on both the Bank's forward purchases and its forward sales. At any given moment, this arrangement favoured either buyers or sellers and therefore resulted in one-way covering. For instance, if a depreciation of the rand was expected, most importers would wish to take out cover, while there was little incentive for exporters to do so.

In view of these and other shortcomings, major changes in exchange market procedures were made by the authorities. In order to obtain a better balance between spot purchases and sales, and therefore also between forward purchases and sales in the private market, the proceeds from diamond exports and foreign loans raised by public corporations and other institutions in the public sector were channelled direct to authorised dealers. In September 1983 it was also announced that the Reserve Bank would henceforth pay the gold mines in US dollars for newly produced gold delivered to the Bank so that the mines could place these dollars in the domestic market. Changing circumstances, however, then forced the Reserve Bank partly to withdraw these arrangements, and from February 1985 to the beginning of December 1985 the mining industry was paid half in rand and half in dollars for gold sold to the Bank. Continued pressure on the foreign reserves then caused the Bank in December 1985 to withdraw this arrangement completely and to pay the gold mines solely in rand again for any gold purchased. Only from February 1988 was the Reserve Bank able to re-introduce this measure and since then the gold mines have again been paid fully in US dollars for gold sold to the Bank.

Certain changes were also made direct to the forward exchange market arrangements with the objective of bringing about an increased degree of equilibrium between purchases and sales of exchange. The more important of these reforms included a decision that from December 1979 the Reserve Bank would only cover forward the rand/dollar risk attached to the foreign borrowing by public entities. In 1980 the Bank started to quote forward rates in a more market-approximating manner, as discussed in some detail below. Also in 1980, exchange control approval was given to South African exporters to grant credits to foreign importers for periods of up to twelve months, and to banking institutions to provide cover for this period. This brought the maturities of forward import and export cover in line with each other. In addition, the authorities decided to allow the gold mines to sell forward part of the proceeds from the sale of gold expected to be received within the next twelve months. In a further attempt to obtain a better balance on the forward book, the authorities from December 1985 made it mandatory for exporters who do not sell spot, to cover forward their total export proceeds, and to do so within a period of not more than seven days after the date of shipment of the goods concerned.

Notwithstanding these changes, the Reserve Bank's forward book remained imbalanced. After the forced withdrawal of forward limits of authorised dealers, the Bank's net oversold position actually continued to rise substantially to a level of around US\$23 billion in 1989. Various factors probably contributed to this worsening of the Bank's net oversold position. Among these was the structure of South Africa's foreign trade, which

comprises large gold exports of which only a relatively small proportion is as yet still covered forward. Moreover, the forward rates quoted by the Bank, and since 1989 especially the preferential rates and the low discount on long-term cover, encouraged forward covering of import transactions and of outstanding loans during a period in which the rand was generally expected to depreciate. Finally, the standstill arrangements introduced in 1985 also contributed to increased covering of foreign loans.

The imbalance on the forward book is, therefore, closely related to the objective of protecting the level of the gold and other foreign reserves of the country. As was already realised by the De Kock Commission, this objective and the attainment of a better balance on the forward book, may be in conflict in a market that is heavily administered by the authorities. In this regard the Commission's finding was that "in the initial stages of developing a competitive forward market the Reserve Bank in determining the premiums and discounts on foreign exchange, might often have to accord priority to the objective of protecting the reserves rather than attaining a better balance between forward sales and purchases with a view to reducing the Reserve Bank's forward losses. In due course, however, as circumstances permit it should be possible to give greater weight to the objective of an improved balance in the forward exchange market."³

It could be argued, however, that although the Reserve Bank generally has a net oversold forward position, losses on the forward book could have been prevented if this open position was closed domestically or abroad. The Reserve Bank has been unable to do this domestically because of the under-developed private forward market as well as other markets in which it could possibly lay the risks off. Nor could the oversold forward position of the Bank be covered internationally because of the low level of the foreign reserves and the desire to avoid pressures which such transactions would have had on the spot exchange rate of the rand.

Market-approximating forward exchange rates

Related to the fact that the Reserve Bank was not able to close its net oversold position, it was nearly inevitable that losses on the forward book would be made under the system in which forward rates were determined before February 1979. As already indicated, the forward exchange rates quoted by the Reserve Bank for both purchase and sale transactions at that time were set equal to the spot exchange rate plus a fixed commission of one per cent. With a large net oversold

forward book, a depreciation of more than one per cent necessarily resulted in a loss on the Bank's forward exchange transactions. In a world of floating exchange rates such depreciations could, of course, occur quite frequently.

This system was, therefore, replaced by a new system in terms of which forward rates are based on the rand/dollar spot exchange rate plus or minus a percentage adjustment for interest rate differentials between South Africa and the United States. At first these forward rates were quoted for only three maturities, namely for periods from 3 to 121 days, 122 to 243 days and 244 to 365 days. Later, i.e. in November 1980, this system was broadened so as to include a more extensive series of rates for various maturities. In December this new system was amended further by quoting the forward exchange rates in terms of points rather than percentages.

Although the current system of calculating forward rates is a considerable improvement in comparison with the previous system, losses on the forward book can still not be avoided when substantial depreciations of the rand occur or when artificially low domestic interest rates are maintained. This can perhaps best be illustrated by comparing the current system in South Africa with that of a developed forward exchange market.

In a developed forward exchange market that is relatively free from exchange control restrictions, spot exchange rates, forward exchange rates and interest rates are determined more or less simultaneously. In such a market, changes in the forward market are translated quickly into changes in the spot market, and *vice versa*. The forward premium or discount on a country's exchange rate against another country will tend to equal the differential between the relevant interest rates in the two countries concerned. If a divergence from this "interest rate parity" were to occur, profits could be made by moving funds from one currency to another. Any such movement of funds would, of course, again tend to have an effect on the level of interest rates in the two countries; interest rates would tend to decline in the country experiencing the extra demand for its currency, and to rise in its opposite number.

An example may illustrate this. Assume that the interest rate in the United States is 6 per cent, the interest rate in the United Kingdom is 10 per cent and that the three-month forward rate of sterling is at a 5 per cent discount against the sterling/dollar exchange rate. Investing in sterling and covering forward, therefore, gives a total return of 5 per cent, which compares unfavourably with investing in dollars. Thus an investor could borrow covered sterling for 5 per cent and invest in dollars for 6 per cent. This situation, however, is unlikely to last long. Continued sterling borrowing combined with large placements into dollars soon raises sterling interest rates and reduces dollar rates until interest parity is reached. At the same time the move-

³ Republic of South Africa, Commission of Inquiry into the Monetary System and Monetary Policy in South Africa: *Exchange rates in South Africa* (First Interim Report), RP 112/1978, Government Printer, Pretoria, 1979, p. 33.

ment of funds from sterling into dollars also affects the exchange rate between the two currencies.

This more or less simultaneous determination of spot rates, forward rates and interest rate differentials in a well-developed market is derived from the actions of three types of transactors. Firstly, residents of the countries concerned will, as part of their normal commercial operations, hedge their trade and financial transactions against possible fluctuations in spot exchange rates. Secondly, arbitrageurs move funds from one currency to another when the forward discount or premium is out of line with the interest rate differential. Finally, speculators who are willing to take open positions without any underlying trade or financial transactions purely on speculative grounds regarding expected exchange rate movements, operate in these markets.

The functioning of these markets is normally facilitated further by developed Euro-currency markets in the currencies in which these markets operate. In practice forward rates are usually determined, under normal conditions, by differences between the Euro-rates rather than between domestic interest rates in the countries concerned, which may be influenced by actions of the authorities. The Euro-markets are essentially free markets and can be used freely by residents and non-residents. This means that banks can freely cover any forward market commitment.

In the South African foreign exchange market forward transactions are restricted to commercial transactions (underlying trade and financial transactions) only. These transactions are regulated by various exchange control measures. In addition, a Euro-rand market is practically non-existent and under present circumstances it is difficult to envisage the development of such a market in the near future. The forward exchange rates quoted by the Reserve Bank are, therefore, based on spot exchange rates and domestic interest rates that are determined under restrictive conditions and which are not affected by arbitration and speculation. These forward rates, in other words, are only simulated market rates; as such they may be completely inconsistent with expected exchange rate or interest rate movement as they would be determined under more free conditions. Since these expectations are not incorporated in the forward rates, a substantial depreciation of the rand together with a net oversold forward book will inevitably result in losses on forward exchange transactions.

The question may be asked why does the Reserve Bank not take expected exchange rate movements into consideration when it determines forward exchange rates? The answer is, of course, that the Reserve Bank cannot afford to do this on account of the fact that it would thereby signal to the market its expectations regarding prospective spot exchange rate developments. This could cause speculative capital movements which might well place the foreign reserves

under severe pressure if a major change in the value of the rand is indicated. It could also lead to a switching from foreign to domestic sources of finance when the differential between domestic and foreign interest rates is lower than the discount on the forward rate because this would mean that the cost of covered foreign borrowing would be higher than the cost of domestic borrowing.

Classification of forward losses in macro-economic accounts

In the International Monetary Fund's *Balance of Payments Manual* and the United Nations' *A System of National Accounts* no explicit recommendations are made regarding the classification of losses on the forward book of a central bank. Both the latest editions of these two manuals were published before or just after the introduction of the floating exchange rate regime. It seems likely, therefore, that such losses were regarded as too unimportant at the time as to warrant detailed discussion and explicit instructions.

In the International Monetary Fund's *A Manual on Government Finance Statistics*, which appeared in 1986, it is stated that transfers from the government to cover losses realised on the purchase and sale of foreign exchange form part of subsidies if they are made on a *recurrent and regular* basis. However, if they are *non-recurrent or distinctly irregular* they should be classified as capital transfers.

In South Africa the losses on the forward book of the Reserve Bank are for the account of the Treasury. The Treasury does not, however, make regular payments to the Reserve Bank to redeem these losses. Such losses can be carried forward until the Treasury and the Reserve Bank deem it desirable to settle the outstanding balance. In the past, moreover, the Reserve Bank's losses on its forward cover operations were written off in a number of years against profits arising from the revaluation of South Africa's gold reserves at higher prices, i.e. against capital profits.

The Reserve Bank does not always sustain losses; there are times when considerable profits are made. If the losses on the forward book of the Reserve Bank are classified as subsidies, profits on this book ought to be included in indirect taxes. Indirect taxes are defined in the national accounts as compulsory payments to the government which are assessed on producers in respect of the production, sale, purchase or use of goods and services. Profits on the forward exchange book, however, are definitely not compulsory payments to the government. These contracts are entered into voluntarily by residents to hedge them against exchange rate changes. This type of income differs completely from other payments to the government that are classified as indirect taxes, such as excise duties, sales taxes, business licences and real estate taxes.

Moreover, the objective of subsidies is to keep the prices of products lower than warranted by production costs (including a reasonable profit margin). The losses made by the Reserve Bank on its forward exchange transactions are most certainly not aimed at a lowering of the cost of imported or exported goods and services, although it may have this effect in practice. Conversely, where *profits* are made on these transactions, it was not the authorities' intention to tax foreign trade. The objective of the government in its current administration of the forward market is rather to protect the foreign reserves by making foreign financing attractive.

From a practical point of view the classification of losses on the forward book as subsidies would also create serious problems. The national accounts and balance of payments are recorded on an accrual basis and not, like financial accounts, on a cash basis. This means that if the losses are classified as subsidies, they would have to be allocated to the period in which the goods concerned were imported or exported. In addition to the timing adjustments that would have to be made, it would also be more correct to record the profits and losses on the forward book on a gross basis, i.e. profits should be recorded as indirect taxes and losses as subsidies. The gross recording of these profits and losses would allow the correct allocation of these valuation adjustments between exports and imports for balance of payments purposes.

In view of these considerations, profits and losses on the forward book of the Reserve Bank are classified as capital transfers in the macro-economic accounts of South Africa. Accordingly, they do not appear in the product and expenditure account of the country nor in the current income and expenditure accounts of the various economic sectors. They are only recorded in the capital accounts of these sectors. In the balance of payments only a part of the net profit or loss on the Reserve Bank's forward book is included in the capital account as capital flows of the non-bank private sector. Only that part of the net profit or loss related to the actual transfer of funds is included, because only these losses are sustained on transactions between non-residents. All other losses on the forward book are incurred on transactions between residents of South Africa which do not affect the overall foreign reserves of the country.

Macro-economic implications

The losses on the Reserve Bank's forward book have important macro-economic implications. In this section these implications are discussed only in a qualitative way. More empirical investigations are needed to determine the precise quantitative effects of these losses.

Imports

As already indicated, one of the reasons why losses occur on the Reserve Bank's forward exchange transactions is that the forward discount of the rand against, say, the US dollar has been lower than the actual depreciation of the rand vis-à-vis the dollar. Relatively low discounts on forward cover make covered imports for future delivery cheaper than they would have been at the prevailing exchange rates at the time of delivery or payment. This relatively low cost of covered imports could result in an increase in the volume of imported goods at the cost of locally produced goods.

Assume, for example, that the cost of forward cover against the US dollar is 6 per cent per year and that the expected inflation rate in the United States is 4 per cent. This would make the price of US goods in one year's time 10 per cent higher than today. With an expected increase of, say, 13 per cent in the rand prices of identical goods in South Africa, the increase in covered import costs from the United States would be smaller than the price rise in South Africa. If the prices of the South African-made goods are at present fully competitive (but not more than that) with those of their counterparts imported from the USA, the relatively low cost of forward cover should lead to a substitution of imported goods for locally produced goods as from now onwards and, therefore, to an increase in the volume of imports.

The relatively low cost of forward exchange cover could also result in an advancement of or "lead" in the volume of imports that would otherwise have taken place at a later stage. If the covered costs of imports at present are lower than the expected costs in three or six months' time, this could cause an advancement of orders as well as deliveries and a consequent deterioration in the current account of the balance of payments. The relatively low cost of forward cover may therefore create more unstable conditions, which could have been prevented if expected exchange rate and other developments had been reflected in the cost of forward cover or if interest rates had been at a higher level.

Exports

In South Africa exchange control regulations stipulate that all exports sold on credit have to be covered forward within seven days after shipment. This requirement eliminates the profit that exporters could have made if they could have left their export proceeds uncovered and if the rand had then depreciated as expected. This should not, however, have a serious effect on export volumes because exporters will benefit in due course from the depreciation in the spot exchange rate. Compulsory forward cover could, however, promote lags in export deliveries if a large depreciation of the rand is foreseen and could also shorten the period for which exporters are willing to provide credit. It

could accordingly affect the marketing efficiency of exporters and, therefore, also have an adverse indirect effect on the volume of exports. All in all, however, compulsory forward cover of export proceeds probably does not have a significant influence on the volume of exports.

Capital flows

The main justification for the existence of the current system of forward exchange cover is that it encourages an inflow of foreign capital into the country without making an increase in interest rates necessary to achieve the same result. Although the ordinary forward rates of the Reserve Bank for swap transactions with authorised dealers approximately equate the cost of foreign borrowing with that of domestic borrowing and therefore do not directly encourage an inflow of foreign capital, the fact that authorised dealers can cover their positions with the Reserve Bank prevents a substantial outflow of capital. The low preferential rates on trade transactions and the even lower cost of long-term cover, of course, directly promote an inflow of foreign capital. Considerable use was made of these latter facilities during 1989, which helped to support the level of the foreign reserves.

Money market

The losses on the Reserve Bank's forward transactions result in an increase in its assets in the form of claims on the government. An increase in the assets of the Reserve Bank is, *ceteris paribus*, a source of new cash reserves to banking institutions. This source of new cash reserves arises from the fact that on the due date of the forward contract the Reserve Bank provides, say, dollars to the banks at a rand/dollar exchange rate below the current value of the dollar. The banks pay less rand than the current value of the dollars they receive, with the result that the amount of cash reserves withdrawn from the private banking system is smaller than it should have been; the difference between the current rand value of the dollars given up by the Bank and the decline in bankers' deposits is made good by the claim the Bank acquires against the Treasury. Although this presents cash reserves "not destroyed" rather than cash reserves "created", it is a "plus" factor in accounting for the banks' cash reserve holdings and has the same expansionary effect on the money market as if the Reserve Bank had supplied cash reserves through open-market operations or through accommodation to the banks at the discount window.

When these claims are paid by the government, this does not result in a corresponding contraction of the cash reserves of the banks. In this case the decline in the Reserve Bank's assets arising from the payment of the claim is offset by a corresponding decline in the Bank's liabilities to the government sector in the form of a decline in the Exchequer Account balance.

Government finance

The losses on the forward book of the Reserve Bank do not affect the financial position of the government immediately in as much as they are not paid by the government as and when they are incurred. At the end of each financial year these losses are transferred to the so-called Gold and Foreign Exchange Contingency Reserve Account, where they are offset against profits or added to losses made in respect of gold and of liabilities and assets denominated in foreign currencies. The calculated net loss on this account can then be carried forward until the Treasury and the Reserve Bank deem it desirable to settle the outstanding balance or part of the outstanding balance.

Although these losses are not immediately recorded in the accounts of the Treasury, they do represent government debt. In an analysis of the public debt they should be added to the total amount of the debt outstanding and like any other public debt they place a burden on future government taxes and other income. The forward exchange losses do, however, differ from other government debt in two important respects. Firstly, no fixed maturity date is set for the repayment of this debt. Secondly, no interest is charged on the claim that the Reserve Bank has against the government.

Domestic production and expenditure

As already indicated, the relatively low discounts on the Reserve Bank's forward exchange transactions tend to result in a substitution of imported goods for domestically produced goods, with a consequent decline in domestic production. This substitution effect is, however, eroded to the extent that the short-term price advantage that enterprises enjoy is not passed on, or is passed on only partly, to consumers. In other words, imported goods are sold domestically at rand prices incorporating fully, or almost fully, the extent of the rand's depreciation against other currencies, and the rate of increase in consumer prices is held down only to a limited extent by the losses on the Reserve Bank's forward contracts. This practice, therefore, diminishes the substitution effect on domestic production, which would have declined even more if this price advantage was passed on to the consumer. Although this aspect in particular needs further investigation, it does seem likely that the forward losses lead to somewhat lower domestic production and to higher domestic expenditure in real and possibly also in nominal terms. This conclusion is consistent with the expected deterioration that the current system of forward exchange probably causes on the current account of the balance of payments.

Redemption of forward losses already incurred

Three approaches can be followed by the authorities regarding the forward losses already incurred by the

Reserve Bank for the account of the Treasury, namely:

- The government can continue to repay these claims from current income. In view of the large size of the accumulative amount of unredeemed forward losses, such payments to the Reserve Bank will have to be spread out over a period of time; redemption in one single payment would be too disruptive. The raising of additional taxes for redeeming the total amount of outstanding losses would have a very large deflationary effect on the economy. It would also severely disturb the money market and force the Reserve Bank to provide extensive assistance to the market. The present policy of repaying these loans when the Minister of Finance and the Governor of the Reserve Bank deem it necessary, seems to be the best policy that can be pursued under the circumstances, especially since this can be fitted into a broader economic strategy and conditions in the money and capital markets.
- The government can issue new securities against the claims arising from the forward losses. These securities can be provided directly to the Reserve Bank or can be sold in the market. If they are made available directly to the Reserve Bank, this will not have any effect on the money market or on the money supply and these securities could then be used in future open-market operations. If the securities are sold in the market and the proceeds used to repay the Reserve Bank, this would reduce the cash reserves of the banks and could also lead (as a "first-round" effect) to a decline in the money supply if the transactions are not financed by means of overdrafts. If the monetary authorities were to feel that such sales would be too disruptive, they could of course be offset by the Reserve Bank's simultaneous buying of paper in the market. The net result would again be a substantial increase in the security holdings of the Reserve Bank in exchange for the Bank's claims against the Treasury.
- However, such a substitution of debt would mean that the government was exchanging interest-free debt without a maturity date for interest-bearing debt with a fixed maturity date. Such a procedure would, therefore, place an additional burden on the taxpayer, but this would be neutralised to some extent by larger net profits made by the Reserve Bank which are paid over to the government at the end of each financial year.
- The third approach is to do nothing about the exchange losses incurred by the Reserve Bank. This approach is based on the argument that there is no urgent reason why these losses should be repaid; they have already had their effect on the economy and have simply become part of the multitude of functions that have led to the present economic situation. Repayment of these losses would again have repercussions on the prevailing economic conditions and these repercussions may not be what the current situation calls for. It may also be argued, however, that, for the

sake of financial discipline, the government should be required to make good its financial commitments.

Prevention of forward losses in future

Various alternative measures may be applied by the authorities to avoid losses on the Reserve Bank's forward book in the future. However, most of these solutions can be ruled out because of possible adverse effects on the economy.

- One of the worst solutions would be to keep the rand at an artificially high level so as to minimise losses on forward exchange transactions. This would cause exports to become more and more uncompetitive, especially if the rate of inflation remains high, and expose domestic producers to unbearable foreign competition. It would probably also cause a substantial decline in the foreign reserves which would attain more momentum as transactors became more certain that the authorities would not be able to maintain the artificially high level of the rand exchange rate.
- An almost equally bad approach would be for the authorities to adjust forward rates so as to take the expected inflation rate differential between South Africa and, say, the United States into consideration, while interest rates are kept artificially low. Such an approach could lead to the view that the central bank expected the rand to depreciate, which would encourage speculative capital movements and adverse leads and lags in imports and exports. The fixing of forward rates in this manner would also make covered foreign financing more expensive than domestic financing, which would in any case lead to a switching from foreign to domestic sources of finance and to a corresponding decline in the foreign reserves. Even more important, the artificially low level of domestic interest rates would probably lead to a misallocation of productive resources.
- The authorities could decide to develop alternative methods of forward coverage as a substitute for the traditional forward market. The futures and options markets present such a possibility. At present this seems an unlikely alternative for South Africa owing to the fact that the futures and options markets are still relatively undeveloped. Moreover, experience in other countries has been that these markets take a long time to develop, requiring a large volume of transactions maturing on each day before they become effective hedgers of foreign exchange risk. Even if it were possible to develop these markets fairly quickly, they would also have other disadvantages which make them unlikely substitutes for the traditional forward market. They have, for example, tended to be more expensive than forward markets, are usually regarded as more complex, and are less attractive because standard contracts, margins and margin calls are involved. In practice they normally complement the traditional

forward markets rather than being substitutes for them.

- The Reserve Bank could withdraw from the market immediately. This would preclude future losses on forward foreign exchange transactions except where such transactions are still undertaken as part of deliberate intervention by the Reserve Bank in the exchange market. However, such an abrupt withdrawal could present serious problems to authorised exchange dealers who may find it difficult to cover their forward positions, especially because of the thinness of the market and the one-sided view that normally prevails among market participants. These problems would be aggravated by the near-non-existence of a Euro-rand market and by the restrictions applicable to capital flows between South Africa and other countries.

The immediate withdrawal of the Reserve Bank from the market under present circumstances could also have serious macro-economic implications. It would probably lead to a substantial depreciation of the rand and to higher interest rates. Resulting higher inflation rates could, in turn, lead to expectations of a further depreciation of the rand, an outflow of capital, depletion of the gold and other foreign reserves and a further acceleration of the inflation rate.

- The authorities could pursue a policy of increasing interest rates to levels at which the discount of the forward rate against the rand/dollar spot rate reflects the expected rate of depreciation of the rand plus a premium for time preference, risk and other transaction costs. Given that the latter costs are normally roughly equal between countries, interest rates would have to be raised to levels at which the South African-US interest rate differential would be close to the expected inflation rate differentials between South Africa and the United States, or to conform with purchasing power parity. The purchasing power parity condition, however, is generally valid only in the long run. This approach would accordingly not prevent forward exchange losses over the short-term, granting that these losses would be considerably smaller than under a system of less realistic interest rates.

- Probably the only truly satisfactory solution to this problem, as for so many other economic problems experienced in South Africa, is to bring the inflation rate down to levels at least as low as those in trading partner countries. The authorities, however, may find it difficult to achieve this immediately. In the meantime, probably the best approach would be to maintain a combination of realistic interest rates and exchange rates. This should at least minimise losses on the forward book while a more lasting solution is found. From an economic policy point of view this would probably also be the most expedient approach to follow.

At the same time the authorities should carry on with the development of a sophisticated private forward foreign exchange market and with the gradual with-

drawal of the Reserve Bank from the market, i.e. giving effect to the recommendation of the De Kock Commission. This approach should provide the flexibility the authorities need under the extraordinary circumstances in which they have to operate. It is also of the utmost importance that a clear plan shall exist for phasing the Reserve Bank out of the market and that the Bank's exposure in "making the market" be limited as far as possible.

Conclusion

The sustained upward trend in losses on the forward book of the Reserve Bank during the past twenty years is mainly due to the fact that the central bank has remained heavily involved in the market. As a "market-maker" the Bank normally has a net oversold forward position and this cover is provided to the market at "market-approximating" rates. Although these forward rates are basically set at levels reflecting differentials between domestic and foreign interest rates, they do not take expected changes in spot exchange rates into account. The sharp depreciation that occurred in the exchange value of the rand during most of the 1980s has usually exceeded the discount of the forward rates against spot rates, resulting in considerable losses on the forward book.

The authorities continued to make these large capital transfers to residents in order to protect the gold and other foreign reserves of the country, and therefore also the exchange rate of the rand. The best way in which the authorities could prevent further losses on the forward book would be a gradual withdrawal of the Reserve Bank from the forward market. This should be carried out in accordance with a definite plan, preferably as soon as the level of the foreign reserves allows. In the meantime, the authorities should continue to redeem losses already incurred from current income in accordance with broad policy objectives and should maintain realistic interest and exchange rates. As with so many other problems in South Africa, a rate of inflation at least as low as those of trading partner countries would reduce the problem of forward losses considerably.

The losses on the Reserve Bank's forward book have had important macro-economic implications. Although these need to be investigated further, they have probably included a higher volume of imports, lower domestic production, increased domestic expenditure and unstable conditions on the balance of payments. At the same time the Bank's forward losses have had an expansionary effect on the money market not essentially different from those of the Bank's open-market operations or its accommodation of the banks at the discount window. The rationale for carrying on with the Bank's heavy involvement in the forward market is that the Bank's withdrawal from the market could lead to substantial capital outflows.