Monetary policy implementation and signalling: a discussion document

The following reproduces for the record, a discussion document in which the Reserve Bank outlined possible changes to the way in which monetary policy is implemented. The document was released in March 1997, as a basis for consultation with the financial markets. On 5 June 1997, it was announced that after reviewing the submissions, and in the light of consultations, the Bank had decided not to proceed with the proposals. The September 1997 Bulletin will include a summary of the main issues that arose in the consultations and explain the bases for the conclusion reached.

Executive summary

In December 1996, the Reserve Bank indicated that it was reviewing some aspects of the way it implements monetary policy and signals the desired stance. This review, and the issues it encompasses, are essentially technical in nature: for example, neither the inflation target itself, nor the weights accorded to the various indicators we use in assessing the required policy stance, have been on the table. The review has been about how we put the desired stance into effect simply, effectively, and efficiently.

It has been a decade or more since much of the system was put in place. In that time much else has changed. It is wise periodically to review our operations to ensure that the systems are the best possible in light of current policy priorities, overseas best practice, and the changing operational environment. In that regard, real-time gross settlement of interbank transactions is expected to begin shortly. This significant advance in the New Zealand payments and settlement system makes it particularly timely to review some of the operational aspects of policy implementation.

The current operating system has a number of unique features, notably Reserve Bank bills and the float tender. Aggregates such as the level of settlement cash balances play a considerably reduced role in monetary policy thinking these days. Much greater emphasis is now placed on interest and exchange rates. As a result, there is much less need for processes which attempt to control relatively precisely the quantities of settlement balances. It is now possible to look at alternative structures which would make end-of-the-day liquidity for the banking system available rather less expensively and with reduced administrative complexity.

The formal levers of monetary policy have been adjusted only infrequently in recent years. For the most part, inflation projections and statements have been sufficient to achieve the conditions we have sought. However, monetary policy cannot operate exclusively by statement. We believe that changing the underlying monetary policy lever may be beneficial. Specifically, there may be advantages to shifting from a daily target for settlement cash balances to the approach now more widely used abroad, in which the overnight interbank interest rate (the cash rate) is the key operating lever. Such a change would affect only the levers we use to implement policy. The relative importance of the various indicators the Bank looks at in deciding how much the levers should be adjusted would not change; for example, the weight given to interest rate movements when we assess the inflation outlook would not increase.

Adopting a cash rate system would maximise the scope for, and the benefits of, the sorts of operational reforms mentioned above: the more the levers are price-based, the less the need to manage the demand for the quantities. It would also improve the Bank’s capacity to adjust monetary conditions reliably, and maintain them within the desired ranges. Improving the operating lever would complement the change in the style of policy signalling introduced late last year, following an earlier stage of this review. As a result of that change, the Bank began to state explicitly, if in summary terms, the conditions it was seeking. A detailed alternative to the current system is developed in the document. However, changing the operating system would make sense only if the apparent advantages outweighed any risks.

The purpose of this document is to invite input to our review from informed and interested parties. We would welcome comment on these proposals; both on the details of the proposed changes and on the larger issue of the merits of a cash rate system. In publishing these proposals, the Bank’s own sense is that the balance of the arguments at this stage lies in the direction of change. However, final decisions about the nature and extent of any changes will not be made until we have absorbed and assessed any comments offered. Comments should be received by 4 April.

I Introduction

The document reviews the scope for improving the efficiency of our regular policy implementation and liquidity management operations in the light of the changes over
the years in way the Bank thinks about how monetary policy works. The paper also outlines a rather different possible approach to policy implementation, centred on targeting the overnight cash rate, and reviews it against the Bank’s current approach to achieving and maintaining desired monetary conditions.

The current system of operating and implementing monetary policy was largely put in place in the mid-1980s. The system has evolved with the benefit of experience. The evolution has been most obvious in respect of the techniques used to signal the Reserve Bank’s policy intentions and concerns. By contrast, in the last decade or so there has been little change in the formal architecture of the implementation and liquidity management systems.

This document reflects the preliminary conclusions of the Reserve Bank’s review of the implementation structure. The review was not prompted by any sense that the current arrangements are unworkable: our experience in effectively achieving and maintaining a low inflation rate would clearly contradict that. Rather we have taken the opportunity to review the system against a number of goals, including the need:

• to reduce to a minimum any inefficiencies and unnecessary “taxes” or administrative costs that our operating systems impose on market participants or on the Reserve Bank itself;
• to ensure that the operating and signalling system is as comprehensible and easily understood as possible, both in New Zealand and among the wider international investment community;
• to ensure that we have the most effective possible methods for “signalling” the levels of monetary conditions we are (or are not) comfortable with;
• to ensure that we have the most reliable degree of leverage possible over monetary conditions on those occasions when actions are needed;
• to ensure that our monetary policy operating systems remain consistent with our commitment to an efficient and sound interbank settlement system. The forthcoming introduction of real-time gross settlement (RTGS) has provided an additional spur to review the operating structure.

Efficiency, effectiveness, and simplicity can be thought of as the relevant watchwords.

II Background

One of the key features distinguishing the New Zealand system from those used in most other OECD countries is that there is no officially set or targeted interest rate at the heart of the operational structure. Our discount rates are re-set daily, at a fixed margin above market rates, and hence follow the market rather than lead it. This relatively unique system gives the markets the first chance to set interest rates in response to the Reserve Bank’s statements about desired monetary conditions and/or the inflation outlook. Only if the market fails to produce or maintain conditions in the range we seek do we make additional statements or adjust the formal policy levers. As a result, the daily operating target itself is changed only rarely, and certainly much less frequently than the desired stance of monetary policy changes. That daily target is a quantity - the aggregate level of settlement cash - rather than one or more of the wholesale financial market prices that are the most direct, powerful, and reliable channels through which monetary policy works.

The system has proved broadly effective. Inflation fell sharply in the late 1980s and early 1990s and has been kept within a relatively tight range subsequently.

The operating system is, however, now as much a product of history, rather than of explicit design. When the current control system was first put in place in the mid-1980s, the Bank hoped that a stable relationship would emerge between the targeted quantities - primary liquidity and settlement cash - and variables such as M3 and/or nominal GDP. In that vision, wholesale financial market prices played a relatively minor role, either as indicators or as transmission channels for monetary policy. The operating structures were designed explicitly to reinforce this quantitative approach.

With time it became apparent that, over any meaningful period the demand for the quantities we were targeting was heavily influenced by the degree of co-operation or mutual antagonism that prevailed among a handful of banks. There was no sign of a close or stable relationship developing between those quantities and the aggregate measures of spending and consumer prices in which monetary policy makers were interested.

At the same time, it became increasingly obvious that the wholesale financial prices themselves were the principal channels through which monetary policy impulses affected economic activity and inflation. As a result, the particular levels of the quantity measures have come to be seen as having little, if any, intrinsic significance - little relationship, that is, to the variables that ultimately interest us, except insofar as they deliver, in one way or another, the required interest and exchange rates. The operating

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structure has come to be seen mainly as a way of allowing interest and exchange rates to adjust to shocks to the fundamentals, without the Bank directly setting any of those prices; while leaving sufficient leverage to enable us to take effective action, when needed, to push conditions in the right direction.

A corollary of this change in emphasis was that new methods had to evolve for indicating to the markets what the Bank would (and would not) be comfortable with. Any central bank's ability to send effective monetary policy signals is ultimately linked inextricably to its systems for managing the liquidity of the banking system - to the concrete balance sheet adjustments it takes and is able to take. However, in New Zealand the act of signalling increasingly tended to occur independently of the liquidity management and other operational activities. Signalling increasingly took the form of statements and other published Bank documents, including the published quarterly economic and inflation projections. In recent years, the Bank has only rarely adjusted the formal levers that alter the supply and/or cost of system liquidity.

Our published inflation projections, in the context of a transparent inflation target range, have been a powerful and relatively unique technique for signalling broad directions of change in desired monetary conditions. However, until recently the Bank did not have among its accepted range of techniques an effective way of signalling the magnitude of any adjustments in conditions that we were seeking, something quite unknown in most overseas systems where there is typically a closer connection between levers and signals. And as statements do not always have the desired impact - especially when the Bank's view of prospects differs markedly from that of the markets - it also matters that there has been only a relatively loose and sometimes unreliable linkage between the formal instruments and even the shortest-term interest rates. As a result of all these factors, much of our signalling (outside the quarterly publication cycle) was essentially reactive - responding to developments in monetary conditions that we did not like - with an implicit threat of eventually making some rather blunt adjustments to our instruments. At times, the impact of our signals was rather different from expectations. From time to time, the Bank had to react in opposite directions within short periods to keep conditions around appropriate levels, something which did little to enhance the standing of the system among public and market audiences.

When the December 1996 Monetary Policy Statement was released, the Bank published for the first time, in summary terms, the level of overall monetary conditions it was seeking. We also published a loose approximation of the rate at which, in the absence of identifiable shocks, the two principal components of monetary conditions (the TWI and 90 day bank bill interest rates) appear to trade off against each other, as they affect the real economy.

We envisage continuing this approach for the time being. It improves the effectiveness of our policy implementation and signalling about changes in the desired stance of policy. It also represents a significant further step back towards the mainstream approach in which monetary policy indicates what the central bank wants - rather than what it doesn’t want. However, monetary policy cannot live by statement alone. The statements are not themselves levers and do not guarantee that conditions will always remain in the desired ranges or adjust, following signals, as we might wish. There still appears to be some scope for improving the way we adjust conditions and keep them within the ranges consistent with the price stability goal.

III Possible refinements to the operating system

The current operating system is relatively efficient by the standards of those used in many other countries - where, for example, compulsory reserve ratios are still common. However, the system is quite cumbersome, and still appears to impose a greater cost (the "monetary policy tax") than is needed to provide the required degree of leverage. Changes could also facilitate the more effective and efficient conduct of liquidity management under the real-time gross settlement (RTGS) of interbank payment flows, expected to begin around the middle of 1997.

Much of the current structure of the Reserve Bank's regular operations with financial markets has been put in place to reinforce and reflect the quantity-oriented vision of the mid-1980s.

Under this sort of model, achieving effective and stable monetary control rested quite heavily on ensuring that the Reserve Bank could accurately control the volume of settlement balances before borrowing and the amount of additional funds banks could obtain from us, and that we could keep the price of those funds very high to discourage use of the facility. Because banks' needs for the high-priced additional funds were seasonal - linked to peak tax periods - mechanisms had to be found to avoid introducing unwanted seasonality to monetary conditions. Moreover, it was important not to remunerate banks too highly on balances in their settlement accounts, lest the demand for these funds rise sharply, breaking the link envisaged between the quantity of these balances and aggregate economic spending and activity.

As the quantities are now seen as being rather loosely linked to monetary conditions, these imperatives no longer
exist to the same extent. To the extent that we can generate and maintain the interest and exchange rates that are consistent with price stability using levers other than the quantity-based ones, we do not need to manage the demand for settlement balances closely and directly. Specifically, it would not be so necessary to keep access to additional central bank funds - over and above those provided in the daily open market operations - available only at a very high margin above market rates. Nor would there be the same need to impose a substantial penalty on banks' holdings of funds in their accounts at the Reserve Bank. As a result, some of our existing operations may no longer be necessary.

**Reserve Bank bills**

Reserve Bank bills were introduced in 1988. They were introduced because the Bank preferred to provide residual liquidity by outright purchase rather than by repurchase agreements (repos), and because we needed to be able to control the volume of additional liquidity that could be obtained. As the Reserve Bank bill is the only instrument banks can use to obtain extra settlement cash, access was entirely under the Bank's control. By providing a steady flow of maturities, Reserve Bank bills ensured that the cost banks faced for additional cash increased sharply and predictably as the amount of funds they obtained rose.

Provided that we can adjust the absolute cost of obtaining additional cash, there is now considerably less monetary policy need to restrict the quantity, or flow of maturity dates, of securities against which we are willing to provide cash.

There is no secondary market liquidity in Reserve Bank bills, and non-settlement banks have held them only rarely. If Reserve Bank bills were discontinued, the funds the Crown effectively raises now by sales of Reserve Bank bills (the proceeds are simply on-lent to the Crown) would in future be raised through other forms of Crown borrowing in which there is wider investing interest.

Is there then any other rationale for retaining Reserve Bank bills? Some have suggested that an autonomous Reserve Bank should have its own securities on issue. The ability to control its own balance sheet is ultimately the basis of effective monetary control: the present system of liquidity management, for example, relies on the Bank having the authority to issue seasonal Treasury bills on behalf of the Crown in the regular open market operations. However, the case for the Bank retaining its own tradable instruments for monetary policy purposes cannot be made convincingly. The deepest and most liquid New Zealand financial market is that in foreign exchange swaps. Utilising this market alone would allow the Bank sufficient leverage over the liquidity of the domestic banking system without having securities of its own on issue. Among OECD central banks, New Zealand has been unique in having its own marketable securities, illustrating that the justification for the Reserve Bank bill is linked to the unique operating system, not to, for example, the needs of operational autonomy.

Accordingly, we see scope to discontinue the sale of Reserve Bank bills. In place of discounting, we would propose introducing an overnight repo facility. Acceptable securities for these repos would be the same as for the Bank's daily open market operations, and the Bank would be willing to transact with any party with which it had signed a domestic master repo agreement. Banks would no longer have to pay a premium price to hold a class of assets which could be used only in dealings with the Reserve Bank.

Holders of Reserve Bank bills buy them at yields which price in the value those assets have because they are part of a limited stock of the sole discountable instrument. The prospectus commits the Bank to stand ready to discount bills with 28 or fewer days remaining to maturity. If a final decision is made to proceed along these lines, Reserve Bank bill tenders would be discontinued. For the remaining 63 days Reserve Bank bills remained on issue, they would continue to be discountable on current terms - that is, 90 points above assessed market rates for bills with 28 or fewer days remaining to maturity. However, as this discount cost would probably be considerably more penal than the new overnight repo rate, outright discounting would probably cease almost immediately.

The Treasury's Debt Management Office will be considering the implications for domestic debt issuance before any final decision is made about the future of Reserve Bank bills.

**Float tender**

The float tender was introduced in 1988. This operation eliminates the substantial forecast errors that would otherwise be associated with government revenue flows. This is important in a quantity-based system, in which interest rates can fluctuate in response to changes in the demand for liquidity, to prevent predictable seasonal and intra-month patterns (linked to peak tax flow periods) in the demand for the additional funds available by discounting. Because discounting is very expensive once the volume becomes large, such patterns would have generated unnecessary variability in monetary conditions.

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2 The Bank may choose to keep the prospectus current to allow Reserve Bank bills to be reintroduced at short notice should the need arise.

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Administratively, the float tender is inconvenient. It occupies a time of the morning when banks are occupied with other procedures associated with the end of the banking day. These pressures will become more intense once the end-of-day deadlines become tighter and binding under RTGS. If we were able substantially to reduce the cost of obtaining additional funds, and replace Reserve Bank bills by the overnight repo facility, there would be no need to retain the float tender. We would then propose discontinuing it.

**Interest on settlement balances**

The proposed changes outlined in this paper would, if implemented, also allow us to abolish the rule that interest is not paid on individual settlement account balances in excess of $20 million. This somewhat unusual restriction was designed to discourage banks from attempting to force others into highly penal discounting by refusing to lend to them in the interbank market. If additional cash were available at a near-market cost and were no longer constrained by the volume of Reserve Bank bills a bank holds, there would be no need for the restriction to be kept in place.

**Summary**

In principle, changes along the lines of those outlined above could be made without also changing the way the Bank signals its policy intentions or significantly changing the way we adjust monetary conditions.

In effect, the cash rate would fluctuate in a floating range - adjusted up and down as market rates moved from day to day - as at present, but without the panoply of operations that encumber the current system. However, the number of the formal levers available to the Bank would be reduced and it would be important not to undermine the effectiveness of those that remained - primarily the target for the quantity of settlement cash. In practice, for example, the effective interest rate range might have to be relatively wide, to avoid the risk of severely undermining the potential effectiveness of changes in the cash target. That in turn could increase the volatility of very short-term interest rates a little and re-open the possibility of seasonal fluctuations. A formal architecture still bearing the “quantity system” stamp has different implications for the operating system than if the cash rate itself is the centrepiece of policy implementation.

**IV A cash rate targeting scheme?**

Over the last 10-15 years, however, the international trend in monetary policy implementation has increasingly been towards the use of an announced level or range for some short-term interest rate - in many cases the overnight interbank cash rate - as the key reference point and/or operating lever. This sort of regime - with countless variations between countries as to the details - is found in most other OECD and similar countries, from the relatively closed economies such as the US, to the smaller open economies such as those of Scandinavia, Canada, Hong Kong, and Ireland.

Central banks can control either an interest rate or a quantity of some monetary liability, but they cannot control both simultaneously. This distinction, however, can be drawn somewhat too sharply. The two - quantities and prices - interact in most control systems. Under our current system, for example, the daily operational focus is on controlling the quantity of settlement cash. However, the rare adjustments that are made to the quantity targets are clearly made, in the light of our view of the inflation outlook, to deliver some desired combination of overall monetary conditions - in which wholesale prices (interest and exchange rates) are the key components.

A cash rate operating lever has no particular implications for the indicators the Bank looks at and reacts to in assessing the stance of policy. Neither does it ease the hard decisions about monetary policy nor the challenges facing policymakers in assessing just what stance is required and what weight to put on each indicator in the prevailing circumstances. However, by focusing directly on a financial price, a cash rate system allows for a less cumbersome operational structure to manage system liquidity. It should also increase the reliability of the leverage central banks need to shift conditions to, and then keep them within, whatever broad range is desired. This gain can be thought of as simply eliminating one form of uncertainty. At present, for example, the main formal lever is the settlement cash target. Changing that target works (changes overall monetary conditions), in principle, first by changing the cash rate and only then affecting the rest of the yield curve and, in turn, affecting the exchange rate. However, our experience on almost all the occasions when the levers have been used indicates that we cannot know with any great degree of confidence how much a change in the cash target, or one of the other instruments, will change the cash rate. A cash rate system would largely eliminate that source of uncertainty.

The current system allows major changes in interest rates to occur without any adjustments to the Reserve Bank’s formal levers. Some have argued that, because central banks are likely to be averse to the publicity stemming from policy tightenings, appropriate adjustments in conditions will probably occur more quickly in a system such as ours than in systems using an official interest rate lever. However, the distinction on this score between our current system and those more commonly found abroad is not great. In 1994, for example, conditions tightened in all of the main comparable economies more or less in

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step - and, if anything, the adjustments in New Zealand followed those in the United States which had to be initiated by the Federal Reserve. As the Reserve Bank has become increasingly more transparent about the conditions it is seeking, the distance that may once have existed in the public mind between the Bank and monetary conditions has all but disappeared. At very least, every quarter we must either endorse or counteract market-led changes. Central banks in a variety of other countries, including the United States and Australia, have changed their procedures in the last decade or so, to be quite transparent about their interest rate operating objectives, and appear to have judged that this would not compromise their willingness to make timely and appropriate monetary policy adjustments.

The discussion in the previous paragraph assumed implicitly that the central bank and markets will have a common view on the inflation outlook, and on what conditions are required to achieve the target. The Bank and the markets do often have a similar views. In those cases our current system is at its best, and requires very few actions or signals. But this unanimity is certainly not assured - something seen frequently in New Zealand in 1995, for example. As ever, the more difficult challenges arise when views diverge. Our system lets the market have the first attempt at getting things right: but the Reserve Bank itself retains the ultimate responsibility for getting and keeping them right - we, not markets, are accountable for monetary policy and inflation outcomes. When views differ, systems such as ours require the Bank to react quite frequently to what it does not like. In these circumstances, the Bank can run the risk at times of appearing reactive and/or ineffectual.

Of course, whether views differ or are essentially similar it is valuable for the Reserve Bank to be able to obtain as much information as possible from financial market prices. This provides an independent check against which to assess our own thinking and decisions. It also allows us better to anticipate market reactions to our decisions. A cash rate system appears to be consistent with these goals. The cash rate itself would be set more or less directly. However, the rest of the yield curve provides considerable information about what markets expect will be required in future based on their own view of the inflation outlook, and - at the shorter end of the curve - about what it is expected that the authorities themselves will do, based on the official view of emerging inflation pressures.

In past discussions on these issues it has at times been suggested that using an interest rate as the operating lever might increase the short-term variability of the exchange rate. If exchange rate volatility were to increase to any significant extent as a result of changing the operating regime that would be a matter of some concern. However, our past experience with financial price volatility, as well as the international experience and empirical literature, suggest that it is unlikely that adopting a cash rate operating lever, reviewed frequently, would induce any significant change in exchange rate volatility. That may reflect in part a greater degree of clarity of intent. As it happens, in New Zealand both short-term interest rates and the exchange rate are relatively stable by international standards, even though the formal quantity orientation of our day-to-day operations might have led some to expect that volatility in New Zealand would be rather greater than in other comparable countries.

The various advantages of adopting a cash rate type of scheme are each essentially incremental in nature, and individually none is overwhelming. Nevertheless, at this stage we believe, on balance, that the cumulative benefits would outweigh those of staying with the current system, and sufficiently so to warrant the modest transitional risks and costs inherent in changing. The detailed proposal set out below provides the basis for the assessment of a realistic alternative scheme. The details of the scheme are along the lines of ones operated in a number of countries, including Canada.

Broad outline

The main features of the proposed new system would be as follows:

- The centrepiece would be a cash rate target range, probably 20-50 basis points wide, bounded on the bottom by the settlement cash rate, and on the top by a rate for on-demand overnight repos.

- The range would be reviewed each week by the Bank in the light of emerging indicators on the economic and inflation outlook and of changes in the many and various monetary and financial indicators.

- Adjustments would normally be announced on Wednesday mornings with the release of the details of that day’s open market operation. The announcements of any change to the range would be accompanied by a brief explanatory statement.

- The indicators the Bank reacts to in formulating and implementing monetary policy would not change, and nor would the policy of announcing in broad terms the desired conditions we are seeking.

- Daily open market operations would continue but, depending on the width of the range, the degree of activism in liquidity management and forecasting might be reduced. For internal purposes open market operations themselves would be aimed at a constant level of
settlement cash each day, this level itself having no policy significance.

The cash rate would complement the approach adopted in December 1996 in which we announce in broad terms the level of monetary conditions we are seeking, and give a broad idea of our view of the likely trade-off between the two principal components. The cash rate range (and associated operations) would be the instrument to keep monetary conditions broadly consistent with the stated desired conditions. The desired conditions themselves are determined primarily in the context of the quarterly published economic and inflation projections.

Range or target rate

Some countries operating cash rate systems choose to specify the operating target as a single cash rate, which is achieved on average by adjusting the central bank’s daily operations as required. The United States’ system, through a Federal funds rate target, is the best-known example of such a system. Other countries have adopted a system which keeps the cash rate in an announced range, by using on-demand facilities, without the need for additional discretionary operations. Our preference is for the latter type of system.

The workings of a formally banded scheme would be more transparent to market participants, and would also involve least change from the current structure. By contrast, a structure involving more discretion in day-to-day Reserve Bank dealings with the market would be relatively opaque at an operational level and would limit the efficiency gains and operational risk reductions that can be achieved with the sorts of changes proposed in this paper.

Term of on-demand repos

Under this proposal the Bank would provide additional liquidity, outside the open market operations, through an on-demand repo facility, on an overnight basis only. As far as the banking system as a whole is concerned, that parallels the way the current discounting arrangements work - funds provided today are withdrawn in the open market operation tomorrow. Restricting the on-demand repos to an overnight term would keep the Bank’s direct control over interest rates to the absolute minimum necessary to give us firm leverage over monetary conditions. That would maximise the amount of information available in the rest of the yield curve about what the market expects the Bank to do. In the Bank’s daily open market operations we enter into somewhat longer-term repos, but those operations are done at competitively-determined market yields.

Sustained changes in the demand for settlement balances would normally be accommodated through open market operations, and we would not normally expect to see significant volumes of overnight repos effectively rolled over from day to day.

Band width

A number of factors would affect the choice of how wide a cash rate band should be. Both overseas experience and intuition suggest that the wider the band, the less its relevance. To maintain the relevance of a wider band, a greater number of discretionary operations would be likely to be conducted to manage fluctuations within the range. On the other hand, a very narrow band would probably trigger a large number of on-demand repos at the top of the range. As a result, it might also lead to a greater risk of inducing unwanted fluctuations in the Reserve Bank’s balance sheet by making the Bank the first port of call for participants in the overnight funds market. (Although it appears that in most overseas systems the use of a cash rate system does not introduce significant new variability to central bank balance sheets.)

Finally, the wider the band the less direct the Bank’s control of its instrument, the cash rate. Because of the inevitable short-term variability and the uncertainty about precisely what conditions are required, the Bank has never attempted to keep overall monetary conditions in anything other than a relatively broad range. Moreover, there is always a rather fuzzy link between the cash rate (our instrument) and conditions, even though there is normally a very close link between the cash and 90 day rates. However, as one of the advantages of a cash rate scheme would be an increase in effective leverage, there would be little apparent benefit to undermining that advantage by reintroducing an added form of uncertainty about what the cash rate itself would be. That additional element of imprecision to monetary policy would not add any information that would help guide policymakers about the appropriate level of interest rates. It is important to the Bank that we should not mask the value of signals from market rates themselves. However, the information in the short-end of the yield curve about what markets expect we would do to the cash rate range in the future is in implied future rates, not in the current cash rate itself.

On balance, our preference at this stage is for a relatively narrow band for the cash rate, perhaps around 20-50 points. With a very narrow range, it may be sensible to express the target as a rate, with a spread around that mid-rate.
Frequency of review

Under the current operating and signalling system, the main policy comments initiated by the Bank are normally associated with our scheduled quarterly projection and publication cycle. In the intervening periods, comments occur on an unscheduled and generally reactive basis. These comments typically occur when conditions move outside the ranges we would be comfortable with. On rare occasions, comments may also be forthcoming when the inflation outlook has changed sufficiently that a change in stance is warranted without the benefit of a full update of the projections. Comments can be made at any time. This structure provides considerable flexibility, but it has at times tended to push the Bank towards reacting to very short-term movements in market prices that cross some arbitrary hair-trigger and may, in fact, be transitory. Fundamentally, only sustained movements in monetary conditions are likely to matter for future inflation outcomes.

In most other countries, the signalling and implementation system is somewhat more structured. Signals and adjustments typically flow directly from the regular meetings of the main policy-making bodies. We see merits in a change along these lines. The weekly review process might go some little way further towards discouraging market participants from seeing the assessment of monetary conditions in too mechanistic a light. Such an arrangement would provide a natural focus for market expectations about the Bank’s actions - and hence increase our opportunity to read those expectations directly from the yield curve and so better to anticipate the likely exchange rate response to our decisions. Finally, it might also help increasingly to focus our own decision-making on sustained movements in conditions.

Accordingly, we are proposing that adjustments to the cash rate range and any other policy comments outside the scheduled quarterly cycle would be announced with the release of the details of the Bank’s open market operation on the morning after the weekly Monetary Policy Committee meeting (that is, normally at around 9:30 am on Wednesday morning). The Bank would, of course, reserve the right to act or comment at other times, but would envisage doing so only in clearly exceptional circumstances. Changes to the cash rate range would be accompanied by a brief statement.

Nature of adjustments

In a relatively closed economy, a cash rate system can provide a ready one-to-one mapping between the signalling and liquidity management systems - interest rates may be the only high frequency monetary indicator that matters greatly. In a more open economy - as most are these days - matters are a little more complicated because of the role of the exchange rate. Thus, discussion of monetary policy implementation must distinguish between the operating lever and the indicators in response to which it is set. In this context, the cash rate range would be the lever. Shifting to a cash rate target system would not in any way alter the weight the Bank attaches to interest rates, or any other indicator, in assessing the likely disinflationary impact of any particular set of conditions.

Changes in the official cash rate range would be made both in response to:

- changing economic indicators suggesting that the underlying outlook for inflation had changed and hence that the required overall level of conditions had changed, and
- changes in the exchange rate, longer-term interest rates, or other monetary indicators suggesting that short-term interest rates needed to be changed to leave overall conditions broadly in line with the policy stance that the lower frequency economic indicators suggest is necessary.

The distinction between the two types of indicators is useful, but of course should not be overdrawn. Other things being equal, a change in the estimated output gap revealed by a GDP release and a change in the exchange rate both alter the projected inflation outlook and may require an offsetting movement in short-term interest rates.

On many occasions, the changes to the cash rate range would essentially validate or confirm market-led movements in short-term interest rates in anticipation of Reserve Bank actions. Moves in interest rates further along the yield curve often occur very obviously in anticipation of central bank actions: for example, in some recent easings in Australia, 90 day bank bills had moved to the full extent of the cut in the official cash rate before the cut was announced. In other cases, we would be initiating the move, if conditions were too far from those the Bank desired, whether because actual conditions had changed or because what we were seeking had changed. On other occasions still, markets would incorrectly anticipate a change in the cash rate range. Finding that the change does not occur, markets will eventually correct themselves - as has happened recently in Australia - helped by the anchor that the cash rate range provides.

Although the cash rate range would be reviewed as a matter of course each week, changes would be far less frequent than that. Our view of the outlook for inflation certainly does not change that frequently and nor (usually) does the mix of monetary conditions. Some of the components of monetary conditions fluctuate from hour to hour and week to week. However, for the most part
these fluctuations, even if sustained, do not take overall conditions beyond what is consistent with keeping inflation within the middle part of the inflation target range.

Consistent with this, we envisage changing the cash rate range only in multiples of 25 basis points. That does not mean that the range around our desired conditions point would only be 25 points, but simply that when changes were made they would be of at least 25 points. That in itself should be seen as a token of our intention to resist any incipient tendencies to excessive activism or overly-precise fine-tuning. Reviewing the experience of the last couple of years, we envisage that the cash rate range would have been changed on average perhaps once every six to eight weeks. Changes would have been rather less frequent over periods such as the first half of 1995 when the desired stance and the mix of conditions changed little, and rather more frequent in late 1996 when both mix and stance changed quite considerably.

Changes in response to movements in the mix of conditions would not be made mechanically. The Bank has been at pains to emphasise that monetary conditions cannot simply be reduced to the spot value of a constant-weight two indicator index. As always, a wide range of monetary indicators will be taken into account in setting the cash rate range, including the likely reaction of markets to the move itself, recent trends and the expected durability of recent moves. Judgement is inevitably increasingly involved the further that the mix of conditions has moved from those assumed in preparing the most recent set of economic and inflation projections and the more that monetary indicators other than 90 day bill rates and the TWI have changed.

**Operational implications**

Daily liquidity forecasting and open market operations would continue under the proposed cash rate system. At some stage the Bank may look at a more far-reaching reform, increasing the level of settlement cash sufficiently to allow the distinction between inter-day and intra-day liquidity that will exist under our RTGS operating structure to be eliminated. Under this sort of system, the normal inter-day fluctuations in settlement cash balances would be fairly small relative to the average level of those balances - completely inverting the current situation - and there would be little need for active Reserve Bank daily liquidity management operations (although seasonal smoothing would still be required). This is not a live option at present, however, and will not be considered more closely until RTGS is working smoothly.

In the meantime, there is a trade-off between the width of the cash rate band and the intensity of our day-to-day liquidity forecasting and the frequency of our operations. To illustrate: if the band were wide we would have to manage day-to-day variability in liquidity more tightly to avoid introducing additional short-term interest rate variability. By contrast, a relatively narrow cash rate band would enable us to reduce the effort we devote to liquidity forecasting and perhaps conduct operations only if the forecast change in settlement cash exceeded, say, $50 million (compared with $10 million at present). Under this scenario, the costs of being left holding excess balances or of having to obtain extra Reserve Bank cash to offset forecast errors would be trivial in comparison with those under the current system.

Under the proposed system, the volume of settlement cash held by banks at the end of each day will be under the control of the banks themselves. We would welcome feedback on the likely level of demand. Because we prefer to avoid discretion in the Bank’s operations, this proposal envisages that the daily open market operations would normally be targeted at a pre-determined level of settlement cash. That level would have no policy significance, might be altered quite often as required, and would not necessarily be announced. It would function simply as an internal reference point for our own operations. Administratively, the higher the level of settlement cash targeted in open market operations, the fewer end-of-day repo transactions will be needed. That would save both transactions costs and time near the end of the banking day, a period when time is likely to be at a premium under RTGS.

**V Overall efficiency gains**

The changes proposed in this document would, if implemented, both simplify the system and considerably reduce the cost to the banking system of monetary policy - the ‘monetary policy tax’ - at the cost of some revenue loss to the Crown. The savings would come in three main forms:

- the 300 basis point penalty margin on settlement cash balances would be eliminated, and replaced with a margin of perhaps 10-25 points (below the middle of the cash rate range);

- the recovery of the margin under Treasury bill yields at which Reserve Bank bills are issued (at an average of 10 basis points this is equivalent to around $1 million per year);

- the elimination of the severely penal cost of discounting (replaced by a 10-25 basis point margin above the middle of the cash rate range as the cost of entering into an overnight repo).
The total reduction in costs to the industry attainable by moving away from the current system depend on the level of the cash target and discount margin, but at present would be around $2 million per annum. As noted earlier, the scope for savings and operational simplifications would be somewhat less if the settlement cash target remained the formal operating lever.

The proposed changes will also be likely to permit material operational and administrative savings for banks and for the Reserve Bank.

VI Summary

To recap, the main features of the proposed new system, if taken as an entire package, would be as follows:

- The centrepiece would be an announced cash rate target range, bounded by the settlement cash interest rate and the rate on an on-demand repo facility.
- The range would be reviewed each week in the light of emerging indicators on the economic and inflation outlook and of changes in the many and various monetary and financial indicators.
- The indicators the Bank reacts to in formulating and implementing monetary policy would not change, and nor would the policy of announcing in broad terms the desired conditions we are seeking.
- Daily open market operations would continue but, depending on the width of the range, the degree of activism in liquidity management and forecasting might be reduced.

- Reserve Bank bills would be abolished.
- The float tender would be abolished.
- The $20 million ceiling, above which interest is not paid on settlement account balances, would be removed.

If it is decided not to adopt a fixed cash rate scheme, it might nevertheless be possible to achieve some useful efficiency gains by implementing some elements of the final three items of the package listed above.

We believe that the framework outlined here would combine with existing features of the signalling system to give New Zealand a simple, effective, and readily comprehensible system for implementing monetary policy. The framework would be transparent, uncluttered with any unnecessary administrative provisions or regulations, impose the minimum possible costs on the banking system, and reflect better the way we now believe that monetary policy works. It would to some extent improve the degree of leverage the Bank has over monetary conditions and increase the Bank’s ability to read correctly market expectations of its actions. Finally, it would enable us to go some way towards reconnecting the implementation and signalling systems, which have increasingly drifted apart over the past decade. However, neither the administrative and operational changes proposed, nor the shift to a fixed cash rate range as the operating lever, should be seen as panaceas. Improvements to the levers we pull are worth having but they are incremental changes in support of monetary policy. They do not diminish the ongoing major challenges monetary policy makers and markets face, in assessing the appropriate stance of monetary policy.

VII Next steps

This article has been published with the express purpose of providing the chance for financial markets and other commentators to provide input to the process of developing the best possible signalling and implementation regime. The Bank would welcome submissions, verbally or in writing, on the details of the proposal as well as on the more substantive question of the merits of a shift to a cash rate operating lever. We would be happy to discuss the issues with affected or interested parties in person. We hope to receive all submissions by 4 April and to reach our own final conclusions over the following 4-6 weeks. It would be desirable to have any changes implemented before the live-testing period for RTGS begins. That is currently scheduled for late May.