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Curriculum Vitae

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Jozef Van ‘t dack, a Belgian citizen, did his undergraduate studies in Economics at the Catholic University at Leuven in Belgium and subsequently obtained a Ph.D. degree in Economics at the University of Michigan in the United States. Following a six-year period during which he was employed at the International Monetary Fund as desk economist for a number of countries (including South Africa), Mr Van ‘t dack joined the Bank for International Settlements (BIS) in 1987. As a Senior Economist, he helped set up in the mid-1990s a section within the BIS devoted to emerging-market economies. This resulted in a greatly expanded focus and research of the Bank on emerging-market issues. In 1999, he was appointed Adviser to the General Manager. Mr Van ‘t dack’s publications include several studies on monetary policy and financial stability.

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THE FRAMEWORK OF MONETARY POLICY: AN OVERVIEW OF ISSUES

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Let me first express my gratitude to the South African Reserve Bank for having invited me to deliver the opening presentation at this conference on monetary policy frameworks in Africa. Being here in the Gerhard de Kock Auditorium only adds to my sense of pride and gratitude. I was fortunate enough to have known Governor de Kock in the mid 1980s. At that time I was a young and inexperienced IMF economist responsible for following economic and financial developments in South Africa. On occasion, I thus was able to come on Article IV missions to the Reserve Bank where, from the farthest corner of the meeting table, I was able to listen to Governor de Kock's views and thoughts. I can assure you, there was never a dull moment in these meetings. In those days I also got to know Dr Stals and Dr van der Merwe who were then struggling with the difficult task of steering the country through a debt standstill. I am happy to note that only last month the very final chapter was closed of the debt standstill arrangements crafted by these skilful economists in the mid 1980s. And in my current position at the BIS, I have the pleasure of regularly welcoming Governor Mboweni to our headquarters in Basel and witness his keen sense of central banking in the company of the world's most illustrious central bank Governors. So, making this presentation is not only an honour; in the company of so many friends, it is also a great pleasure.

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The last quarter-century has been quite an eventful period in economics and finance. A fundamental transformation has taken place of the way in which economic and financial systems function. The change, which has affected emerging market economies as pervasively as industrial economies, is still ongoing.

The changes in economic life have compelled the monetary authorities to define a new framework for monetary policy making that is adapted to the new shape and contours of the economic and financial landscape. In this presentation I propose to give an overview of some of the key issues that have been raised within the context of developing this new framework, of relevance to both emerging and more mature market economies. In doing so, I will first sketch the external changes which have induced central banks to review their monetary policy framework. Next, I would like to devote some attention to the major components of the new frameworks. I will conclude by touching on a number of current and prospective challenges of a potentially even more difficult nature now faced by central banks.

1. The external environment

Before going to the heart of the matter of my presentation, allow me to go back a bit into economic history and describe some of the major changes over the last two to three decades that have transformed the economic and financial landscape – and in turn the way monetary policy is being conceived and conducted.

No doubt the first and most fundamental change has been the almost universal **reliance on market forces** and the competitive price mechanism in organising real and financial activity. This market-focused approach is quite different from the arrangements that were in place during the post-war Bretton Woods years. In those years, the monetary system was mainly government-led, with strict rules defined for exchange rate relationships, international liquidity creation, capital account flows and domestic financial intermediation. The promotion of freer trade, and current account convertibility achieved during those years of monetary and financial administration made a major contribution towards the recovery of the world economy. Yet the financial market restrictions and inef-

ficiencies which went hand in hand with this administered system became increasingly difficult to manage or accept.

One problem was that under the original Bretton Woods rules, international liquidity could not be created in line with growth of the world economy. The creation of SDRs sought to address this problem. However, it also became clear that international growth increasingly came to depend on more flexible adjustment mechanisms than those included in the Bretton Woods arrangements. As world trade recovered and economies' openness to trade increased, external imbalances tended to widen, but the willingness evaporated to address these imbalances through shifts in output and demand, as required by the existing arrangements and restrictions on capital mobility.

In addition, the call for freer capital movements became louder. As the costs of financial repression and the benefits of competitive financial intermediation gained recognition, restrictions were gradually lifted, not infrequently because controls were circumvented and their effectiveness thus became eroded. With financial market participants having to focus on expected economic and financial trends when making their portfolio allocations, capital flows started to exert pressure on those economies and currencies that were viewed as being managed on the basis of unsustainable policies.

In the early 1970s, the Bretton Woods system eventually collapsed. Market forces took over where previously rule-based arrangements had governed international and domestic financial life. Extensive deregulation and reform became hallmarks of economic and financial policy-making in mature, as well as emerging market economies. The technology spurt of the past few decades, allowing communication and trading in real time, ample computing power and sophisticated financial engineering, further reinforced the reform policies.

Financial liberalisation and reliance on market forces have also spread to Africa. A small number of African countries, most notably South Africa, have developed financial systems that are comparable to those in the major emerging market economies and have become significant players in international financial markets. Yet the process of financial reform, and in turn reliance on market forces, has not been completed in most African economies. I have confidence, however, that the process will gain increasing strength in the years to come. Economic stability and growth gained a more solid footing in many economies in the 1990s and at the start of the new millennium. This greater degree of stability will spur the development of the financial system. Conversely, better functioning markets will be instrumental in consolidating the progress made in the real economy.

A second important development had been the **globalisation of product and financial markets**. Openness to trade has increased in virtually all corners of the world. Even more spectacular has been the growth in cross-border transactions in financial instruments. Emerging market economies, including Africa, have been closely associated with and involved in this process of globalisation. Although there are worrisome side-effects to globalisation, there can be hardly any doubt that, if prudently managed, globalisation generates important benefits in terms of growth and efficient resource generation and allocation.

The next important change I would like to identify is of an **institutional** nature. Since the collapse of the Bretton Woods System, the relationship between fiscal and monetary authorities has changed significantly. In particular, the transformation from a government-led to a market-led system and the deregulation of financial markets have enhanced the importance of those authorities which work directly with the markets. The fiscal and monetary authorities have thus had to redefine their respective roles. This has not always been accomplished without problems or even conflicts. Sometimes, these conflicts have reflected the fact that the financial institutions through which central banks have to achieve their objectives are largely state-owned or government-run. At other times, complexity and inefficiencies have arisen because the central bank is often the banker of the government, with major implications for controlling the liability and the asset side of its balance sheet. Often, too, it has taken intensive discussions or negotiations to agree on the division of responsibilities and tasks between the fiscal and monetary authorities and on the granting of the necessary autonomy to accomplish them.

In many countries, several of these institutional issues have been resolved in an effective manner and recognition of the respective roles of the various authorities has grown. An illustration of this greater awareness is, for instance, that in very few countries open-ended access to central bank credit facilities still exists. And the trend towards greater central bank independence has strengthened. Nevertheless, the process of institutional change is yet to be completed in several emerging economies. I should note here already that a new type of institutional change is now being seen, that of splitting the monetary and supervisory tasks traditionally assigned to central banks. At the end of my presentation, I will briefly return to this issue.

Finally, in terms of **economic thinking**, the paradigms have also changed markedly and the conceptual framework used by central banks to assess how their policies affect the economy and the financial system has evolved in a similar fashion. Possibly the most basic change in this area has been the interpretation of the trade-off between inflation and growth or employment. Until the early 1970s policy makers firmly believed that, by accepting a slightly higher rate of inflation, growth and employment could be promoted. Thinking – and indeed experience – in the 1970s demonstrated, however, that this trade-off was at best a short-run one and that it was illusory to believe that it could be exploited for any length of time. Indeed, recognition grew that higher inflation had a negative impact on output, growth and the efficiency of the price mechanism, suggesting that the relationship could well run in the opposite direction.

With the ascendancy of the market mechanism and reliance on competitive forces has also come a much greater awareness and recognition of the role of expectations in economic and financial life. Decisions of economic agents typically relate to operations or transactions which evolve over time. The intertemporal nature of transactions is particularly pronounced in the case of financial operations. Hence the need to be forward looking and to form expectations about the likely future course of events. In recent decades, significant research has been devoted to the understanding of the process of expectations formation. Concepts, such as adaptive and regressive expectations, rational expectations, irrational exuberance and herd behaviour, have thus become familiar. The so-called Lucas critique of the mid-1970s was one of the earliest theoretical analyses of how adaptations in behaviour and expectations could influence the outcome of policy decisions. The force of this analysis exerted a major impact on the "rules versus discretion" debate among policymakers.

Another intellectual debate has been triggered by the decade-long period of very rapid growth in the United States until 2000. At issue is the question whether our traditional concepts of potential output growth, capacity utilisation and trend productivity increases are still valid. The jury is still out on this topic, although it is becoming increasingly clear that it will have an impact on the way the economy and the financial system function, and how they react to policy changes.

Let me briefly recapitulate the points so far. First, we have put increased reliance on markets and the price mechanism for organising economic life; second, this economic life has acquired an increasingly global character; next, the institutional framework has changed as well, with major implications for policy autonomy; and finally, economic thinking has evolved significantly, with growing emphasis on how expectations are formed and affect decision making. The changing shape of the external environment has had marked implications for monetary policy-making. Let me focus on three particular aspects of monetary policy where changes arguably have been felt most strongly; that of the transmission channels of monetary policy; that of central bank independence; and that of the actual implementation of monetary policy.

One rather obvious development with regard to the **transmission channels of monetary policy** is that with deregulation, reform and globalisation of financial markets the interest rate channel, the asset price channel and the exchange rate channel have gained prominence and importance. By contrast, in the context of a more sophisticated and diversified financial system, less attention is being paid to the role of bank credit as a major channel through which aggregate demand is influenced.

This does not mean, however, that the credit channel has lost all significance. Indeed, in many countries in which financial intermediation is still dominated by banks, this channel remains very important. Moreover, recent experience has prompted renewed attention of the role of the bank

credit channel in the transmission process of all financial systems. Both at the peak and at the trough of the economic cycle, there can be situations in which bank credit exerts a profound influence on economic conditions and in which adjustments to interest rate conditions (i.e. the use of the interest rate channel) seem to be incapable of affecting the course of the economy. I will return to this particular issue at the end of my presentation.

Within the context of emerging markets, particular attention may need to be paid to the channels of transmission in financial sectors that have yet to go through the full process of deregulation and development. In Africa, for instance, an informal financial sector frequently exists alongside the formal one. Depending on the segmentation of these markets (which in turn may be related to the degree of regulation in the formal sector), the transmission of monetary policy could be quite distinct.

The basic message here is that the channels through which monetary policy works are as complex as the underlying structure of economies and financial markets, and are constantly evolving. This puts a premium on being constantly alert to the changes in the financial structure and seeking to understand how they affect the effectiveness of policymakers' own actions. In this regard, monetary policy is much more an art than it is a science.

A second major consequence of the transformation in the functioning of financial markets is that the effectiveness in policy implementation has come to depend to a large extent on the **credibility** of those in charge of monetary policy. As I noted before, expectations play a crucial role in the price-setting mechanism. In anchoring these expectations, the credibility of the central bank and its framework is often of utmost importance. Especially in emerging market economies with a long history of high inflation and large fiscal deficits, and limited experience with reform and liberalisation, this credibility can be hard to establish. Sometimes, this problem of lack of credibility has been circumvented by tying the hands of the central bank. More recently, however, the trend in many countries has been to give the central bank a public and explicit mandate and to grant it the autonomy to design and implement policies consistent with this objective. Note that this definition of central bank independence does not assume granting the central bank autonomy in determining its own mandate. Indeed, given the importance of a well-functioning financial system for a sound economy and its people's welfare, it could be argued that in democratically organised societies spelling out the mandate of the central bank should involve several branches of government. However, once this mandate is specified, care should be taken to insulate the central bank from short-term external influences in the pursuit of this mandate, i.e. to give it operational independence. The fact that the time horizon over which monetary policy achieves its goals can be quite long further adds to the importance of operational independence.

Central bank independence should not be misinterpreted as non-accountability. The political argument is that each public sector agency needs to work within a constitutional and legislative context, which calls for regular oversight of this agency. Transparency is a vital tool for fulfilling this accountability requirement. The economic rationale is that the central bank has to communicate its strategies and actions to the market if it is to retain broad public support and help the market function more smoothly. I will return to the economic aspect of transparency later on.

Finally, the transformation of the financial and economic landscape and its growing complexity have necessitated an equally extensive retooling of the central bank's **monetary policy instruments and operating procedures**. A first important feature of this change has been the stronger focus on market-conform procedures: working with the grain of the market, rather than against it, and applying instruments with strong foundations in markets. A second feature has been a better recognition of the implications of greater complexity and uncertainty for the approach to monetary policy making. Central banks now tend to accept that, however transparent, rules are not fully capable of dealing with unanticipated changes in the financial system and the behaviour of market participants. Under those circumstances, the central bank will need to blend a fair degree of discretion with the application of policy rules, something which some have called constrained discretion. A third feature which I noted already a minute ago is the growing appreciation of the role of transparency and communication as instruments of monetary policy. Clear signalling of the central bank's policy stance, and possibly even its future intentions, are part and parcel of effective policy making in

today's modern financial markets. In this regard, many central banks have come to value the power of "open-mouth" policies alongside that of "open-market" operations. As Otmar Issing, Chief Economist of the European Central Bank, recently observed, communication has become a hidden, yet essential pillar of central bank policy making.

2. The framework of monetary policy

Let me now narrow my presentation and focus on what I consider are the fundamental choices which each central bank will need to make in order to establish an effective monetary policy. These are the definition of the objective(s) of monetary policy; the strategy for accomplishing this mandate; and the practical implementation of monetary policy. These I will now treat in turn.

The objective of monetary policy

Since the mid-1980s, a strong and broad consensus has built that the overriding objective of monetary policy should be the pursuit of price stability. The experience of stagflation during the 1970s clearly demonstrated that monetary policy was unable to durably push the economy beyond its potential rate of growth. Doubts have arisen even about the extent to which monetary policy can have an impact on the amplitude of the cycle. Lags in the recognition of turns in the cycle and lags in the transmission of monetary policy measures to the economy make it difficult to influence swings in the cycle with any degree of accuracy. Moreover, any concession in the pursuit of price stability inevitably is at the cost of some erosion of the efficiency of the price mechanism in equilibrating markets. This could hurt the growth potential of the economy. Finally, the unequal impact which inflation has on various segments of the population is likely to negatively affect social cohesiveness and in turn political stability.

Consensus regarding the primacy of the objective of price stability has spread widely. While recognising its benefits, central bankers in a number of emerging market economies have yet to express similar unequivocal support for price stability as the single objective of monetary policy. There may be valid reasons for a more qualified view in this regard in emerging market economies. One is that concentration of output in an often narrow range of products makes emerging market economies vulnerable to external shocks. The same could be argued for a financial system still in the process of being built up. Hence the perception of a need for a more activist countercyclical monetary policy. In addition, for many less-developed countries, access to international financial markets may still be difficult and uncertain, compelling central banks to focus closely on the balance-of-payments implications of monetary policy. Or, the central bank may count it as one of its responsibilities to compensate for the inadequate functioning of domestic financial markets and regulate the flow of credit to sectors viewed as priority sectors.

Yet there are equally valid reasons for arguing that the pursuit of objectives other than price stability is likely to be unsuccessful in emerging markets. In some economies, a long history of persistent inflation has become ingrained in market psychology. Monetary expansion is then likely to feed into inflation almost instantaneously, closing even the small window of opportunity for stimulating growth through monetary policy which more stable economies might enjoy. Moreover, a rudimentary financial sector and an economy in transformation almost always make it very difficult to pursue growth objectives through monetary policy with a reasonable degree of predictability.

If consensus has emerged around the view that monetary policy should aim at price stability, there is much less agreement about what this implies in practice. Two issues may be particularly important: that of placing a number on what is considered an acceptable or even optimal degree of price stability and that of determining the pace at which the central bank should move towards its target. Obviously, there are many other more technical but equally important issues to be explored, such as the choice of price index as gauge of price stability and the choice between an inflation target and a price level objective; but time does not allow me to develop these themes more fully.

In a growing number of countries, central banks formulate objectives for inflation ranging between 1 and 3%. Perhaps surprisingly, very few central banks define price stability as zero change in the price level (even after making allowances for possible measurement errors). Why is it that central

banks profess their conviction that price stability is best for the economy and nevertheless pursue a policy that results in a positive rate of price increase? One reason is that nominal interest rates cannot fall below zero. If absolute price stability is the objective, it is quite possible that periods of slowing growth are associated with falling prices. Should the central bank want to counteract the price deflation, the lower bound to interest rates may be considered a constraint. Arguably a more important reason for selecting a low, but positive rate of price inflation, is the downward rigidity of nominal wages. Necessary adjustments in real wages to bring about the needed resource flows – some of which by definition would be in a downward direction – would be severely constrained once inflation nears zero and nominal wages prove sticky in money terms. To put it in a different way, some moderate degree of inflation may serve to "oil the wheels" of economic adjustment.

Although today the balance of empirical evidence (which reflects mostly the situation in industrial countries) still seems to indicate that it is difficult to reduce nominal wages, the trend is clearly in the direction of greater flexibility. In many emerging economies with no history of organised labour movement, wages may be more responsive than in the more traditional, heavily unionised economies. Moreover, to the extent that productivity increases can be achieved – and empirical evidence is starting to suggest that this should be easier when inflation is low – equilibrating relative wage adjustments may call for nominal wage reductions only infrequently.

The optimal speed of disinflation also raises a number of issues. When inflation is initially very high, rapid reductions in inflation can often be achieved at relatively little cost in output foregone. Indeed, the start of many stabilisation programmes in emerging market economies has been associated with a recovery of output as uncertainty and volatility declined in the wake of a return to greater price stability. But as inflation edges closer to or moves into the single-digit rates, the short-term output and employment costs of a policy of rapid disinflation may rise appreciably. Also, if the economy is marked by widespread indexation of contracts and rigidities in labour and goods markets, inflation inertia is likely to be high and rapid progress towards price stability may require a major sacrifice of economic activity.

In general, it seems difficult to make blanket prescriptions on the pace of disinflation. Quite often, in the absence of guidelines, gradualism will be the outcome. This certainly would seem advisable when it takes time for expectations to adjust to a new low-inflation environment and possibly to a new set of procedures for monetary policy implementation. It also could be the preferred option if the financial sector is vulnerable to a rapid reduction in inflation. But gradualism could also be interpreted as lack of commitment in which case a more activist approach might be preferable, supported if necessary by temporary measures to relieve some of the resulting hardship.

Monetary policy strategy

An appropriate strategic framework for monetary policy is of vital importance for its success. If the strategy is right for the particular economic and financial environment in which it is deployed, it will enjoy efficiency and in turn will grant the central bank the credibility which will further amplify the effectiveness of monetary policy.

A first fundamental choice with major strategic implications for monetary policy concerns the nature of the exchange rate regime. This is not the place to consider the factors underlying the exchange rate question in detail. Let me just indicate that, although a full spectrum of exchange rate regimes could be considered ranging from irrevocably fixed rates (such as a currency union) to a completely free float, many countries have moved away from the middle of this range towards one of its extremes in recent years. A number of theoretical arguments – and indeed some painful experience as well – have suggested that these extremes tend to be more stable than the intermediate regimes. Let us therefore consider the monetary policy implications of these two corner exchange rate regimes.

It is well known that choosing a regime characterised by fixity of exchange rates imposes significant constraints on monetary policy, especially under conditions of high capital mobility. Nonetheless, at present nearly 50 countries have adopted an exchange rate regime that relies on the fixity of exchange rates, whereas another 60 countries are following pegged exchange rate regimes. The

importance of exchange rate stability for activity in the export sector in small open economies is an important reason. So can be inefficiencies or lack of depth of the foreign exchange market which under a floating regime could result in undue volatility or unstable equilibria. But an equally important reason in many emerging economies (and, in the 1980s, in several industrial countries as well) is the strategic attractiveness of an exchange rate anchor for monetary policy. It is a clear and understandable anchor. Provided commitment is strong, it enables the authorities to "import" or "borrow" the policy credibility of the country to which the domestic currency is linked. In countries where inflation is deeply embedded in the psychology and institutions of wage and price setting, the exchange rate often plays the pivotal role of being the most visible gauge of future movements in prices. Pegging the domestic currency to a stable foreign currency can then produce very rapid disinflation.

But a policy of anchoring monetary policy to the exchange rate can also be a painful and a risky strategy. Tying the central bank's hands to the policy stance of another country implies accepting monetary conditions which in the domestic setting may not be appropriate. Disinflation through exchange rate pegging almost always entails a loss in competitiveness, which can be quite heavy initially, and rising external imbalances. If downward rigidities exist in domestic prices and/or wages, the deficits will have to be corrected by monetary outflows and demand compression, not though real exchange rate depreciation. This process can represent a severe test for the soundness of the financial system and the political support enjoyed by the central bank. Central banks anchoring their policy to a fixed exchange rate moreover have to be vigilant lest this strategy creates incentives for excessive unhedged borrowing in foreign currency. Heavy foreign exposure, in particular when combined with a vulnerable banking sector, may then constrain the ability of the central bank to raise interest rates sufficiently in support of the exchange rate anchor. If the authorities' dilemma becomes widely recognised, pressure may build even further. Recent economic and financial history - not only in emerging market economies but also in the countries which participated in the European Exchange Rate Mechanism in the early 1990s – is rife with examples showing that this pressure can be resisted only up to a point. Once the exchange rate anchor collapses, a resurgence of inflation is hard to avoid.

Against the background of the frequent difficulty of maintaining a fixed exchange rate regime, an increasing number of countries have been attracted to greater flexibility. In this case, however, the central bank will need to conceive an explicit strategy to achieve price stability.

Monetary aggregates used to be a popular strategic guidepost in the 1980s. In a number of emerging economies they continue to serve this purpose. Of some 80 countries listed by the IMF as having a flexible exchange rate regime, 16 target a monetary aggregate. Another 40 follow IMF – supported or other monetary programmes in which monetary aggregates play an important role. And the European Central Bank has chosen to use a reference value for M3 growth as one of its two main intermediate objectives. Moreover, while not targeting them, most central banks monitor developments in a range of monetary aggregates.

The continued usefulness of monetary aggregates as guideposts derives from the fact that, in the long run, inflation remains very closely associated with the pace of money growth. In addition, the link between prices and money is easily understood, facilitating the acceptance by the public of policies that seek to calibrate the rate of growth of money. Yet in nearly all countries which have witnessed financial liberalisation and have seen their financial markets develop, the link between money and prices in the short run has broken down or has become unpredictable, sharply reducing monetary aggregates as strategic targets for policy implementation.

In the absence of a usable explicit intermediate target, several central banks are now seeking to establish a framework in which price stability is targeted directly. Several industrial countries adopted the approach in the first half of the 1990s. Its popularity also spread to a number of emerging market economies around the turn of the century, including to South Africa. The first indications are that inflation has remained subdued even under buoyant economic conditions. However, we should realise that many inflation-targeting countries still have to go through a full business cycle. Few so far have faced conditions of recession coinciding with inflationary pressures, which would put the resilience of this monetary policy regime to a particularly severe test.

Within emerging market economies, a strategy of inflation targeting may be more complex than in mature economies. As I noted before, transmission channels in these economies tend to be less well understood or less predictable, certainly when the starting point is a relatively high rate of inflation. This will increase the uncertainty about the length and the shape of the gap between monetary policy measures and their impact on prices, and, to the extent that on several occasions the targets may be missed, will make it more difficult for the central bank to establish or build credibility. Continued reliance on seigniorage for fiscal purposes may also weaken governments' determination to grant their central bank the necessary independence to pursue a credible inflation-targeting strategy. In addition, many prices may be government-controlled and outside the reach of the central bank's policies. Often too, the scope for making accurate inflation forecasts (in practice the intermediate target under inflation targeting) is limited by the lack of reliable data. That data requirements can be demanding is illustrated by the case of New Zealand where the central bank monitors and analyses no less than 6000 data series and speaks to up to 50 firms each quarter to gauge the state of the economy and the associated outlook for inflation.

A final, important caveat concerns the role of the exchange rate in an inflation-targeting regime. In principle, the exchange rate should be left to float freely. Many emerging market economies, however, are relatively open and have foreign exchange markets which are not as deep as those in more mature economies. The floating of the exchange rate in emerging economies is therefore unlikely to be as smooth or to have an impact as limited as in larger and more developed economies. Moreover, the balance sheets of enterprises and households in countries which in the past have had suspect currencies, not infrequently show a high degree of foreign currency exposure. Benign neglect of the exchange rate under those conditions is unlikely to be acceptable. Indeed, inflation targeting emerging market economies tend to intervene more often in their foreign exchange market than their counterparts in more mature economies. But if the exchange rate is allowed to have a significant weight in monetary policy decisions, the transparency of the inflation-targeting regime may become blurred and public support of the central bank's policies unstuck.

All this indicates that in unsettled exchange markets inflation targeting is not an easy recipe for establishing durable price stability. But let me have the true experts speak on this matter. Governor Mboweni, for example, offered in a speech earlier this year following counsel in such circumstances: "Sit tight, grit your teeth and suffer in silence". Meanwhile, Deputy Governor Grenville of the Reserve Bank of Australia advised his Asian colleagues not to hope for simple one-dimensional rules in the face of the volatile exchange markets, but to apply "that rarest element of policy making: common sense".

The practical implementation of monetary policy

Variety is probably the best way of describing the trend in the use of particular instruments of monetary policy. A myriad of factors tends to play a role in the selection of procedures, including the state of development of financial markets, the nature of the counterparties to the central bank, the latter's role as banker of the government and the chosen operational target of policy. In the final analysis, what counts is the efficiency of the selected policy instrumentarium in reaching the central bank's objective and the clarity with which the procedures signal policy intentions.

Against this background, it is difficult to identify commonalities or general lessons with regard to monetary policy operating procedures. The following three features, however, appear to have become prevalent not only in mature economies, but also in emerging market economies.

A first trend has been the **greater market orientation of policy implementation**. As interest rates play a central role in the transmission of monetary policy in liberalised markets, many central banks have focused on the interest rate as their operational target. Moreover, central banks have come to realise that they do not have the power to control price formation in markets other than those for very short-term funds. Nor should they probably try to. Central banks have little to gain in trying to control longer-term interest rates, as this would bias the formation of prices, as well as expectations, in a broad range of markets which are best left to competitive market forces. Most central banks therefore try to target only very short-term rates, counting on the various linkages between competitive financial markets to transmit their interest rate objectives along the entire yield spectrum.

A second major trend has been the **greater activism of central banks**. Discount windows and deposit facilities at the central bank, activated on demand by banks, used to be at the heart of policy implementation. Nowadays, central banks prefer to be much more in control of the monetary policy process, relying heavily on market operations at their own discretion. The flexibility of the repo instrument has helped immensely in bringing this about. In addition, tender rates resulting from regular repurchase operations have come to be powerful signals of the central bank's policy stance. It has now become the main instrument of policy implementation in most countries. By contrast, reserve requirements which were at the core of monetary policy-making during the heyday of monetary targeting have ceased in many countries to be an active instrument. One important reason is that reserve requirements represent an implicit tax on those financial institutions subject to them. But this does not mean that central banks have abandoned the instrument altogether. A judicious design of reserve requirements often contributes to less volatile interest rate conditions. Moreover, from a financial stability point of view, reserve requirements can make a valuable contribution to the more prudent liquidity management of banks.

Finally, there has been a clear trend towards **greater transparency** of how the central bank works and towards more **explicit signalling** of the interest rate levels it wishes to see. As I noted already on several occasions, many central banks are now convinced that increased transparency regarding their operations and better communication to the public help build broad-based public understanding of and support for monetary policy. Transparency also reduces uncertainty and thus helps build a solid basis on which expectations can be formed. Central banks can exert little influence on the longer end of the yield curve, which arguably matters most for the economy. However, when the central bank's actions and intentions are clear and transparent at the short end, they will tend to impact the longer rates quickly and comprehensively.

There are, nevertheless, many shades of opinion about the degree of transparency that should be targeted. Consensus seems to exist with respect to transparency at the general level of policy objectives and regular procedures. This helps market participants focus on the right issues and understand how the central bank implements its policy and reacts to particular developments. If the market is able to anticipate how the central bank will react, policy implementation is usually easier and more effective. Quite often under these circumstances, the market may on its own trigger the movements in interest rates which pre-empt moves by the central bank or allow it more time to frame its stance as economic conditions unfold.

But there is less agreement about the optimal degree of transparency in the very short-term, operational aspects of policy. Not all central banks are convinced that precise and explicit targets for operating objectives should be specified (as the US Federal Reserve does with regard to the Federal Funds rate). Transparency can create ambiguity if particular changes in the operating target reflect technical factors rather than a change in policy stance (eg in cases of aiming for a quantitative reserve target). Transparency about likely future policy moves is not universally accepted as many central banks harbour fears of becoming captives of their own, possibly erroneous, earlier judgements. Central banks may also want to retain a degree of flexibility in the face of an uncertain financial environment. Another consideration is the still widely held view that central bank credibility can demand action that on occasion surprises the market. Whatever view is taken, all this shows that monetary policy implementation is often context-specific and heavy on tactical considerations.

3. New challenges for monetary policy

So far, I have focused primarily on the central bank's responsibility with regard to the pursuit of price or monetary stability. However, it is becoming increasingly apparent that a well-functioning financial system not only requires this type of stability, but also financial stability, i.e. the presence of robust financial markets and soundly managed financial institutions. Central banks cannot afford to be concerned solely with monetary stability, even if the formal responsibility for the supervision of markets or institutions has been delegated to another public body. The basic reason is that important two-way linkages exist between monetary and financial stability that have to be recognised and have to be incorporated into the decision-making framework of all institutions in charge of the pursuit of the soundness or stability of the various pillars of a well-functioning financial system. A fuller treatment of this issue would be the subject of a separate presentation. Allow me therefore to briefly

focus on a few, often related challenges which central banks have recently faced, or are likely to face in the years to come, within the context of their monetary policy responsibility.

A first challenge is to understand **how asset price cycles interact with monetary stability** and what role monetary policy could or should play in trying to moderate the asset cycles. A regular feature common to both industrial and emerging market economies in recent decades has been the emergence of asset market booms associated with a rapid expansion of bank credit. Asset prices and bank credit indeed often reinforce each other. As banks advance credits to purchase real or financial assets, the price of the latter is usually buoyed, inviting both lenders and borrowers to seek even greater exposure. The process of mutual reinforcement can go on for quite a long time but, almost inevitably, it will come to an abrupt and often disruptive end.

Monetary policy makers tend to experience great difficulties in dealing with the build-up of a speculative asset price bubble and its subsequent collapse. Apart from the difficulty of answering the question at which point of the asset price cycle one should start considering measures, the tools at the disposal of central banks for deflating asset price bubbles tend to be limited. At some stage, expectations of continuing asset price rises start leading a life of their own, largely divorced from economic reality. It then takes heavy doses of interest rate increases to stop the momentum. These drastic interest rate hikes are very difficult to defend politically if goods prices are generally well-behaved and product markets are not characterised by strong growth.

Nevertheless, it would seem necessary for the monetary authorities to resist the build-up of asset price pressures which have no solid economic justification. Asset prices have become important parameters of future spending behaviour and therefore can have an important bearing on price stability. Unfortunately, the precise influence is difficult to gauge ex ante. In particular, while the demand and price effects might be innocent as the bubble grows, they could become very pronounced once the bubble has burst. Moreover financial strains are usually associated with pronounced swings in asset prices. Once asset prices collapse, a significant number of lenders and borrowers could experience a severe weakening of their balance sheets. This may well impose constraints on monetary policy making as the central bank feels obliged to maintain interest rates at lower levels and/or for longer periods than warranted by economic conditions, thus risking undermining its medium-term objective of price stability.

Applying monetary policy measures to contain asset price distortions may be particularly difficult in emerging market economies. Given that asset markets in these economies can be shallow, dominated by small groups of players, or subject to uncompetitive pricing, uncertainties about the appropriate level of asset prices and the response of asset prices to monetary policy measures tend to be very large. Applying a different set of tools to tackle asset price misalignments, such as prudential regulations, may then be a preferable option.

A closely related problem is that of formulating an effective **monetary policy in conditions of financial market fragility**. Vulnerability can be particularly debilitating when it coincides with an economic downturn. In such conditions, financial institutions are likely to be preoccupied with the difficult task of resolving the non-performing loan problems on their books. New lending will be approached with great caution. Attempts by the central bank to ease its policy stance to deal with a sluggish economy and downward price pressure, may have little effect if financial institutions fail to respond to the increase in loan requests which lower interest rates would trigger. This problem of "headwind" central banking has been a formidable constraint on several central banks in Asia and Latin America following financial sector turbulence in the course of the 1990s.

The interlinkages between monetary and financial stability have raised awareness that the effective management of financial markets is only possible if the micro-prudential and macroeconomic parameters of financial stability are both taken into consideration. This is all the more important now that it is becoming increasingly common that responsibilities for micro-prudential supervision and macroeconomic monetary policy-making are allocated to separate agencies. On the part of those charged with stability at the micro-prudential level it may require that they design their regulations in a way which does not contribute to unfavourable macroeconomic outcomes, or to a distortion of incentives to respond rationally to interest rate signals. On the part of the framers of monetary pol-

icy, it calls for extra caution if asset markets start booming in an environment of modest inflation. It also calls for the clear and transparent strategies and operating procedures which allow market participants to make informed risk-sensitive decisions.

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The last few decades have seen a remarkable increase in the status of central banks. Doubtless, this has been a reflection of the significant progress in reducing inflation and its volatility in the period since the early 1980s. In turn, the success which central banks can rightfully claim in the area of price stability has been due in large measure to their ability not only to promote competitive and well-functioning financial markets, but also to adapt their strategies and operating procedures to these changes. In doing so, they may have chosen different approaches which try to take advantage of the circumstances particular to their own financial system. The pursuit of price stability at the core of central banking, however, has been and is likely to remain a commonly shared and overriding objective.

The success of central banking in recent decades, however, should not propagate the impression that the perfect central banker has been invented. The fundamental changes in the last quarter century have gone hand-in-hand with great, if not growing, uncertainty. Dealing with change and uncertainty is and will be as much a challenge for central banks as it is for the commercial financial sector or the general public. As markets further develop and new instruments with complex risk characteristics are created, central banks will need to further hone their skills in operating efficiently in an uncertain and sophisticated environment. This is a tall order. But it is one that central banks will need to fill if they are to continue to serve an efficient and welfare-generating financial system.