

9.1 Structural reforms initiated in the Indian economy since the early 1990s have encompassed all spheres of economic activity. Reforms included industrial deregulation, liberalisation of the foreign trade and investment regime, public enterprises reform and financial sector liberalisation. These reforms, aimed at reorientation of the Indian economy from a centrally directed command and control economy to a market oriented economy so as to foster greater efficiency and growth, have contributed to a sustained pick-up in growth.

9.2 These wide-ranging reforms have inevitably impacted upon the conduct of macroeconomic policy in India. Monetary policy framework, in particular, had to contend with a number of changes in its operating environment. These changes have been brought about primarily by financial and external sector liberalisation. First, the process of financial liberalisation now necessitates a greater market orientation of the process of monetary policy formulation than ever before in view of the shift to a market-oriented economy from a control-oriented regime. Second, financial liberalisation has led to emergence of financial conglomerates with implications for financial stability. Third, the globalisation of economies, while essential for greater competition and hence for efficiency, has posed several challenges for monetary management emanating, *inter alia*, from swings in international commodity prices, and, more importantly, from large and sudden movements in capital flows and exchange rates. Finally, advances in information technology are not only revolutionising payment and settlement practices but also speeding up the spread of information. For all these reasons, during the 1990s, monetary policy in India, like other countries, revisited issues related to objectives, intermediate targets, instruments and operating procedures of monetary policy.

9.3 In the monetary policy arena, a significant success has been in respect of reigning in inflation since the second half of the 1990s until recently. This has also enabled lower inflationary expectations. Efforts to improve the credit delivery mechanism have also begun to indicate some success recently. Real interest rates for borrowers have also softened. A

noteworthy achievement, despite progressive opening up of the Indian economy, has been the maintenance of financial stability in the country. In contrast to the Indian experience, financial crises were endemic in many developing and emerging market economies during the 1990s. These issues have been addressed in detail in earlier Chapters. This concluding Chapter provides an overall assessment of the dynamics and challenges for monetary policy in India.

Key Issues in Monetary Policy

9.4 It is now widely agreed that monetary policy can contribute to growth and employment by maintaining price stability. Price stability does not mean a zero rate of inflation. For a number of reasons - quality biases in the measurement of prices, downward wage and price rigidities and the zero bound on nominal interest rates - price stability is defined as a low and stable rate of inflation conducive to economic growth. That price stability should be a key objective of monetary policy is reflected in a growing number of central banks, starting with New Zealand in the late 1980s, adopting inflation targeting frameworks. At present, there are more than 20 such central banks in the world who have price stability as the overriding objective of monetary policy. At the same time, a majority of central banks still operate under dual or even multiple mandates - for instance, the legislated objectives of the US Federal Reserve are maximum employment, price stability and moderate long-term interest rates. However, even in such cases, it is agreed that central banks can contribute to growth and employment objectives through maintenance of low and stable inflation. Price stability is considered to be a pre-requisite for the efficient allocation of resources in the economy and, hence this contributes to growth. There is a near unanimity now that there is no long-run trade-off between growth and inflation, *i.e.*, monetary policy cannot permanently raise output above its potential through inflationary policies. Any attempts to raise output above the economy's potential will be eventually reflected in higher inflation. One reason as to why inflation surged during the 1970s in many economies was the misplaced belief that there existed a long-run trade off between inflation and output. High inflation has an adverse effect on growth due to a

number of factors: distortion of relative prices which lowers economic efficiency; redistribution of wealth between debtors and creditors; aversion to long-term contracts; and, devotion of excessive resources to hedging inflation risks. In developing economies, in particular, an additional cost of high inflation emanates from its adverse effects on the poor population in the form of an implicit tax.

9.5 Notwithstanding the absence of a long-run trade-off, central banks have a key role in macroeconomic stabilisation. Due to a number of exogenous shocks hitting the economy, business cycles are a regular feature of market economies and central banks can stabilise economic activity by pursuing a countercyclical monetary policy. Illustratively, in the recent episode of global downturn, a number of central banks eased their monetary policies during 2002 and 2003 to provide a boost to aggregate demand in the economy. With incipient signs of inflation, the central banks have, however, since late 2003, started to withdraw their accommodative stance by raising policy rates in a measured manner. This holds true, both for inflation targeting as well as non-inflation targeting central banks.

9.6 Against this brief overview of the key objective, an analysis of actual inflationary movements throws some interesting results. The period since World War II has witnessed episodes of high inflation. In developing countries, high inflation has been mainly on account of expansionary fiscal policies and the subsequent accommodation of these fiscal imbalances by monetary authorities. Greater openness, large devaluations and a high degree of exchange rate pass-through have also added to inflationary pressures in these economies, apart from a greater degree of susceptibility to supply shocks. Developed economies also witnessed inflationary pressures during 1970s reflecting expansionary fiscal and accommodative monetary policies, oil shocks, and, overestimation of potential output and productivity growth. High inflation was also on account of the received wisdom regarding growth-inflation trade-off. By late 1970s, it came to be increasingly recognised that persistent high inflation was ultimately the outcome of lax monetary policies. With inflation in double digits, central banks in advanced economies adopted deliberate disinflation strategies in the late 1970s. Monetary policies were tightened and industrial economies could reduce inflation significantly by the second half of the 1980s, *albeit* at the cost of large output and employment losses.

Inflation fell further in these economies during the 1990s to a range of 2-3 per cent per annum, a level more or less consistent with price stability. More importantly, in these economies, inflation expectations have been broadly stabilised at low levels. Developing countries have also been able to reduce inflation during the 1990s as fiscal consolidation and structural reforms provided flexibility to the conduct of monetary policy in meeting its price stability objective. In fact, the decline in inflation in developing economies has been quite dramatic - from 38 per cent per annum during the 1980s to around six per cent during 2000-03. Concomitantly, exchange rate pass-through to domestic prices has declined during the 1990s for advanced as well as developing economies, *inter alia*, due to success of monetary policy in maintaining a low and stable inflation environment. This low pass-through is one of the reasons as to why consumer prices in many developed economies have been relatively stable even in the context of sharp swings in exchange rates.

9.7 A number of factors explain the success of central banks in reducing inflation. These include: improvements in the institutional set-up - greater autonomy accorded to central banks, better communication strategies, increased transparency, improved techniques in terms of availability of market oriented instruments; prudent fiscal policies supported by fiscal rules; structural reforms; productivity growth; deregulation, globalisation and competition. It needs to be stressed that the actual inflation outturn depends critically upon inflation expectations. Successful monetary policy is not so much a matter of effective control of overnight interest rates as it is of shaping market expectations of the way in which inflation and other critical variables are likely to evolve (Woodford, 2003). Increased central bank autonomy, accountability of central banks through clear-cut targets, transparency and stress on communications backed by fiscal rules are believed to increase the credibility of the central banks and thus help stabilising inflation expectations. Monetary reforms such as an independent central bank *per se* have only limited power to fix real problems arising from a fiscal regime inconsistent with the goal of price stability. Looking ahead, a reversal in the trend of any of the above factors can be a threat to the present low inflation environment (Rogoff, 2003). A noteworthy development is that this reduction in inflation has not come, at least in the case of major developed economies, at the cost of increased output volatility. While there is greater unanimity that reduction in inflation and its volatility

is mainly due to improved monetary policy, the role of monetary policy in reducing output volatility remains a matter of debate.

9.8 Finally, in the recent years, an issue of debate is the usefulness of inflation targeting (IT) frameworks. Looking at the experience of the 1990s, both inflation targeting (IT) and non-IT central banks have been successful in reducing inflation. Therefore, it is not obvious that IT regimes have outperformed the non-IT regimes. Amongst IT central banks in emerging market economies (EMEs), while their performance is actually quite impressive when judged in terms of the reduction in inflation, they have not been always able to meet their inflation targets. Moreover, compared with many advanced economies, their performance is relatively weak, reflecting additional constraints prevailing in these economies. The jury is still out on the extent to which inflation targeting policies have actually contributed to the reduction in inflation that has occurred (Mohan, 2004a).

9.9 Developments during the 1990s, however, suggest that price stability by itself does not necessarily ensure overall macroeconomic and financial stability. Even in an environment of price stability, the 1990s witnessed episodes of financial instability. The traditional presumption is that price stability contributes to financial stability. This is true in the long-run, and the two objectives reinforce each other. However, the same may not be true in the short-run. An environment of price stability can generate excessive optimism and irrational exuberance on future growth prospects of the economy. Illustratively, during the late 1990s, technology-driven increases in productivity growth imparted upward momentum to expectations of earnings growth while macroeconomic stability reduced perceptions of risk. In an environment of (low and) stable inflation expectations, the incipient imbalances in the economy are not reflected in the headline inflation. Rather, these may get reflected in a sharp rise in asset prices - stock or real estate prices - and in excessive increases in financial aggregates such as credit and monetary aggregates. In the upswing of the business cycle, these imbalances get accentuated as self-reinforcing processes develop, characterised by rising asset prices and loosening external financial constraints. These forces operate in reverse in the contraction phase, as brought out strikingly by the recent global slowdown of 2000 which reflected the interplay of unwinding of financial imbalances in contrast to earlier episodes of slowdowns which were induced by monetary tightening. In brief, liberalisation

of financial markets, together with advances in technology, increases the likelihood of “justified optimism” turning into “unjustified optimism” which breeds boom-bust cycles (White, 2004).

9.10 Financial stability concerns mainly arise from the growing globalisation and integration of economies. Swings in trade flows and especially capital flows are quite common and these impart a high degree of volatility to exchange rates. Large devaluations can wreck havoc on balance sheets of financial as well as non-financial entities due to currency mismatches. Such currency mismatches are quite severe in emerging market economies, given the fact that their external borrowings are typically serviced in foreign currencies while most of their revenues are largely earned in domestic currency. Furthermore, financial markets are often characterised by herd behaviour. In view of increased financial integration across countries, contagion can spread from one country to other, as it did during the Asian and the subsequent financial crises of the late 1990s. Financial crises during the 1990s were, in fact, a reflection of shortcomings of the reform agendas pursued by many developing economies. Issues such as institutional and governance reforms, and macroeconomic fragilities arising from the financial system and capital account of the balance of payments were not fully addressed (Montiel and Servén, 2004).

9.11 Concerns with future financial instability have also shaped the response of monetary authorities to the recent wave of capital flows. Following Mundell-Fleming, it is well-known that the triumvirate of the objectives - a fixed (or, managed) exchange rate, an open capital account and an independent monetary policy - cannot be achieved simultaneously. Large capital flows are often intermediated to speculative activities such as real estate and stock markets. Permitting unbridled appreciation of the exchange rate during periods of heavy capital inflows can be a harbinger of a future financial crisis. Sharp real appreciation of the domestic currency can hurt external competitiveness of the economy and could over time lead to large and unsustainable current account deficits. Given the volatile nature of capital flows, such flows can reverse easily and impose severe adjustment costs on the economy. Illustratively, in the aftermath of the Asian financial crisis, some economies in the region witnessed a turnaround as large as more than 10 per cent of GDP in their current account balances.

9.12 More recently, since 2000, emerging market economies are facing large persistent capital inflows.

They have also been recording surpluses on their current accounts. Accordingly, their overall balance of payments have posted large surpluses. Central banks in these economies are facing the constraints imposed by the 'impossible trinity' or the 'macroeconomic policy trilemma' by absorbing these capital flows into their reserves. The expansionary effect of these reserves on domestic money supply is subsequently sterilised through offsetting open market operations. The build-up of substantial reserves reflects a precautionary demand and self-insurance necessitated by volatility of capital flows. This response of EMEs may be all the more appropriate since capital flows in the past 3-4 years are widely believed, in a large part, to be due to "push" factors.

9.13 Given the boom-bust pattern of capital flows, volatile exchange rates and the emergence of financial conglomerates, ensuring orderly conditions in financial markets and maintaining financial stability has emerged as an important objective of central banks. This is true even for central banks not involved directly with banking regulation and supervision. Historically, central banks have focussed on only one of the two objectives at any given time, but not together. A distinguishing feature of the 1990s is the simultaneous pursuit of monetary and financial stability gradually subsuming issues relating to financial stability in the design of monetary policy.

9.14 Notwithstanding the agreement that financial stability should be an objective of central banks, the role of monetary policy *per se* in maintaining financial stability remains a matter of debate. Monetary policy is considered to be too blunt an instrument to achieve financial stability, especially to counter threats from asset price misalignments. First, it is argued that it is difficult to adjudge *ex ante* as to whether asset price misalignments are bubbles or not. Second, even if the central bank can identify a bubble in real time, the typical monetary tightening measures - such as moderate increases in interest rates - might be ineffective in containing or deflating asset price bubbles. In view of these limitations on direct monetary policy actions as also the fact that inflationary pressures take more than the usual time to surface in conditions of low inflation, central banks are advised to take cognisance of emerging financial imbalances by lengthening their monetary policy horizons beyond the usual two-year framework. In addition, central banks can contribute to financial stability through effective regulation and supervision to ensure that banks are well-capitalised and well-diversified.

Encouraging more transparency in accounting and disclosure practices, ensuring integrity of payment and settlement systems and provision of the lender-of-last-resort facility are also needed to maintain financial stability.

9.15 Apart from price stability and financial stability, availability of credit for productive purposes remains an important objective of monetary policy, at least in developing and emerging economies. At the same time, in consonance with reforms in many of these economies, there is a shift away from credit controls and directed credit programmes often at concessional prices towards a regime of credit allocation based on the market-oriented price of credit. A key challenge in this regard is to channel credit to the relatively disadvantaged sections of society.

9.16 Bank credit is important not only because it finances growth, but also is an important channel of monetary policy transmission mechanism. The 'credit channel' of transmission holds even for central banks that rely on interest rates to convey their policy stance and it also augments the effects of the traditional interest rate channel. For this channel to be effective, however, it is critical that banks price various risks appropriately onto their lending rates. While such risk assessment techniques are in place in advanced economies, these remain underdeveloped in emerging market economies due to the lack of adequate and timely information and large transaction costs. Availability of improved information base will enable banks to make informed choice of their risk profiles and lead to efficient pricing of risk. While leading to an efficient allocation of resources, the credit channel also enhances the efficacy of monetary policy signals. Thus, improvements in the credit delivery mechanism are necessary for monetary policy signals to have the expected effect on output and prices.

9.17 Financial innovations have impacted not only upon the objectives of monetary policy but also on the strategies and tactics to conduct monetary policy. With financial innovations imparting a degree of instability to money demand and velocity of money, central banks in many countries have eschewed setting unique intermediate targets or following some fixed rule of monetary policy. There is a growing realisation that given the increasing uncertainties and latent risks in financial markets in recent times, a single model or a limited set of indicators is not a sufficient guide for monetary policy. Instead, an encompassing and integrated set of data is required (Trichet, 2004). Many central banks now follow a

'multiple indicator approach' and monitor a large range of macroeconomic indicators, which carry information about the ultimate objectives. At the same time, as noted above, large movements in monetary and credit aggregates are believed to provide lead information on future financial imbalances. Moreover, in the long-run, inflation is still believed to be a monetary phenomenon. Accordingly, many prominent central banks such as the European Central Bank continue to monitor monetary aggregates even as others have de-emphasised these aggregates.

9.18 With shifts away from monetary targeting regime, short-term interest rates have emerged as operative target/instrument of monetary policy in many economies, both developed and developing. Such central banks manage liquidity to steer monetary conditions in consonance with the overall policy objectives of price stability and growth. Central banks usually forecast market liquidity and then conduct open market operations to impact the interest rate structure to affect the real economy. Furthermore, reflecting the market orientation of monetary policy, direct instruments of monetary management have given way to market-based instruments. Even within the set of indirect instruments, instruments such as cash reserve ratios have been de-emphasised and, in many countries, their use is restricted to stabilise money markets. In order to allow the interplay of market forces, most central banks prefer to prescribe reserve requirements on an average basis and encase interest rates in a corridor, rather than target a particular point. Given the market-orientation of monetary policies, central banks have recognised the need to strengthen their balance sheets in order to be able to meet unforeseen contingencies that may arise from their market operations. If balance sheet of a central bank is not strong enough, it could be constrained from taking the necessary market operations. Strong balance sheets, therefore, increase the credibility of the central banks and hence, stabilise market expectations.

9.19 For monetary policy to remain effective, its operating procedures and instruments will necessitate continuous refinements. Monetary policy actions affect output and prices with long and variable lags. Despite substantial progress, the precise channels of monetary transmission remain a "black-box". Prices are typically quite sluggish - almost unchanged for one year and it can take almost two years for monetary policy to have a noticeable effect on prices, although some evidence suggests that, in the case of emerging economies, the lags may be somewhat shorter. The

effectiveness of monetary policy signals depends upon the speed with which the policy rates are transmitted to market rates of interest. Cross-country evidence suggests that this pass-through to interest rates is only partial in the short-term. Although it increases over time, it is still usually less than complete. Finally, monetary authorities in future will have to contend with implications of electronic money on the transmission process. The dominant view is that monetary policy is likely to remain a key instrument of macroeconomic stabilisation *albeit* its effectiveness could be weakened to some extent by the growing use of electronic money.

Monetary Policy in India: The Framework

9.20 Structural reforms in the Indian economy since early 1990s impacted upon the various aspects of monetary policy - its objectives, strategies and tactics. As regards objectives, price stability and ensuring adequate credit to productive sectors of the economy have been the twin objectives of monetary policy since Independence. The relative emphasis between these two objectives depends on the underlying economic conditions and is spelt out from time to time (Reddy, 2002). Although with the introduction of the structural reforms, there has been a shift in the policy from a planned and administered interest rate system to a market-oriented financial system, credit availability remains an important objective of monetary policy in India. In the pre-1990s period, credit allocation and administered pricing certainly ensured a reasonable level of credit flow in the desired direction at the desired price, but at a cost along with inefficiencies as well as distortions (Reddy, 2004a). In such a situation, the cost had to be borne in different ways, including statutory pre-emptions - as high as 63.5 per cent of the incremental deposits of banks in 1992. Policies of liberalisation, deregulation and enabling environment of comfortable liquidity at a reasonable price, however, did not automatically translate into credit flow at reasonable interest rates as banks continued to charge interest rates to various categories of borrowers by their category *per se* - whether agriculture or small scale industry - rather than based on actual assessment of risks for each borrower. The Reserve Bank's endeavour in the past few years has, therefore, been to reduce transaction and information costs so that credit availability to such sectors is available at reasonable interest rates.

9.21 At the same time, with the opening up of the economy since the early 1990s, financial stability has now emerged as a key consideration in the conduct

of monetary policy. Monetary management has now to contend with vicissitudes of capital flows and volatility in exchange rates. Due to large capital flows and, in recent years, surpluses in the current account, the overall balance of payments have recorded persistent growing surpluses since 1993-94 (excepting one year, 1995-96). Such large surpluses have been absorbed by the Reserve Bank in its foreign exchange reserves. Whereas the distinction between short term and long term flows is conceptually clear, in practice, however, it is not always easy to distinguish between the two for operational purposes. Moreover, at any given time, some flows could be of an enduring nature whereas others could be temporary and, hence, reversible. More importantly, what appears to be short-term, could tend to last longer and *vice versa*, imparting a dynamic dimension to judgment about their relative composition (RBI, 2003). In a scenario of uncertainty facing the authorities in determining temporary or permanent nature of inflows, it is prudent to presume that such flows are temporary till such time that they are firmly established to be of a permanent nature.

9.22 Large purchases of foreign exchange by the central bank from the market have an expansionary effect on domestic money supply and, therefore, pose challenges for monetary management. Monetary policy had to manage not only these persistent surpluses but also episodes of volatility in the foreign exchange market. Although capital flows have been largely stable, reflecting a cautious approach to capital account liberalisation, there have been nonetheless a few episodes of volatility in capital flows and exchange rates. As maintaining orderly conditions in the foreign exchange market is an important objective of monetary policy, monetary authorities have to face potential conflicts between the interest rate and exchange rate objectives. The bouts of volatility in exchange rate may necessitate that market conditions are rendered less liquid and interest rates are kept high. This policy has implications for promoting domestic growth but the larger objective of evading the likely potential disruption of domestic activities arising out of exchange rate crisis also needs to be kept in view. Given the imperfections in the foreign exchange market, the exchange rate objective may predominate due to emphasis on avoidance of undue volatility (Reddy, 1999).

9.23 Financial stability concerns arise also due to the move from a Government-dominated financial system to a market oriented one. In the past, the Government domination was imparting too much

stability through rigidity and too little efficiency. In this context, enhancing efficiency while at the same time, avoiding instability in the system, has been the challenge for the regulators in India (Reddy, 2004b). Financial stability entails: (a) ensuring uninterrupted financial transactions; (b) maintenance of a level of confidence in the financial system amongst all the participants and stakeholders; and (c) absence of excess volatility that unduly and adversely affects real economic activity. Such financial stability has to be particularly ensured when the financial system is undergoing structural changes to promote efficiency.

9.24 In India, the vulnerability to real sector shocks has the potential to significantly affect financial stability. The major sources of shocks in India are very sharp increases in oil prices and extraordinary monsoon failures with consequent impact on the agricultural sector. Therefore, the weight to financial stability in India is higher than in many other countries (RBI, 2004b).

9.25 Financial integration and innovations have also necessitated refinements in the strategies and tactics of monetary policy in India. In order to meet challenges thrown by financial liberalisation and the growing complexities of monetary management, it was felt that monetary policy based exclusively on a money demand function could lack precision. Accordingly, the Reserve Bank switched from a monetary targeting framework to a multiple indicator approach. Short-term interest rates have emerged as signals of monetary policy stance. A significant shift is the move towards market-based instruments away from direct instruments of monetary management. A key step has been the introduction of a liquidity management framework in which market liquidity is now modulated through a mix of open market (including repo) operations and changes in reserve requirements and standing facilities, reinforced by changes in the policy rates. These arrangements have been quite effective in the recent years in managing liquidity in the system, especially in the context of persistent capital flows. The introduction of the Market Stabilisation Scheme has provided further flexibility to the Reserve Bank in its market operations. With the market orientation of monetary policy, the Reserve Bank, like most other central banks, has initiated several measures to strengthen the integrity of its balance sheet.

9.26 Over the past few years, the process of monetary policy formulation has become relatively more articulate, consultative and participative with external orientation, while the internal work processes have also been re-engineered to focus on technical