

Inflation in India : Status and Issues*

Mr. Chairman, Professor Hanumantha Rao garu; Professor Venkataramiah and friends,

I am happy to be here again in the midst of friends belonging to the academic community of twin cities. In particular, I am honoured that Professor Hanumantha Rao is presiding over today's session. A lecture-date with CESS implies that I prepare carefully on a topic of contemporary interest to the research community in the broad area of economics. During my last visit a couple of years ago, I spoke on the subject of capital flight when affectionate Peddaguru Shri.Vithal presided over the meeting. Today, I intend speaking on Inflation in India. Being a central banker, the preoccupation on my part with price-stability is only natural. The current state of inflation is an added reason why the theme of inflation has been chosen for introspection today.

Whenever the annual inflation rate has gone up sharply, say into double-digit, there has been huge hue and cry, often leading to demands that the Reserve Bank of India should take action necessary to bring price levels down. On the other hand, when inflation drops below five per cent, there is rarely in view an open support for RBI's policies. At present, the rate of inflation is at a very low level, and perhaps it is time to see that price-stability is also maintained on a sustained basis.

Inflation is one of those economic phenomena that affects every citizen, almost everyday; yet, perceptions in India are often at variance with reality. For example, people often ask as to how during periods of falling inflation, prices still go up. A moment's reflection makes it clear that when inflation is down, it is only the rate of increase in prices that is down. On the other hand, when inflation rate edges up, not all are satisfied. For, while nominal incomes go up, the real worth of incomes is eroded with price-increase. These instances show how popular perceptions are at variance with the essence of the phenomenon.

Currently, a great deal of popular attention is being paid to issues relating to inflation and its measurement in India, than ever before, reflecting some new realities. First, with the dismantling of most administered interest-rates, the link between inflation and interest rate is, relative to the past, more closely tracked by savers, investors and financial intermediaries. True, in the past also, there were links, more in the case of deposit rates than lending rates, but in the recent past, there is greater sensitivity to the link. Second, with the progressive opening up of the economy, the integral link between inter-country interest rate differentials, inflation rate differentials and the forward exchange premia are closely observed when viewing exchange rate movements. Third, in a liberalised trading regime and market determined exchange rate regime, and also if the country has to allow the economy to be "globalised" or more open, inflation-tracking is critical in terms of maintaining competitiveness of domestic industry. Fourth, the market participants carefully track inflation data to anticipate and assess monetary policy changes, in view of the recent trends in the manner of articulation of such policy changes.

At the outset, it would be useful to clarify the headline measure of inflation in India. This will be followed by a review of inflation in India from the 1950s to the present times. The measurement issues, with special reference to the recently observed widening of divergence between the two frequently used measures of inflation in India would be elaborated. Then the discussion would turn to the concept of core inflation and its relevance to India. Some

exploratory analysis is attempted on the apparent puzzle of the current low inflation being accompanied by relatively high growth in money supply. The dilemmas in monetary policy in the context of inflation will be referred to before giving a comprehensive treatment to the relevance of inflation targeting in our country. The concluding part will present an agenda for research and debate on inflation in India.

On the Measure

The variation in the price level in India can be measured in terms of the Wholesale Price Index (WPI), or the Implicit National Income Deflator (NID) or the Consumer Price Index (CPI).

The WPI is the main measure of the rate of inflation often used in India. The WPI is available for all commodities' and for major groups, sub-groups and individual commodities. The basic advantage of this measure of inflation is its availability at high frequency, i.e. on weekly basis with a gap of about two weeks, thereby enabling continuous monitoring of the price situation for policy purposes. This index does not cover non-commodity producing sectors viz. services and non-tradable commodities.

The national income deflator, on the other hand, is a comprehensive measure but statistically derived from national accounts data released by the Central Statistical Organisation (CSO) as a ratio of GDP at current prices to GDP at constant prices. Since it encompasses the entire spectrum of economic activities including services, the scope and coverage of national income deflator is wider than any other measure. At present, the GDP deflator is available only annually with a long lag of over one year and hence has very limited use for the conduct of policy.

The important measure at the point of consumption is the consumer price index for industrial workers (CPI-IW) which is meant to reflect the cost of living conditions and is computed on the basis of the changes in the level of retail prices of selected goods and services on which a homogeneous group of consumers spend the major part of their income. Its coverage is broader than the other indices of CPI like the CPI for agricultural labourers (AL) and the CPI for urban non-manual employees (UNME). Besides, CPI-AL and CPI-UNME are not considered as robust national inflation measures because they are designed for specific groups of population with the main purpose of measuring the impact of price rise on rural and urban poverty.

While each of the measures has its advantages as well as weaknesses, the selected measure of inflation should broadly capture the interplay of effective demand and supply forces in the economy at frequent intervals. This will be facilitated if the price indices have a high periodicity of release, and it is in this sense that WPI is superior to CPI. WPI's coverage of commodities is also high. While services do not come under the ambit of WPI, the coverage of non-agricultural products is better in WPI than CPI, making WPI less volatile to relative price changes as against the CPI. The coverage of tradable items, essentially manufactured products (weight = 57.06 per cent) is higher in the case of WPI whereas the coverage of non-tradables like services pertaining to education, medical care and recreation are more in the case of CPI-IW. The weekly periodicity of WPI with a lag of a fortnight often coincides with the release of banking and money supply data on 14 day basis (referred to as fortnightly for convenience) which in turn is available with a similar lag. The correlation between the annual

average variation of M3 (broad money) and WPI on a relatively long time horizon is stronger than that between M3 and CPI-IW, a statistical relationship that has been corroborated by several econometric studies on the subject. In fact, some studies indicated that the long-term elasticity of WPI with respect to M3 is close to unity. A number of recent empirical works based on the long-run equilibrium analysis have found that both these series are cointegrated to a fair extent, thus providing evidence on the WPI being more amenable to monetary policy changes. The Report of the Working Group on Money Supply (1998) also used WPI as inflation measure and found that the nominal money demand equation showed a long-run price elasticity close to unity.

Finally, some internal studies in RBI (by Deepak Mohanty, Abha Prasad and Anupam Prakash) indicate that, though there has been some divergence in the annual movement of the two indices and GDP deflator over the longer term, there has not been any secular or systematic bias. The analyses of the three measures of inflation for the period 1950-51 to 1995-96, display broadly similar trends. A long term time-series data of the three indices viz. WPI, GDP-deflator, and CPI-IW reveal that there have been leads and lags involved during certain phases, which tend to get evened-out over long time spans, but there has not been any secular or systematic bias. The cross-correlation between the three indices comes close to one reaffirming the belief that any one of these could be used to study the phenomenon of inflation in the Indian economy. No doubt, there are some interesting developments after 1995-96, but this study did not capture them.

Nevertheless the choice of WPI as a headline measure appears justifiable on grounds of convenience as well as analytical reasoning. First, the WPI with a weekly frequency has just a two weeks lag as against the monthly frequency of CPI-IW with a lag of two months. Secondly, the commodity coverage in WPI is wider than that in CPI. Thirdly, WPI is computed on all-India basis whereas CPI is just constructed for specific centres and then aggregated to get the all-India index. Because of this feature WPI is more easily understood by majority of public.

Review of Inflationary Trends in India

In general, among the developing countries, India's inflation performance would be considered as satisfactory, as would be evident from the study already mentioned. During the fifties, in fact, the average decadal rate of inflation was very low at 1.7 per cent, with the rate varying in a wide range from a negative value of 12.5 per cent to a positive value of 13.8 per cent. The minimum inflation at a negative rate in 1952-53 was in response to the bumper agricultural production in that year while the maximum inflation rate in 1956-57 was mainly attributed to demand pressures, especially investment demand, both public and private.

During the sixties, the average decadal inflation edged up to 6.4 per cent. The inflationary pressures started mounting from 1962-63, on account of the Chinese War in 1962 and unsatisfactory supply position. The Pakistan war in 1965, and the famine conditions during 1965-66 aggravated the situation further. The maximum inflation at 13.9 per cent was recorded for the year 1966-67, but the minimum inflation rate of (-) 1.1 per cent was in 1968-69 attributed primarily to the bumper agricultural production in the preceding year.

The average inflation rate during the seventies was still higher at 9.0 per cent. The maximum inflation recorded in the year 1974-75 at 25.2 per cent was mainly attributed to the failure of

kharif crops in 1972-73 as also to the hike in crude oil prices in 1973. The minimum inflation rate for the decade at (-) 1.1 per cent was recorded in the following year, i.e. 1975-76, in response to the substantive anti-inflationary measures taken by the government. The year 1979-80, however, witnessed a strong resurgence of inflationary tendencies due mainly to poor agricultural output and the second hike in international oil prices. The decade was the most tumultuous as far as the price situation was concerned.

During the eighties, the decadal average inflation moved down somewhat to 8.0 per cent. What is more significant is that variation in prices was small as compared to any of the preceding decades. The highest inflation rate for the decade was at 18.2 per cent in 1980-81 and the minimum inflation rate was at 4.4 per cent for 1985-86.

The period 1990-91 to 1997-98 witnessed a resurgence of inflationary tendencies with four of the seven years showing price rise between 10 to 15 per cent. Following the Gulf crisis of 1991, the first half of the decade was characterised by double-digit inflation – the sole exception being 1993-94 with an inflation rate of 8.4 per cent. From 1995-96 to 1997-98, there was a reversal of trend, as reform measures began to show positive impact on prices, and the average inflation rate for the nineties up to 1997-98 was 9.0 per cent.

Thus, India recorded relatively satisfactory levels of inflation since, for the entire period of analysis, i.e. 1950-51 to 1997-98, the average rate of inflation working out to 6.7 per cent and the modal value of distribution of inflation rates lying between 5 to 10 per cent. The inflation rate has also been far less volatile than in most developing countries, with standard deviation at 6.6 and the rate having crossed the 15 per cent mark on only four occasions during the last half a century or so. Moreover, the high pressures of inflation were felt on almost all occasions, due to exogenous shocks like oil price hike, gulf crisis, wars, etc. and domestic supply shocks such as adverse monsoon conditions. However, it is possible to suggest that progressively, over the period, impact of monsoon conditions on volatility in prices is getting increasingly moderated perhaps due to expansion of irrigated agriculture as also buffer stock operations.

Besides, the changes in administered prices had an impact on the timing of price increases in the sense that variability could have been moderated under some circumstances. Finally, and perhaps, importantly, monetary policy did not appear to have been a major cause for the few examples of high inflation.

In this context, some elements of caution are necessary here. First, though the average for the entire period is 6.7 per cent, the average for the past 30 years is much higher at 8.66 per cent. Second, during recent years, international inflation rates are drifting downwards. Third, though money supply may not have started the inflationary spiral in India, passive accommodation could have contributed to sustaining inflation at a higher rate.

The Current Status

It is well recognised that, viewed in the light of the experience of the recent past, the year 1998-99 saw high inflation rates in most months. However, by the fiscal year-end, on a point-to-point basis, the rise in the wholesale price index showed a marked deceleration. The point-to-point inflation rate declined to 4.8 per cent in 1998-99 from 5.3 per cent in 1997-98. However, inflation rate on the basis of the average of weeks was higher at 6.9 per cent in

1998-99 compared with 4.8 per cent in 1997-98. The weighted contributions of major commodity groups to the total price rise during 1998-99, on an average basis, indicate that the primary articles group contributed to the maximum with a share of 56.8 per cent which was substantially higher than that of 23.7 per cent in the preceding year. The share of fuel group declined to 6.8 per cent in 1998-99, from 29.1 per cent in 1997-98. The weighted contribution of manufactured products declined to 39.5 per cent in 1998-99 from 47.6 per cent in 1997-98. A noticeable aspect of the price situation during 1998-99 was that the weekly annualised rate of inflation as measured by WPI consistently remained higher during the major part of the year than that of the preceding year.

The rate of inflation measured in terms of point-to-point variation in the Consumer Price Index for Industrial Works (CPI-IW) registered an increase of 8.9 per cent in 1998-99, close to the rate of 8.3 per cent in 1997-98. But, with the increase of CPI-IW remaining high for most part of the year and falling towards the end of the year, consumer inflation measured in terms of average of months of CPI-IW almost doubled to 13.1 per cent in 1998-99 from 6.8 per cent in 1997-98. It was also higher than the average of 10.2 per cent during the period 1990-91 to 1996-97. The trends in WPI and CPI-IW revealed significant divergence between the two, with the difference between the wholesale price inflation and consumer price inflation being in a wide range of 3 to 12 percentage points during the year.

1998-99, thus, was somewhat extraordinary for several reasons.

First the divergences in various measures of inflation, WPI vis-à-vis CPI and average vis-à-vis point to point, are significant.

Second, the traditional villains of inflation such as war, oil price hike and failure of monsoon were conspicuous by their absence.

Third, there was a fairly rapid reversal of inflationary pressures making the episode an unusually short duration one.

Fourth, for justifiable reasons, aspects covering the construction of the indices were subject to serious questioning.

As regards, 1999-2000, for the week ended July 24, 1999, the annual inflation rate measured as point-to-point variation in the WPI was 1.19 per cent. During the financial year i.e. upto July 24, the rise of 1.16 per cent in WPI on a point-to-point basis, was lower than that of 4.78 per cent recorded during the same period of the previous year. The weighted contribution of major commodity groups show that primary articles group continue to have maximum share in the price increase during the year so far. On an average basis also, the inflation rate during the current financial year so far at 1.19 per cent was lower than that of 4.85 per cent during the same period in 1998-99.

The rate of inflation measured in terms of CPI-IW increased by only 1.4 per cent during April-June 1999, much lower than the increase of 5.0 per cent during the first three months of 1998-99. On an average basis, the increase was of a lower order of 1.0 per cent as compared to 6.7 per cent during 1998-99.

Practical Issues in the Measurement of Inflation

It is now obvious that none of the existing measures provides a truly reliable gauge of inflation at any point of time. An index can be constructed for different baskets of goods and services, with varying weights, to cover different sets of consumers or locations. There is thus no all purpose, all-inclusive, universally valid index. Operationally, there could be problems that distort an index. For example, the basket of goods and weights may be held constant for too long. Indeed, over a period, some of the goods may go out of production. In any case, change in quality of goods cannot be captured, although it is apparent that the quality of many industrial goods has been improving. Further, the government machinery that collects the data, even with best of efforts, would not be able to capture the offers of discounts at retail level.

The widening gap between the inflation rates based on the WPI and CPI-IW in recent periods has raised several statistical issues, which were subjected to a sharp scrutiny by G.P.Samanta and Sharmishta Mitra (RBI Occasional Papers of December 1998). The main points of this study are worth summarising here.

From the coverage point of view, the dissimilarity in the baskets for CPI-IW and WPI is very prominent. As I mentioned at the beginning, the basket for WPI includes a wide-spectrum of raw materials, intermediate and final products, which are traded in wholesale markets but services are excluded from its scope. On the other hand, CPI-IW covers final products and services consumed by industrial workers in retail market. While price quotations for WPI relate to the wholesale level, those for CPI-IW pertain to retail prices. Hence, it is not surprising that they differ to some extent. However, consumption being the end use of all economic activities, price changes in wholesale markets (WPI) are expected to be reflected in price changes in retail markets (CPI-IW). Changes in CPI-IW may also have some cost-push impact on WPI when changes in wages occur due to indexation of dearness allowances. Thus despite the several differences, conceptually there would be some cause-and-effect type relationship between the two series. At the same time, some degree of difference between CPI-IW and WPI may be unavoidable due to difference in their base years.

In this background, the main concern should really be whether the gap is widening significantly or not. For better understanding the gap is normalised by the authors after making suitable adjustment for the rising trends in both the series. Some preliminary statistical investigation not only indicates widening divergence between the two series since May 1995 but also seems to have raised some questions on the stability of long-term relationship between them. The study, however, concludes that the short-term relationship between CPI-IW and WPI based on common commodities does not appear to be disturbed. Therefore, the study suggests that the recent disturbance in the short-run relationship between the actual CPI-IW and WPI is mostly attributable to some peculiar price behaviour of uncommon items, weighting diagrams etc. This implies the need for a detailed survey of the behaviour of individual commodities in both the market segments.

At a somewhat non-technical level, there are some striking reasons why the two indices are not representative measures of inflation. First, the coverage, especially the exclusion of services-sector from WPI, given the rapid increase in the share of services in GDP. Second, biases on account of the base year and weights are predominant. Third, because of currency of the two indices for too long a period, ensuring quality and consistency in data have suffered and led to poor representation of the phenomenon.

Core Inflation

It is against the background and in the context of inflation-targeting by some central banks, there has been some interest in developing the concept of core-inflation, in preference to a headline measure such as the WPI or CPI. This is particularly relevant in so far the framework of monetary policy is concerned. The RBI in Box III.4 of its Annual Report for 1997-98 has given a brief description of the concept, features and practices of core-inflation. The permanent component is often called the 'underlying' rate of inflation or the 'core' rate of inflation. It is not the current rate of inflation, comprising transient components, but the future underlying rate of inflation, which should be the concern of monetary policy. Measurement of the underlying or core rate of inflation, however, does involve some amount of judgement or discretion.

The Box describes the economic rationale for considering the core rate of inflation in the framework of monetary policy which is governed by the fact that it is this rate, being permanent in nature, which is fully anticipated by economic agents and hence, incorporated into their decision making processes thereby making it output-neutral. Viewed from another angle, it is the existence of the permanent component, which imparts downward rigidity to the measured rate of inflation in the event of a positive supply shock. Therefore, it would be valuable for the economy to ensure that permanent or core rate of inflation is reduced. The objective of reducing the rate of inflation as the prime objective of monetary policy should be viewed against this perspective.

On the application of core inflation in India, some research work has already been initiated in RBI and the latest RBI Occasional Paper, Summer of 1999, has a paper by G.P.Samanta. The paper recognises the practical issue of eliminating the noise or supply (transient) related components of traditionally used price index based measures of inflation. In the Indian context, exclusion-based measures appear to be intuitively appealing. Four exclusion-based measures - exclusion from headline measure, i.e. WPI, are examined and the measure which appears least volatile, according to the analysis by Samanta, is the one that excludes Primary Food Articles, Primary Non-Food Articles and Administered commodities from the WPI basket. Needless to say, as the author admits, this is an emerging issue and further research is required before arriving at any meaningful conclusions that could satisfy both the theoretical expectations and operational parameters.

Money Supply and Inflation

In some ways, the underlying logic behind the concept of core-inflation could be utilised to explain the so-called current puzzle of low current rate of inflation and the relatively high growth in money supply. First, as already mentioned, supply shocks played a dominant role in setting the inflation trend during the major part of 1998-99 and when the supplies improved in the subsequent months, a correction followed. The bumper crop recorded in rice, wheat, oilseeds, sugarcane, pulses and major fruits and vegetables in 1998-99 must have led to early supply conditions in some of these commodities, driving down their prices from the last year.

Secondly, the low primary articles inflation may also be contributing to the reduction in the manufacturing inflation by bringing down the input cost of industries which are dependent on agricultural raw materials.

Thirdly, increased import competition due to trade liberalisation coupled with sharp decline in world manufacturing prices could be contributing to low manufacturing inflation through cost saving technological innovation and reduced mark up in domestic industries.

Fourthly, positive productivity shocks in the post liberalisation period due to competitive pressures might be contributing to improved price competition of industries in the domestic market.

Fifthly, money and inflation relationship also needs to take into account the transmission lag of monetary impulses, which can be both long and variable. Preliminary evidence in the Indian context shows that the full impact of a monetary shock on the inflation rate can take a long time to realise, and the lag could even exceed two years.

Sixth, the importance of money supply in explaining the long term price movement in the Indian economy may be appreciated from the fact of the existence of a fairly stable money demand function. Majority of the recent studies in the Indian context including the RBI's Working Group on Money Supply (1998) which threw light on this subject have found that inflation rate over a long period is reasonably explained by growth in money supply. These studies indicate that in the short run the price effect of money supply may deviate from the long-run equilibrium behaviour, especially when the economy is subject to supply shocks.

However, it is necessary to recognise that the evolving transmission mechanism consequent upon financial sector reform would imply certain changes in the nature and magnitudes of the underlying relationship between the growth in money supply and inflation, matters on which further and intense research and analysis is required.

For the past three years, i.e. 1996-97 to 1998-99, the growth in broad money averaged 17.3 per cent per annum and the growth in real GDP 6.3 per cent and the inflation rate 6.0 per cent. The way the rural economy is getting monetised and the rural demand is increasing over time in the recent past, it is not unrealistic to conjecture a slight shift in the sectoral demand for money. Keeping in view the fact that there is excess capacity in the economy, a shift in sectoral demand for money need not be inflationary. It can be argued that short-term deviation in the relationship among money, output and prices ought not to be construed as a breakdown of the inherent linkages. Yet, there are a number of recent developments warranting intense research and analysis of the evolving relationships between growth in money supply and inflation.

With complexities in statistical measurement of inflation, evolving relationships between money supply and prices, uncertain time lags in such relationship, conduct of monetary policy is a challenging task. On top of the normal growth cycles, our economy is undergoing a wide ranging and deep structural transformation, adjusting simultaneously to international price pressures. In addition, 1998-99 was characterised by extraordinary adverse developments in the external sector and domestic uncertainties. When the headline measure of inflation indicated pressures, judgements were called for in fine tuning monetary policy. The actual stance taken and vindication thereof is public-knowledge. However, for purpose of

record, it is worthwhile recalling extracts of Dr.Jalan's Monetary Policy Statement of April 1999 :

“Developments during the past year illustrate the dilemma faced by monetary authorities in a situation of uncertain macro-economic outlook in respect of inflation and growth, alongside high monetary growth. When the current rate of inflation is low, a high rate of growth in money supply nevertheless warrants tightening of liquidity (and increase in interest rates) in order to dampen aggregate demand and to avoid potential problems. However, if growth of output is also low, tightening of money supply during a period of relatively low inflation may result in a further loss of output. This in turn could result in lower revenue and the need for Government to borrow further. A similar dilemma arises when inflation rate accelerates because of supply shocks, which are expected to be temporary. This, for example, was the situation last year when, until October, inflation was accelerating due to lower availability of a few primary commodities. The Reserve Bank at that time chose not to tighten monetary policy in the expectation that the price risk would reverse itself later in the year when agricultural supplies improve. In retrospect, this judgement turned out to be correct. However, if it had not, and inflation had accelerated further, monetary policy would have required much sharper tightening in the subsequent months of the year.”

Inflation Targeting

Attention to the possibility of inflation targeting in India has heightened recently, partly in view of such an approach being adopted by a number of central banks in many industrial countries and partly because of the analytical rigour behind the approach, as evidenced by the sixth L.K.Jha memorial lecture given by the Governor of the Reserve Bank of New Zealand Mr.Donald Brash in June this year. Mr. Brash focussed on the relevance of New Zealand's experience to developing countries particularly in the context of “fiscal dominance” ; multiple objectives of monetary policy, especially growth and exchange rate; and lack of sophistication in inflation-forecasting, inflation-measurement and overall financial system. His main theme was that inflation targeting was in no sense a panacea but a very sensible policy option.

In fact, some efforts to address this issue have been in evidence in India for sometime. Dr. R.Kannan's paper on “Inflation-targeting; Issues and Relevance for India”. (EPW Jan. 16-23, 1999) has recognised that successful inflation targeting requires credibility of the enforcing agency, usually the government and the central bank. Credibility in turn requires that the target be chosen carefully. The article reviewed inflation targeting experience so far, analysed the issues related to it and argued for developing an inflation model for India. The conclusion was that operationally inflation targeting in India should wait until financial sector reform agenda is accomplished.

Agenda for the Future

Inflation, as a subject, has been a major area of economic-research and public-debate, all over the world, and particularly so in India, where strong democratic traditions and intellectuals' activism are well rooted. Even so, it may be appropriate to highlight some of the areas that need attention at this juncture.

First, there is a need for working out a national consensus on the acceptable level of inflation. What may be called inflation-consensus should be followed by an explicit inflation-mandate. The RBI Annual Report for 1993-94 argued "It is here that there is need for a broader national consensus before prescribing a mandate for a central bank".

In fact, the RBI's Annual Report for 1996-97 says:

" History shows that successful monetary policy requires not only a high degree of operational freedom for the central banks but also a clear enunciation of the dominant objective of policy...However, there has to be a general consensus on the need to keep the inflation rate around a certain level".

Dr. Rangarajan, now Governor of Andhra Pradesh had made scholarly and policy contributions to the concept of an optimum level of inflation for India. In 1997, Dr.Rangarajan indicated his views as follows :

" Keeping the price and growth objectives in view, the money supply growth should be so modulated that the inflation rate comes down initially to 6 to 7 per cent and eventually to 5 to 6 per cent. That indeed must be the goal of monetary policy."

Studies by Dr. Vasudevan, our Executive Director in RBI also establish that at the inflation rate of about 6 per cent GDP growth has been found to be optimal in the case of India. More recent studies by Dr. Kannan and Dr.Joshi of RBI confirm this view and also indicate that inflation rates below the estimated threshold may have some positive effect on growth. Personally, I believe that rapid changes in world situation, and rapid process of our integration with the rest of the world could be pushing down this threshold level - down from six per cent.

The Economic Survey (1997-98) of Government of India gave some official indication of the acceptable level of inflation when it stated :

" As world inflation rates are currently of the order of 0 to 3 per cent, 4 to 6 per cent inflation rate could be regarded as an acceptable level for India at present."

The Tarapore Committee on Capital Account Convertibility recommended a mandated rate of inflation for the three-year period 1997-98 to 1999-2000 in the average of 3 to 5 per cent. In brief, there is a growing consensus on acceptable level of the inflation-rate, but this needs to be better articulated, formalised and perhaps converted in due course into a mandate from Government to RBI and, in the process to all economic agents. This approach should have, among other things, a significant impact on inflationary expectations in India.

Second, the immediate task of weights in regard to Wholesale Price Index is being addressed by Hashim Committee. Similar effort in respect of Consumer Price Index, it is understood, is under contemplation by Government of India. The issues relating to base year, coverage and weights have to be resolved. A detailed survey of the behaviour of individual commodity prices in both the wholesale price segment and retail price segment would perhaps help analyse changes in their behaviour in the past. The National Statistical Commission proposed to be established as per the budget speech of Finance Minister could

consider giving priority to this item as part of measures for a systematic revamping of the system.

Third, analytical work on defining appropriate “Core Inflation” for India may be worth exploring. A measure of core inflation has two distinct uses for monetary policy purposes. While one role is in setting or formulating policy, the second role is in providing policy accountability. Because of these two uses, many central banks are interested in estimating core inflation. But, it should be equally recognised that different methods used to estimate core inflation give various estimates and hence it is very difficult to have a precise and unique definition, which is universally acceptable. Hence, the need for further research on defining core-inflation, appropriate for India.

Fourth, in analysing inflation, we need also to look at the asset price inflation, particularly in the context of financial market liberalisation. In India, the asset prices are not covered in both the indices of inflation indicators despite their increasing importance in terms of one of the important channels for the transmission mechanism of monetary policy. However, there are significant difficulties in constructing an appropriate index for this purpose.

Fifth, analytical work on inflation-targeting needs to be continued, though immediate operational relevance may not be very apparent. The experience of other countries especially developing countries should be studied carefully before embarking on this.

Sixth, well informed debate on the issue of inflationary expectations is necessary to take a view on the computation of real interest rates. From the view point of a proactive policy, it is necessary to have a pragmatic assessment on the anticipated inflation rate. There are many ways in which this can be gauged and perhaps we can have as many techniques as there are economists. In my lecture on ‘Interest Rates in India: Status and Issues’ delivered at the inaugural conference of Fixed Income Money Market and Derivatives Association of India (FIMMDAI) in June 1998, I had emphasised:

“ We need to add an important caveat here, that calculations of real rates of interest should take into account the distributed lagged effect. Illustratively, the nominal interest rate in year ‘ t ’ needs to be adjusted by taking into account a five year moving average of the inflation rates in a year ‘ $t, t-1, t-2, t-3, t-4$ ’ with weights of say 5, 4, 3, 2, 1. In other words, the present inflation rate has a larger impact than the inflation rate in the year ‘ $t-4$ ’ “.

I had given one such simple illustration of deriving the anticipated inflation rate using a weighted average inflation rate with a distributed lag. While there may legitimately be some drawbacks to this approach, we need to improve on this. In any case, it is too simplistic to argue that the latest “year-on-year” inflation rate is the best indicator of the expected inflation rate.

Seventh, there are a variety of policy-perspectives that have a bearing on inflation, and these too need to be analysed on an on-going basis. These relate to the evolving role of quantity variables and rate variables in monetary policy, the changing lags, and the improvements in transmission-mechanisms. The transmission-mechanisms are being enhanced but serious rigidities such as the interest-rates for Provident Funds, administered small savings etc. persist. Liberalisation of various markets, including agricultural markets cut into rent-margin in commodities. Fiscal policy would be relevant not only in terms of aggregate demand

effects through direct and indirect monetisation, but also because of changing composition of tax and expenditure-structure. The fortuitous circumstance of a reduction in POL prices in the recent past indicates the importance of tracking the narrowing gap between domestic and international prices. Perhaps we should also have an analytical-construct to differentiate between the extent of externally-induced inflation, or for that matter deflation and domestically induced inflation.

Finally, the public-distribution system has its costs but also has its benefits – particularly in terms of moderating the variability in inflation rate.

To conclude, our track record on inflation has been satisfactory; and there are good chances that we would improve on it if we continue to keep our analytical tools rather sharp and ensure the timeliness and coordination especially between fiscal-monetary operations as well as effectiveness of policy-responses. We in RBI will continue to contribute to analysis and debate and we are prepared for appropriate policy advice and policy actions.

Thank you.

* Address by Dr.Y.V.Reddy, Deputy Governor, Reserve Bank of India at Centre for Economic and Social Studies, Hyderabad on August 17, 1999. Dr.Reddy is grateful to Dr.R.Kannan, Shri Deepak Mohanty and Shri Madhusudan Mohanty for their assistance.