



JOURNAL OF GLOBAL ECONOMY

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EDITORIAL,

Dear all,

Mr Gangadhar Sonar is of the opinion that globalisation and economic liberalisation have a negative impact on the traditional welfare institutions and higher socio cultural values and become a challenge to social work profession. The management techniques, tools, methods and corporate culture, governance, professional values, new business ethics and consumerism are the emerging aspects before Indian social work. Each of these institutions is being put at risk. The structural adjustment policies (SAPs) imposed on countries in economic difficulties by the International Monetary Fund and, to a lesser degree, the World Bank, have made these countries subject to the whims of multinational capital, cut protection for home industries, increased pollution, threatened health and education and imposed public expenditure cuts. The collapse of local industries, disruption of agriculture, over-rapid urbanisations have only been accelerating the relative rate of poverty.

We are planning to come out with a special issue on the Globalisation and Social Work. RCSS calls for observation, commentaries and research papers on the issue. All are requested to submit their write-ups before 31st December, 2005.

This issue has one commentary and four Research papers. Commentary by Mr. Vijay Jawandhia from Shetkari Sanghthana, Wardha, Maharashtra, discusses impact of market historically on farmers. He feels that more importance has been given to industry than to agriculture sector after independence. Views expressed by Mr. Vijay Jawandhia are personal but reflect a true picture of farmer community.

Dr. U. Arabi writes that monetary policy can contribute to growth and employment by ensuring price stability in major parts of the world. The experience with inflation targeting frameworks has been successful in reducing inflation during the 1990s. 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.

Paper by Mr. J K Sachdeva emphasises how exports of commercial agricultural commodities affect production of succeeding years and vice versa due to international demand and price fluctuations. International prices of the commercial commodities fell after 1995 and it did not help developing countries to expand their business, however India's export of commercial agricultural commodities to developed countries especially American and European countries has increased after establishment of WTO. Their export to Developed East Asian Countries fell after the onset of economic reforms and establishment of WTO.

Prof A.M. Suresh and his colleagues write that phasing out of the quota system under MFA in the year 2005 will be beneficial to Indian exporters as it provides opportunities for growth in the garment sector and opportunities for long-term investments. But it system also poses number of challenges to Indian exporters such as heavy competition, need for on time delivery and need to increase quality and productivity.

Dr. M Seenuvasan writes that the study of Expenditure Composition on scientific basis helps us to understand the relative importance, quality, effects and nature of various kinds of expenditure. The study of expenditure composition at the disaggregative level would be of useful to policy makers to examine and evaluate the effects and efficiency of allocation of fiscal resources on desirable directions.

Executive Editor.

***ALL CONTRIBUTIONS AND SUBSCRIPTIONS TO THE
JOURNAL ARE EXEMPTED UNDER SECTION 80G OF
INCOME TAX ACT.***

Research Paper

GLOBAL INFLATION TRENDS AND MOVEMENT OF INFLATION BEHAVIOUR IN INDIA -AN EVALUATION

Dr. Arabi. U^{*}

Introduction

It is now widely agreed that monetary policy can contribute to sustainable growth by maintaining price stability where the rate of inflation is kept sufficiently low. High inflation has an adverse effect on growth due to a number of factors: distribution of relative prices which lowers economic efficiency; redistribution of wealth between debtors and creditors; aversion to long-term contracts and excessive resources are devoted to hedging inflation risks. In developing economies, in particular, an additional cost of high inflation emanates from its adverse effects on the poor population. Maintenance of low and stable inflation has thus emerged as a key objective of monetary policy. A noteworthy development during the 1980s and the 1990s was the reduction in inflation across a number of countries, irrespective of their stages of development which is believed to be on account of improvements in the conduct of monetary policy, although there is an ongoing debate on this in view of other factors such as globalization, deregulation, competition and prudent fiscal policies that might have also played a role. In advanced economies, inflation rates in the recent decades have averaged around 2-3 per cent per annum-consistent with the establishment of reasonable price stability. In developing and emerging economies too, inflation rates have declined significantly.

The current phase of low global inflation is attributed due to many factors. In particular, the collapse of Bretton Woods arrangement was associated with surge in inflation during the 1970s. Commodity price shocks, especially oil prices, coupled with expansionary demand management policies including Vietnam-war related fiscal expansion in the US provided a significant impetus to inflation. The belief that there existed a stable long-run trade-off between inflation and output as well as overestimation of potential output also contributed to the accommodative stance of monetary policies during this period. With inflation in double digits, deliberate disinflation strategies were put in place in a number of advanced economies during the 1980s and these were successful in reducing inflation. In fact, co-oriented fiscal and monetary policies were deployed to curtail demand pressures in the economy. In

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addition to these, ongoing improvements in the conduct of monetary policy and other recent economic reforms like structural reforms in labour markets, increased competition brought in by the forces of globalization and fiscal consolidation contributed to reduce inflation further during the 1990s. Thus, in order to keep inflation as well as inflation expectations low and stable, efforts to improve monetary-fiscal coordination have been strengthened through emphasis on fiscal rules. Low and stable inflation-called the ‘Death of Inflation’ -has been accompanied with a relatively higher stability in economic activity and the period has been termed as a Non-Inflationary Consistently Expansionary-decade (King, 2004). As inflation during 2001-03 had fallen to such low levels in various countries following the global slowdown and with signs of economic recovery, central banks have now started withdrawing monetary stimuli in a measured manner. The world has thus experienced a significant rise and fall in inflation. Concomitantly, the past half-century has also seen major changes in monetary policy frameworks. To mention a few, a number of central banks have adopted explicit inflation targets under an inflation targeting (IT) regime.

Against this backdrop, a sincere effort is made to address on the critical assessment of the various factors leading to international inflation behaviour; the inflation targeting as a measure of framework; the conduct of monetary policy in a low inflation environment in the context of the growth -inflation trade -off. Addressing on the behaviour of inflation in India and in view of the growing openness of the Indian economy coupled with a market - determined exchange rate system, the attempt made to estimate pass-through of exchange rate to domestic inflation significant to note. Finally, the paper ends with concluding observations.

Movements in Global Inflation Trends

Sustained inflation is a relatively modern phenomenon (IMF, 1996). Average inflation was lower in the first half of the 20th century than that in the second half of the century (Christiano and Fitzerland, 2003). (Table: 1).

Table-1: Inflation: A Historical Perspective (Consumer price inflation in per cent)									
Country Group	1900-13	1930-39	1950-60	1961-70	1971-80	1981-90	1991-95	1996-2000	2000
Advanced Economies	1.5	0.2	4.3	4.0	10.8	8.1	3.9	2.0	2.5
Selected Emerging Market Economies	1.2	1.6	15.2	18.3	29.8	139.7	94.4	23.4	7.8

Source: World Economic Outlook, May 2002, IMF

At the same time, this pattern of increasing prices followed by declining prices rendered inflation more volatile in the period before the World War II vis-à-vis the post-War period. Following disturbances in the inter-war period and due to factors like changes in macroeconomic policies and varying degrees of supply shocks, the world experienced rising price levels from the late 1960s. Before the 1970s, the gold-dollar nominal anchor of the Bretton Woods system acted as a constraint on accommodative policies as long as the US maintained low inflation, because of other countries' commitment to maintain the exchange value of their currency. In the post-Bretton Woods era, however, the freedom to pursue independent monetary policy emerged as a key factor contributing to high inflation during the 1970s.

Since the late 1960s, expansionary fiscal policies and accommodative monetary policies contributed to a strong cyclical upswing in the global economy creating supply-demand imbalances in many non-fuel primary commodities. In the US, for instance, the Vietnam War and tax cuts expanded the fiscal deficit. Fiscal deficits in advanced economies expanded from 1.2 per cent of GDP during the 1960s to 3.4 per cent during the 1970s. Capacity constraints were already putting upward pressure on wages and prices and as the oil price shock hit in 1973, many countries pursued accommodative monetary policies to offset the adverse output and employment effects of the shock. Consequently, inflation surged to double digits in many countries including the US, the UK and Japan. In response, monetary policies were tightened but inflation persisted- the period of the 1970s has come to be called the 'Great Inflation' (Meltzer, 2004) (Table: 2)

Israel	2.4	11.3	15.2	8.4	5.7	7	4.4	3.1
Korea	11.3	11.3	15.2	8.4	5.7	7	4.4	3.1
Malaysia	2.7	0.8	5.5	3.7	3.7	3.8	3.9	2.9
Mexico	7.7	2.7	17.7	18.8	18.9	18.3	22.5	23.1
Philippines	0.5	4.7	14.2	14.2	14.2	11.1	7.9	4.1
Singapore	6.5	2.5	3.8	3.8	2.9	3.9	2	0.6
Canada	2.4	2.3	0.7	0.6	0.6	2.4	2.6	2.6
France	6.2	3.9	8.9	3.8	3.9	4.3	5.7	1.8
Germany	1.1	2.4	4.9	2.8	2.3	2.3	1.3	1.5
Japan	3	5.4	9.1	2.5	1.2	2	0.4	-0.6
New Zealand	5	3.2	11.5	12	2	2.4	1.7	2.4
Switzerland	1.1	3.1	5	3.3	2.3	3.9	0.8	1
US	1.8	2.3	7.1	5.6	3	3.6	2.4	2.5
UK	3.5	3.5	12.6	7.4	3.7	4.6	2.8	2.3
Developing Economies								
Argentina	30.4	22.9	132.9	565.7	252.9	505.1	0.8	9.3
Brazil	-	-	-	354.5	843.3	1667.2	19.4	9.3
Chile	37.9	25.1	174.6	21.4	11.8	17.5	6	3.2
Egypt	0.9	2.9	7.8	17.4	10.5	14.1	6.9	3
India	2.1	6	7.5	9.1	9.5	10.2	8.9	4
Indonesia	40.8	213.3	16.9	9.6	14.5	8.6	20.4	8.6

Table 2: Consumer Price Inflation - A Cross-Country Survey (per cent)
Sources: International Financial Statistics, August 2004 and IFS Yearbook, 2003, IMF.

Following disturbances in the inter-war period and due to factors like changes in macroeconomic policies and varying degrees of supply shocks, the world experienced rising price levels from the late 1960s. Before the 1970s, the gold-dollar nominal anchor of the Bretton Woods system acted as a constraint on accommodative policies as long as the US maintained low inflation, because of other countries commitment to maintain the exchange value of their currency. In the post -Bretton Woods era, however, the freedom to pursue independent monetary policy emerged as a key factor contributing to high inflation during the 1970s. Since the late 1960s, expansionary fiscal policies and accommodative monetary policies contributed to a strong cyclical upswing in the global economy creating supply-demand imbalances in many non-fuel primary commodities.

Growth-Inflation Trade-Off and analysing inflation behaviour

The possibility of a trade-off between inflation and output was first highlighted by Phillips (1958), who found a negative relationship between wage inflation and unemployment behaviour for the UK economy. While this gave an impression that the inflation-output trade-off, later known as the Phillips Curve, could be stable, Friedman (1968) and Phelps (1967) were strongly critical of the possibility of a stable long-run trade-off. In particular, both of them stressed that the trade-off would vanish once the role of expectations is incorporated in the simple Phillips Curve. The predictions of Friedman- Phelps were fully supported by the developments in the early 1970s as higher inflation was not accompanied by output gains; rather, the phenomenon of stagflation-higher inflation and lower output-was witnessed. While the Friedman-Phelps view discounted the proposition of a long -run trade-off, the possibility of even a short-run predictable trade-off also came under attack with the onslaught of rational expectations school of thought. The short-run trade-off continues to remain an issue of contention.

A short-run trade-off can arise on account of nominal and real rigidities in the economy (the New Keynesian perspective) or imperfect information (Lucas, 1973). In the latter view, as in 'misperceptions' model or 'signal extraction problem' of Lucas (1973), quantity supplied is a function of relative price movements (prices of firms' own goods vis-à-vis that of overall prices in the economy) but economic agents have imperfect information on aggregate price level movements in the economy. If the agents perceive the movements in the prices of their own goods as reflecting relative price movements, nominal demand shocks originating from monetary policy would have real impact leading to an observed trade-off. On the other hand, if the agents believe that the movements in the prices of their goods are only mirroring the aggregate price level movements, i.e., they perceive no change in relative prices, nominal demand shocks will have no effect at all on real output and will lead only to

changes in the prices. The trade-off, therefore, depends upon the perception of economic agents. If the past demand shocks have been large, economic agents may attribute all the price level movements to aggregate prices and perceive no relative price shocks. In this case, there are no real effects and no trade-off would arise. On the other hand, if the past nominal disturbances have been small, the price movements may be viewed as mainly reflecting relative movements which would lead to changes in real output and, hence, an observed trade-off. Even though models with rational expectations rule out a systematic short-run inflation-output trade-off, imperfect information produces the observed short-run trade-off.

Initially, the trade-off argument appeared to be holding true as unemployment fell and inflation rose only moderately during the later part of the 1960s. However, the developments during the 1970s showed no such trade-off and the actual outcome was stagflation-high inflation and high unemployment-validating the Friedman-Phelps critique which stressed no exploitable long-run trade-off. Although a consensus that in the long run there is no trade-off between employment and inflation, it is the inconclusive evidence in the short run that poses a challenge for monetary management (Reddy, 2001).

More recently, the view that central banks made a deliberate attempt to exploit the inflation output trade-off during the 1970s has been subjected to a critical analysis. It has been argued that inflation increased during the 1970s because policymakers overestimated the degree of productive potential in the economy (Orphanides, 2003). Overestimation of potential gross domestic product (GDP) prompted policymakers to provide excessive monetary stimulus resulting in the "Great Inflation". The misplaced belief in the potential efficiency of wage-price controls also played a key role (Romer and Romer, 2002; Orphanides, 2001). A centralized wage bargaining and indexation system left most of the countries with higher inflationary expectations (IMF, op cit). This alternative hypothesis notwithstanding, the primary cause of the "Great Inflation" was over-expansionary monetary and fiscal policies beginning in the mid 1960s and continuing, in fits and starts, well into the 1970s (Bernanke, 2003).

Recurrence of high inflation and the cumulative worsening of government finances brought into sharp focus both, the limitations of fiscal activism and the heavy costs of monetary instability (Jadhav, 2003). Therefore, central banks in advanced economies-notably, the US-resorted to deliberate disinflation measures. Monetary policies were tightened from the late 1970s onward to rein in inflation and inflationary expectations. Strong contractionary measures led to a global recession but subsequently inflation was brought down. Reduction in inflation was thus not painless and the transition to low inflation involved substantial costs in terms of output and employment losses (Ball, 1994). Countries such as Germany, Switzerland and, to a certain extent, Japan which had responded earlier to control inflation following the first oil shock, were relatively

better off; although they could not escape the global downturn; macroeconomic consequences of the second oil shock were less severe. Inflation in advanced economies fell from an average of 9.3 per cent per annum in the second half of the 1970s and 8.2 per cent in the first half of the 1980s to 3.6 per cent in the second half of the 1980s (Table: 3). The decline was facilitated by a significant easing in oil prices, setting the stage for broad-based economic recovery.

Inflation moderated further in advanced economies during the 1990s. In contrast to the behavior during the 1970s, estimates of Taylor rules show that the coefficient on inflation has exceeded unity in the period since early 1980s, i.e., in response to inflation threats, short-term nominal interest rates increased more than the increase in the inflation rate. Thus, real interest rates rose as inflation tended to go up which enabled a concretionary pull on aggregate demand and helped to contain inflation (Clarida et al., op cit). A key factor that has contributed to low and stable inflation during the 1990s has been the institutional changes in the conduct of monetary policy - independent central banks, increased transparency and greater accountability-which has enhanced the reputation of monetary authorities and increased public credibility in their ability to deliver low inflation. Supporting economic policies-fiscal consolidation and structural reforms in the labor and product markets-also helped attain price stability. Efforts towards fiscal consolidation have been strengthened with clear-cut fiscal rules such as the Maastricht Treaty and the Stability and Growth Pact in the Euro area.

Table-3: Global Consumer Price Inflation (per cent per annum)							
Country Group	1970-74	1975-79	1980-84	1985-89	1990-94	1995-99	2000-03
World	9.6	11.3	15.7	13.9	21.2	8.3	3.9
Industrial Countries	7.4	9.3	8.2	3.6	3.2	1.9	2
Developing Countries	16	16.6	34.7	39.5	56.3	16.9	6.2
Africa	7.9	17.3	16.9	17.6	34.2	17.5	9.8
Asia	12.2	7.6	10.8	7.2	9.2	6.9	2.1
Europe	7.7	15.7	29.2	46.3	128.6	56	18.2
Middle East	7.7	14.7	19	20.6	12.9	11.8	5.9
Western Hemisphere	33.6	31.3	77.5	104.7	242.4	18.7	8.6
Standard Deviation of Inflation							
World	4.4	2.4	0.9	1.9	5.7	4.2	0.4
Industrial Countries	3.6	1.4	3.1	0.8	1.2	0.5	0.4
Developing Countries	7.3	6.2	5.5	8.7	14.8	9.8	0.5
Africa	3.5	1.9	1.7	1.4	12.2	10.5	2.7
Asia	11.3	3.3	3.5	2.2	3.2	3.7	0.4
Europe	1.9	6.4	17.6	30.5	49.4	37.7	6.1
Middle East	5.5	3	1.9	6	2	6.5	1.1
Western Hemisphere	21.7	24.4	28.4	23.2	143.8	13	1.9

Source: International Financial Statistics CD-Rom, August 2004, IMF.

It is important to note that the moderation in inflation has not come at the cost of output volatility. Rather, the evidence suggests that output volatility has declined in the major advanced economies. For example, the standard deviation of growth rate of GDP in the US during 1984-2002 was two-thirds of that during 1960-83 (Stock and Watson, 2003). Relatively stable GDP growth in recent decades is attributed to a number of factors such as more effective monetary policy, the increasing share of services in GDP, better inventory management and improved consumption -smoothing on account of financial innovations and deregulations. Good luck-absence of major supply disruptions and other such macroeconomic shocks in the recent decades-is also considered as one of the contributory factors. Following the recent global slowdowns of 2000-03, the fall in aggregate demand in the advanced economies put further downward pressures on the already low inflation. Illustratively, core inflation fell to less than one per cent in the US during 2003. Coupled with the ongoing protracted deflation in Japan at that time and deflation in a few other economies such as China, this raised serious concerns about a generalized deflation. Deflation in China-‘good deflation’-was largely the result of a fast growth on the supply side. Policy concerns mainly arise from deflation that emanates from inadequate aggregate demand. In this case, expectations of falling prices encourage agents to defer purchases, thereby discouraging growth. Deflation does more macroeconomic damage than an equal and opposite amount of inflation and monetary policy may turn ineffective at very low inflation rates (DeLong 1999). These concerns with deflation arise, primarily on account of the zero bound on nominal interest rates which constraints the ability of monetary policy to pursue an accommodative stance.

Inflation in Developing Countries

Inflation cycles in developing economies broadly resemble those in advanced economies. Inflation in the developing economies accelerated during the 1970s and the 1980s before moderating from the second half of the 1990s. The decline in the subsequent period has been dramatic. Inflation fell from 56 per cent in the first half of the 1990s to six per cent in 2000-03. The decline is widespread. In Latin America and the countries in transition, inflation has fallen from 230 per cent and 360 per cent, respectively, during 1990-94 to less than 10 per cent in 2003. Out of 184 members of the IMF, 44 countries had inflation greater than 40 per cent in 1992. In 2003, this number fell to three (Rogoff, 2003). At the same time, in terms of magnitude, the developing world is not a homogeneous group.

Countries in Asia appear to be an exception and the inflation rates in these countries have been closer to that of the developed economies, reflecting fiscal prudence and sound macroeconomic management. A key distinguishing feature of the developing

worlds is their chronic fiscal deficits on account of low tax bases. Coupled with underdeveloped financial sector, high fiscal deficits increase the reliance of the governments in these economies on seigniorage revenues. The monetization of government budget deficit fuels inflationary pressures, leading to a vicious nexus between fiscal deficits, money supply and inflation. More recent versions of the fiscal dominance theory suggest that high fiscal deficit can increase prices even without any increase in money supply-money supply adjusts to prices and not the other way around. The breakdown of the Bretton Woods system made it easier for the developing economies to explore seigniorage revenues in the 1970s and the 1980s until public apathy to inflation became an increasingly binding domestic constraint (IMF, 2002). Non-monetary factors-supply shocks due to the continued predominance of the agricultural sector-further complicate monetary management by blurring the role of demand side factors in the inflation process/Sharp devaluations in developing economies have often been fully transmitted to domestic prices which puts additional pressures on inflation. However, it may be noted that pressures on inflation hardly rose in Thailand, Indonesia and South Korea in the aftermath of the Asian crisis despite substantial devaluation of their currencies. In the case of transition economies, administered pricing as well as backward-looking wage indexation necessitated large adjustment in relative prices to catch up with free market prices at the demise of central planning.

An empirical analysis of 24 inflation episodes in 15 Emerging Market Economies (EMEs) between 1980 and 2001 suggests that increases in output gap, agricultural shocks and expansionary fiscal policies raises the probability of inflation. A more democratic environment and an increase in capital flows (relative to GDP) reduce the probability of inflation starts (Domac and Yucel, 2004). A reduction of one percentage point in fiscal deficit/GDP ratio reduces inflation by 2-6 percentage points (Catao and Terrones, 2003). In order to reduce inflation, macroeconomic policies in developing economies during the 1980s and 1990s, therefore, focused on fiscal consolidation and structural reforms to provide monetary policy necessary flexibility in its operations. Indeed, fiscal deficits in EMEs are now less than half of their levels in 1970 and 1980s

Inflation Targeting- A Measure for Low inflation

The choice of the nominal anchor is crucial for anchoring agents' expectations for maintaining price stability. Monetary regimes have evolved over time in order to reduce the inflationary bias in the economy through various refinements under the broader debate on 'rules' versus 'discretion' in policy making and more recently, "constrained discretion" which believes that the doctrines of 'rules' and 'discretion' are not only mutually exclusive (Bernanke, 2003). In practice, there has been widespread use of either monetary or exchange rate targets as nominal anchors for policy. Since the mid-1980s, developments in financial markets and ongoing financial

innovations brought about by financial liberalization have rendered monetary targeting less effective. Exchange rate pegging aimed at controlling inflation by importing credibility from abroad (from a large successful low inflation anchor country) also turned out to be increasingly fragile, as countries opened their economies to external flows. The weakness with these intermediate targeting frameworks led to a search for alternative frameworks for ensuring price stability. One such framework that has become popular during the 1990s is 'Inflation Targeting'. Under this approach, central banks target the final objective i.e., inflation itself rather than targeting any intermediate variable. Inflation targeting is considered as a mechanism to overcome inflationary bias in monetary policy through transparency, accountability and credibility. The effectiveness of inflation targeting regime is also debatable, given the stylised evidence that monetary policy decisions affect prices with a lag of around two years, and more exogenous shocks can occur in this period.

In a similar vein, Sterne (2004) makes a distinction between inflation targeting and inflation targets. While only around 20 central banks follow the inflation targeting approach, a large number of central banks-such as, India-make public some sort of loose inflation targets (which could take the form of inflation forecasts/projections rather than targets per se). According to one survey, out of 95 countries, as many as 57 countries had some sort of inflation target/ forecasts. Such inflation target/forecasts increase transparency and help to reinforce societies support for low inflation policies. They also provide a platform to the central bank to voice its independent opinion. In cases where inflation targets/forecasts are missed, a central bank can provide analytical insights by identifying factors (say, fiscal dominance) contributing to missing the target. This can increase the costs to the government of ignoring the central bank advice. Explicit inflation targets and a credible commitment to them help to stabilize financial markets. Gurkanayak, Sack and Swanson (2003) find that long-term forward interest rates in the US often react considerably to surprises in macroeconomic data releases and monetary policy announcements. In contrast, in the UK-this has explicit inflation target long term forward interest rates demonstrate less excess sensitivity.

A stylized fact in regard to inflation is that it is highly persistent, i.e., if there is a shock that raises inflation today, inflation continues to remain high in the future and Vice versa. High persistent (a unit root) indicates that inflation expectations are not well anchored and policy efforts to reduce inflation will have to bear significant output losses. In this context, increased transparency in monetary policy formulation with priority to price stability as key objective is expected to provide an anchor to inflation expectations and hence lower the persistence of inflation (Clark, 2003). This has an important implication: any future shock that raises inflation temporarily will not lead to a permanent rise in inflation expectations and actual inflation. Empirical evidence on persistence of inflation remains mixed. IMF (2002) suggests that inflation has

become more predictable and less persistent. Levin, Natalucci and Piger (2004) find that IT anchors inflation expectations and, therefore, inflation is less persistent in IT countries than in non-IT countries. On the other hand, Cecchetti and Debelle (2004) and Marques (2004) argue that there has not been much change in persistence. Once a structural break in the mean of inflation is taken into account, there is no evidence that inflation is taken into account; there is no evidence that inflation persistence has been high in the previous decades.

Impact of Oil Price Shocks

In view of the recent sharp increase in international crude oil prices, this part of the paper under takes an assessment of their impact on economic activity. Nominal international crude oil prices have increased sharply recording new highs in the second half of 2004. The increase, however, needs to be viewed keeping in mind the sharp decline during period 1999-2000. Notwithstanding this order of increase, prices in real terms remain less than the levels reached in 1981. An increase in oil price affects both supply and demand in the economy. A hike in oil prices leads to an increase in the input costs for firms, reduces their profits which induces them to lower their output. As oil dependency has declined in industrialized countries over time, this supply side effect has waned in these economies. In contrast, this effect remains significant for developing economies, in view of their increased oil dependency. On the demand side, higher oil prices reduce consumptions and investment in the economy. Both supply and demand effects reinforce each other leading to a reduction in output. Consequent variations in exchange rate can add to these effects. High inflation might lead to a tightening of monetary policy, which could further reduce output. Furthermore, high oil prices transfer income to oil producers. As oil producers have a lower propensity to consume than oil consumers, global demand falls (IMF, 2004).

An assessment of the inflation record of the past half-century shows that while, in the short-run, supply shocks can lead to large changes in the headline inflation, persistent high inflation is ultimately the outcome of lax monetary policies—as witnessed during the 1970s. Monetary tightening was insufficient during the 1970s and real interest rates actually trended lower. Compared with many developing economies, the Indian inflation experience can be considered satisfactory, despite recurrent supply shocks and continuing fiscal imbalances (Reddy, 1999). This is attributed to relatively better monetary management coupled with judicious supply management through buffer stocks of food grains and imports of sensitive commodities which contained the adverse effects of supply shocks and reined in inflation. Of late, since 1996-97, inflation has edged lower reflecting concerted policy efforts.

Wholesale Prices and inflation behaviour

Annual rate of inflation measured by variations in the wholesale price index (WPI) over the past five decades averaged 6.6 per cent in India. Inflation was very low during the 1950s averaging 1.7 per cent, but was quite volatile and annual inflation ranged between (-) 12.5 per cent and 13.8 per cent. The volatility was mainly on account of agricultural failures. Inflation accelerated to 6.4 per cent during the 1960s partly induced by the two wars during 1962 and 1965 and crop failures in 1965-66 when agricultural production fell by more than 16 per cent. Inflation accelerated further during the 1970s due to both supply and demand shocks. The supply shocks emanated mainly from oil and food prices. Reflecting the first oil shock of 1973, import price deflator (measured as year-on-year changes in the unit value index of imports) surged by 43.0 percent and 72.8 per cent during 1973-74 and 1974-75, respectively. In line with the sharp increase in average international crude oil prices by over 250 per cent in 1974, domestic fuel prices increased sharply from an annual average of about 4.7 per cent during the three years preceding the first oil crisis to about 26.5 per cent on average during the three years beginning 1973-74. The adverse impact of the oil price shocks got accentuated by the drought conditions in 1972-73, 1974-75 and 1979-80 which resulted in significant declines in agricultural output. Thus, higher fuel prices and agricultural commodity prices got reflected in overall inflation. Sharp increases in money supply even as output growth decelerated during the 1970s added to demand pressures. Consequently, inflation moved up further in the 1970s, averaging about 9.0 per cent.

During the 1980s, demand pressures emanating from an expansionary fiscal policy and its monetization coupled with intermittent supply shocks kept inflation high. Inflation averaged 8.0 per cent per annum during the 1980s, somewhat lower than that of 9.0 per cent per annum during the 1970s. Fiscal deficit of the Centre widened from 3.8 per cent of GDP during the 1970s to 6.8 per cent during the 1980s. A large part of this burden was borne by the Reserve Bank-almost 32 per cent of the fiscal deficit was finalized by the Reserve Bank during the 1980s (25 per cent during the 1970s). Monetized deficit almost doubled from 1.1 per cent of GDP during the 1970s to 2.1 per cent during the 1980s. Consequently, the net Reserve Bank credit to the Centre expanded by 20.0 per cent per annum during the 1980s as compared with 14.5 per cent per annum during the 1970s and this led to acceleration in reserve money growth. Broad money growth could, however, be contained to rates lower than the 1970s, as a result of increases in cash reserves requirements. Exchange rate pressures also added to inflation. Exchange rate of the rupee vis-à-vis the US dollar depreciated by around seven per cent per annum during the 1980s in contrast to less than one per cent annual depreciation during the 1970s. Supply shocks added to inflation pressures. During the second oil crisis, average international crude oil prices increased by over 130 per cent in 1979. Concomitantly, domestic fuel price inflation increased sharply from an average of below 4.0 per cent in the three years before the crisis to an average of above 20 per cent during the three years of the crisis beginning 1979-80, with a

peak of 25.3 per cent in 1980-81. After reaching 18.2 per cent in 1980-81 due to the second oil crisis, inflation remained in single digit throughout the 1980s.

Empirical evidence confirmed the adverse effects of excessive monetary expansion, emanating from the monetization of the fiscal deficit, on inflation (Rangarajan and Arif, 1990). The experience of the 1980s also highlighted the inflation-fiscal-monetary nexus (Rangarajan, Basu and Jadhav, 1989; RBI, 2002a). Because of higher elasticity of government expenditure with respect to inflation relative to that of government's receipts, higher inflation meant an enlarged fiscal deficit which, in turn, necessitated increased monetization. This led to a further increase in inflation, starting a vicious circle of high inflation, high deficits and high monetization.

Inflationary pressures accelerated in the first half of the 1990s. High fiscal and current account deficits of the 1980s culminated in the balance of payments difficulties during 1990-91. As part of the macroeconomic stabilization program and structural reforms undertaken in the aftermath of the crisis, exchange rate depreciated substantially. Between end-March 1991 and end-March 1992, the Indian rupee depreciated by nearly 37 per cent. Notwithstanding the limited openness of the Indian economy, this order of depreciation added to inflationary pressures. The exchange rate depreciated by more than 11 per cent per annum during the first half of the 1980s. Hikes in procurement prices were intentional so as to restore the terms of trade for agriculture. Primary articles inflation accelerated to 18.1 per cent in 1991-92 from 13.0 per cent a year back. Extremely low foreign exchange reserves-foreign currency assets at US\$2.2 billion at end-March 1991, equivalent to less than one month of imports-constrained the ability to import to meet the demand gaps. The sustained rise in fuel prices at a double digit rate (of about 13 per cent) in the first half of the 1990s had its impact on inflation not only directly but also through the second round effects.

Factors in low inflation and inflation movements in India

Firstly, the Reserve Bank could largely contain money supply to levels consistent with its indicative inflation projections. This was despite a large order of capital inflows from abroad and the consequent build-up of reserves. The expansionary effect of large forex purchases were sterilized effectively by resorting to a number of steps, especially open market sales of Government securities and a judicious use of Liquidity Adjustment Facility (LAF). Moreover, the increased flexibility due to the improved monetary-fiscal interface and reforms in the Government securities market enabled a lower degree of monetization of fiscal interface and reforms in the Government securities market enabled a lower degree of monetization of fiscal deficits. In particular, market-determined yields on Government securities and this reduced the pressure on the Reserve Bank to finance the Government. Net Reserve Bank credit to the Centre, in fact, recorded a negative

growth in contrast to double -digit growth over the previous two and half decades in the M_3 growth rate from around 18 per cent during 1990-95 to around 16 per cent during 1995-2004 even as real GDP growth accelerated from 5.0 per cent to 6.1 per cent over the same period (Table: 4).

Secondly, supply pressures from food prices eased as food articles inflation halved from around 12.0 per cent to around 6.0 per cent, led by a deceleration in procurement price increases. This decline, in turn, could have been enabled, inter alia, by a reduction in the headline inflation.

Thirdly, containment of global inflation reduced external pressure on domestic prices. Increase in import prices (as measured by unit value index of imports I rupees) was somewhat lower than that in the first half of the 1990s.

Fourthly, the exchange rate showed a significantly lower order of depreciation than in the first half of the 1990s. Fourth, the exchange rate showed a significantly lower order of depreciation than in the first half of the 1990s: around four per cent annum compared to 11 per cent. Moreover, as the results of an empirical exercise shows that there is some evidence of a decline in exchange rate pass-through to domestic prices. A lower order of depreciation coupled with a decline in pass-through could have also helped in containing domestic inflation.

Table -4: Inflation in India and Key Determinants (Annual Averages in Per cent)						
Item	1970-75	1975-80	1980-85	1985-90	1990-95	1995-2004
WPI Inflation	13.3	4.7	9.3	6.7	11	5.1
Real GDP Growth	2.3	3.6	5.6	6	5	6.1
Broad Money (M3) Growth	15.5	19.3	16.8	17.6	18	16
Reserve Money (M0) Growth	12.2	17.2	16.5	17.2	17	11.2
Fiscal Deficit/GDP Ratio	3.3	4.4	5.9	7.7	6.3	5.6
Growth in Net RBI Credit to Centre	16.2	13.2	22.2	17.8	6.8	-5.4
Fiscal Deficit Financed by Net RBI Credit	37.2	16.9	35.3	27.9	12.6	-2.2
Fuel Inflation	18.5	8.4	12.5	6	12.8	10.1
Food Articles Inflation	15	1.9	10.7	6.4	12.4	5.5
Increase in Procurement Prices						
Paddy		6.6	7.6	6.3	13	5.5
Wheat		2.7	6.1	6.6	11.2	7.3
Import Price Inflation	28.2	6.7	8	8	7.6	6.8
Depreciation in Exchange Rate (Rupees per US dollar)	1.1	0.3	7.2	6.4	11.3	4.1
Food Stocks (Million tones)	3.2	14.9	13.6	13.3	17.4	28.4
Import Cover of Forex Reserves (in months)	4.5	7.6	4.1	3.4	5.9	9.6

Source: Report on Currency and Finance-2003-04

Fifthly, large buffer stocks of food grains have provided cushion against undue pressure on food prices through timely release of stocks.

Sixthly, the high level of foreign exchange reserves adds to comfort in supply management through imports of essential commodities. Adequate food stocks and foreign exchange reserves enabled not only the reduction in inflation per se but also contributed to lowering inflation expectations on a sustainable basis. Inflation expectations are quite critical. Although inflation is not targeted per se, monetary policy in India has been formulated with indicative projections about inflation consistent with growth for curbing inflationary expectations. The projected inflation rate was gradually scaled down to around five per cent in recent years from around 7-9 per cent during the early part of the 1990s which helped in anchoring inflationary expectations and improving policy credibility. Inflation rate of around five per cent appears to be consistent with various research findings on the threshold inflation rate for India. However, even a moderate inflation rate poses a dilemma in an open economy. If the domestic inflation rate of an economy, however low it may be, is higher than the average inflation rate of its trading partner, it puts pressure on the exchange rate. In this context, the question of simultaneous balance of the internal and external sectors becomes a major issue.

Consumer prices inflation and GDP deflator -an alternative indicator of inflation

Inflation measured by these alternatives indicators over long -periods of time is broadly the same as that measured by WPI. Illustratively, over the period 1970-2004, WPI inflation averaged 8.0 per cent as compared with 8.2 per cent based on CPI inflation and 7.8 per cent based on GDP deflator and, moreover, the indicators show a fairly high correlation (Table: 5).

Table-5: Alternative Indicators of Inflation in India

Period	WPI	CPI	GDPD
Average Inflation Rate			
1970-2004	8.0	8.2	7.8
Sub-periods			
1970-1980	9.0	7.7	7.7
1980-1990	8.0	9	8.7
1990-2000	8.1	9.5	8.7
Standard Deviation			
1970-2004	5.6	5.6	4.2
Sub-periods			
1970-1980	9.0	9.5	6.8
1980-1990	3.9	2.4	1.4
1990-2000	3.6	3.0	2.6

Correlation Between	WPI CPI and	WPI GDP and	CPI GDP
1970-2004	0.83	0.88	0.81
Sub-periods			
1970-1980	0.93	0.93	0.81
1980-1990	0.59	0.84	0.64
1990-2000	0.63	0.88	0.78

Source: Report on Currency and Finance-2003-04

At the same time, year - to - year movements in alternative indicators often diverge from each other-decadal correlations are lower than the full sampled period and do not display any consistent pattern. In particular, during the 1990s, correlation between WPI and CPI inflation has been the lowest amongst the three pairs of correlations.

In recent months, gap between inflation rates based on alternative indicators has persisted. While point-to-point WPI inflation increased from 5.1 per cent at end-October 2003 to 7.1 per cent by October 2004, CPI inflation increased from 3.3 per cent to 4.6 per cent over the same period. The CPI in inflation has thus been lower than WPI inflation by more than two percentage points. On earlier occasions, there has also been a divergence between the two measures: at times, CPI inflation has been higher than WPI inflation and vice versa. While over the period 1970-2004, CPI inflation has exceeded WPI inflation, decadal pattern is not consistent. WPI inflation exceeded CPI inflation during the 1970s and vice versa during the 1980 s and 1990s. In the first four years of the current decade, the pattern has two key factors-coverage and weights-explain the difference between these alternative indicators. Food group has a larger weight in the CPI while services are excluded more than a fifth of overall WPI inflation has almost a negligible weight in the CPI. At the same time, inflation in India in recent months also reflects supply shocks emanating from international markets. The international factors relate primarily to oil but also to some extent, other commodities and financial markets, including interest rates and exchange rates (Reddy, 2004). Globally, services inflation has consistently exceeded goods inflation inn the past four decades.

Inflation control in India: Key findings

Monetary policy affects output and prices with lags. Accordingly, for a forward-looking monetary policy, a key input is estimates of the future path of inflation and demand conditions. Phillips Curve which relates inflation to demand pressures in the economy appears to be one of the few ways to forecast inflation that have been reliable (Stock and Watson, 2001). Actual inflation movements are influenced not only by demand side pressures but also by supply shocks. A stylized fact in regard to inflation movements is that it exhibits an inertia indicating that expectations are largely adaptive (Fuhrer and Moore, 1995; Mankiw, 2001). A recent survey of inflation determinants in EMEs shows that conventional determinants of inflation such

as output gaps, excess money supply and wages have a significant influence on inflation. At the same time, supply shocks emanating from food prices are the most common inflation determinants (Mohanty and Klau, 2001).

An attempt is, therefore, made to model the behavior of the three major measures of inflation in India: wholesale price inflation, consumer price inflation and inflation based on GDP deflator. Excess demand in the economy is proxied by output gap defined as actual output less potential output (as percent of potential output). Food grains inflation is included in the equation to incorporate supply shock that could be on account of weather conditions as well as the administered pricing mechanism (procurement prices).

With gradual opening up of the Indian economy, international prices have started to play a key role in domestic inflation. Import prices in local currency terms include not only the effect of international prices but also exchange rate movements. There are periods when the exchange rate has appreciated while import prices have increased and vice versa. Movements in import prices in rupee terms could, therefore, be on account of movements in the import prices in foreign currency or in exchange rate or a combination of both. Segregating the influences of import prices in foreign currency on domestic inflation from that of the exchange rate movements could provide additional analytical insights in understanding the inflation process (Mihaljek and Klau, 2001).

First, lagged inflation is significant although the size of the coefficient is not very large. This suggests that inflation may be persistent, i.e., a shock that raises inflation in one year will impart an upward push to inflation expectations in the year ahead and vice versa. Amongst the three measures of inflation, the persistence appears to be maximum for GDP deflator measure and the lowest for wholesale price inflation.

Second, excess domestic demand conditions have the expected positive effect on inflation. An increase of one percentage point in output gap (i.e., if actual output exceeds its trend level by one per cent) raises inflation rate by 31-56 basis points with a lag of one year, depending upon the inflation measure. The effect is maximum in case of GDP deflator and the least in the case of consumer price inflation.

Third, the supply shocks emanating from food grains prices play an important role in the inflation process in India.

Fourth, import price inflation has the expected positive effect on domestic inflation. Estimates suggest that an increase of 10 per cent in import price inflation raises domestic inflation by up to 1.1 percentage points. The effect is the minimum for CPI inflation (0.5 percentage points) followed by GDP deflator (0.8 percentage points)

and wholesale inflation (1.1 percentage points). These estimates appear to be consistent with the openness of the Indian economy over the sample period-an average of around nine per cent, increasing from four per cent to 13 per cent.

Finally, exchange rate depreciation has also the expected affect of raising domestic prices and the coefficient of exchange rate pass-through to domestic in inflation ranges between 8-17 basis points, i.e., a 10 per cent depreciation of the Indian rupee (vis-a -vis the US dollar) would, other things remaining unchanged, increase consumer inflation by less than one percentage point and the GDP deflator by 1.7 percentage points. The empirical results throw some differences between the pass-through from import price inflation and exchange rate movements. While import prices impact on domestic inflation in the same year, the exchange rate movements seem to affect inflation with a lag of one year (two years in case of consumer inflation). Another difference is that the pass-through from exchange rates to inflation is somewhat larger than that of pass-through from import prices. This result is consistent with available empirical evidence for the EMEs. Mihaljek and Klau (2001) who undertake separate estimates of the two pass-through effects for a sample of 13 EMEs find that the exchange rate-pass through coefficient is the same in four countries and lower in the remaining two countries. In contrast, for a sample of nine industrial economies, Mc Carthy (2000) finds that the effect of import prices on inflation is stronger than that of exchange rate.

Compared to may other EMEs, pass-through coefficients in India are fairly small Mihaljek and Klau (2001) ;(Table-6). This could be attributed to two key factors: the relatively low degree of openness of the Indian economy as well as low inflation rates. Most studies document that pass-through is high in a high -inflation environment.

The Indian economy has witnessed significant structural changes since the reforms process began in early 1990s. In India, inflation rates have declined significantly since the second half of the 1990s and this could be one explanation for the lower pass-through. Another key factor that could have lowered the pass-through is the phased decline in tariffs as well as non-tariff barriers such as quotas. Average import duties are now less than one-third of what they were a decade ago. This steep reduction in tariffs could have easily allowed domestic producers to absorb some part of the exchange rate depreciation without any effect on their profitability.

Table-6: Estimates of Pass-through to Domestic Inflation		
Country	Pass-through to Domestic Inflation from	
	Exchange Rates	Import Prices

Mexico	0.94	0.22
Brazil	0.84	0.17
Turkey	0.56	0.52
Hungary	0.54	0.43
Poland	0.45	0.32
Thailand	0.28	0.03
Philippines	0.17	0.11
South Africa	0.14	0.16
Korea	0.13	0.07
Peru	0.11	0.22
Malaysia	0.07	0.05
Chile	0.07	0.04
Czech Republic	0.06	0.49
India	0.08-0.17	0.05-0.11

Source: Report on Currency and Finance-2003-04

However, while supply shocks-both oil and foods have an important role in year-to-year inflation, expansionary fiscal policy during the 1980s and its monetization was indeed a major cause of the increase in inflation. Structural reforms, improved monetary-fiscal interface, reforms in the Government securities markets and effective sterilization of capital inflows enabled better monetary management from the second half of the 1990s onwards. Large food stocks and foreign exchange reserves have played an important role in supply management efforts by keeping actual inflation low and inflation expectations under control. This was amply exhibited during 2002-03 when the country faced its worst drought in nearly two decades but adequate food stocks and large reserves kept inflation as well as expectations low. This has led to a sustained reduction in inflation, notwithstanding increase in some years due to large supply shocks. Empirical exercise undertaken in this paper confirms that both demand and supply shocks have an impact on inflation. Excess demand conditions increase inflation. There is some preliminary evidence that exchange rate pass-through to domestic inflation has declined since mid-1990s. The success with achieving and maintaining low inflation since mid-1990s has led to a number of positive developments (Reddy, 2004). First, there is virtually a national consensus that high inflation is not good and that it should be brought down. Second, inflation expectations have come down and, consequently, inflation tolerance has also come down. "The society, the economic agents and the market participants are now reacting to a lower headline inflation, which is a good thing because if we want a sustained strong growth, it is necessary to rein in inflationary expectations" (Reddy, 2004). In this context, despite a significant improvement in the monetary-fiscal interface during the 1990s, fiscal dominance continues to persist with growing volume of gross market borrowings (RBI, 2003). Inflation expectations, inter alia, depend upon fiscal

prudence. It is, therefore, essential to pursue fiscal consolidation, promptly and with resolve, from a medium-term perspective. In this context, the Fiscal Responsibility and Budget Management (FRBM) Act enacted by the Central Government is expected to provide the Reserve Bank necessary flexibility to maintain low and stable inflation. Adherence to these fiscal rules thus becomes important to stabilize inflation expectations.

Conclusion

Thus, it is clear that monetary policy can contribute to growth and employment by ensuring price stability in major parts of the world. The experience with inflation targeting frameworks is evolving-both IT and non-IT countries have been successful in reducing inflation during the 1990s. 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.

As discussed in this paper, current global macroeconomic imbalances and concomitant adjustment dynamics present one such threat to price stability (Mohan, 2004a). A prudent fiscal policy remains the single largest pre-requisite for monetary stability. Monetary arrangements per se have only limited power to fix real problems arising from a fiscal regime inconsistent with the goal of price stability (IMF, 2002). The various reforms in the monetary policy arena since 1980s such as central bank independence, accountability through clear-cut targets and transparency have been progressively aimed at enhancing the credibility of the central banks in order to stabilize inflation expectations.

In India, expansionary fiscal policy during the 1980s and its monetization were a major cause of the increase in inflation. Structural reforms since the early 1990s coupled with improved monetary -fiscal interface and reforms in Government securities markets enabled better monetary management since the second half of the 1990s. The expansionary effect emanating from massive capital flows to India since 1993-94 has been effectively sterilized through a variety of instruments including open market sales of Government bonds and repo operations under liquidity adjustment facility. Judicious use of innovative instruments such as the Market Stabilization Bills/Bonds was resorted to manage liquidity conditions consistent with the objective of price stability. Thus, notwithstanding the unprecedented order of external capital flows, monetary management was effective in ensuring a reduction in inflation and lowering inflation expectations. There is a widespread agreement that the record of the Reserve Bank in monetary management has been, on balance, satisfactory. The degree of credibility that Reserve Bank has earned over times is in

itself likely to be an effective instrument of monetary policy in meeting the challenges of the future (Jadhav, 2003).

As the global experience shows, it is very important to keep inflation expectations low. Inflation expectations, inter alia, depend upon fiscal prudence. It is, therefore, essential to pursue fiscal consolidation, promptly and with resolve, from a medium-term perspective. Transparent and monitorable fiscal rules assume importance in this context. The recently enacted Fiscal Responsibility and Budget Managements Act by the Central Government with its envisaged reduction in key deficit indicators is expected to reduce the fiscal dominance over time and will provide the Reserve Bank necessary flexibility so as to maintain low and stable inflation. It would be necessary to put in place similar fiscal responsibility rules at States levels. Adherence to these fiscal rules will help to stabilize inflation expectations and keep inflation low and stable in the country even in future.

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Commentary

MARKET AND FARMER

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Once upon a time India was said to be a golden bird, even though Indian economy was based on agriculture. A phrase was very much known here 'uttam kheti, madhyam vyapar, kanishtha nokari ' means ' best is to do farming, medium is to do business, base / lowest is the service'. But today it is believed " service is best, medium is business and base / lowest is farming '. Everybody needs food to live-and the food producer is in pain. He is committing suicides.

Did last fifty-five years after British Raj or even after the onset of globalization, brought any change, in the situation of farmers. This need a serious thought. India's natural resources attracted many. Soil, environment, water, sunlight, under ground treasure attracted Moghuls and British. They ruled here for centuries. Mahatma Gandhi's follower late Vinoba Bhave said in this regard and set the goal of independence that,

‘Before Moghuls Bharat was an independent country of independent villages, Moghuls made it a slave country of independent villages, British came and they made it a slave country of slave villages. After British Raj it become an independent nation of slave villages. We should strive to make it an independent country of independent Villages’.

I feel after fifty-five years, we have not achieved the goal of making India an independent Country of independent villages. I am sorry to say that the even after British Raj, government of independent India is implementing the same policies that of British. Europeans came here to exploit the raw material and manpower. They had policies to purchase raw material cheap and sell finished products costly to accumulate wealth and to industrialize their country. Mahatma Gandhi explained this theory in very simple words. He gave example of cotton and cloth. He preached khadi for the same. Sign (emblem) of the freedom struggle was therefore ‘Charkha’.

Gandhi expected that in independent India due weightage would be given to manual work. British wanted raw material and labor to be cheap therefore they wanted food to remain cheap. British exploited farm laborers via landlords. But in independent India this policy should have been changed. But that did not happen. Priority were given to industrialisation and it was expected that profit from big industries would percolate to the masses. To keep the Labor cheap, food has to be cheap so that the profit in industrial sector increases, resulting food producer to remain poor.

Cotton, food grains and other essential commodities were imported under P.L. 480 from America and prices of these agricultural produce were kept low artificially in our country. 'Market' is influenced by government policies. Many committees submitted their reports, regarding what should be the agricultural policy of our independent country, but no heed was paid to these. Here are the excerpts of two of these reports.

Mr Wolf Ladjinski after going through details study of Punjab farming concluded ‘even in Punjab the multitude of farmers are not yet part of green revolution.’ And in 1967, not swept away by the dream of green revolution, ex- home minister Shri Yeshwantraoji Chavan said," unless the green revolution is based on social justice, I am afraid, the green revolution may not remain

green". Ex-Prime minister late Shri Lal Bahadur Shastri said the same in other words, He said 'we should not remain dependent on the red wheat from America - people should sacrifice - they should keep fast on Mondays'. Not only this, he increased the support price of wheat to make market farmer friendly. If farmer gets good price for his produce he can pay farm laborer better and hence living standard of the laborer will improve. This was the basic thought giving directions to his actions.

It was specially mentioned in the draft of second five year plane that import export policy was such that farmer was exploited and trade was given full protection. Every step was taken to keep food grains cheap and thus injustice was done to the farmers. Even levy on food has been procured from the farmers at irrational cost. To give cheap food to the poor, poor food producers were taxed.

Krishnamachari committee has mentioned clearly on page no. 60 'we are aware of the desire in certain quarters to reduce the level of agricultural prices, particularly the prices of food grains, on the plea that agricultural prices influence the cost of production of industry, and weaken the competitive capacity of Indian manufacturers in domestic as well as in the foreign markets. While we are not unmindful of the importance of their considerations we are of the view that prior consideration should be given to assure an adequate return to the tiller of the soil. Once this is achieved the increased purchasing power of agricultural mass, will be an adequate insurance of the success of the industry. Any deliberate effort to reduce agricultural prices merely to safeguard the interest of urban areas or of the manufacturing industry will be at the cost of the standard of living in rural areas, which is already notoriously low. '

But this important suggestion was over looked by governments and we are already facing the danger that Rosa Lukzenbery had foreseen. Rosa Lukzenbery had said 'today the colonies are being exploited for the industrialization of the rich countries to make them richer. Tomorrow when these colonies will be free from the clutches of rich industrialized countries their villages will be exploited for the development of industry and towns. ' This is more true regarding the countries that were made free from European countries.

Industries prospered because of growing purchasing power of some 10 to 15% of population. In the mean time food grains, cotton were being imported, that too imported costly and sold cheap, and prices of agricultural produce were depressed. This subsidy was given in the name of poor but used for urbanization at the cost of living standards of villagers. This gave rise to discontent in villages, which gave rise to many agitations, even armed. 1980 to 1990 was the decade of farmers agitation. Air of change in policies of government was very much expected in the near future. Every class of villagers were attracted towards the farmers movement. Agitation of cotton growers succeeded in attracting weavers (handloom workers). Small scale industries and craftsmen also joined the movement.

At the same time negotiations were going on under Uruguay round called upon by the rich countries to give a new form to colonial exploitation. Dunkel proposal was introduced after which GATT was given a new form of WTO. Uruguay round was going on since 1986. But it was not much discussed in India till 1991. The US and European countries were discussing and fighting amongst themselves on the issue of subsidies in agriculture. Here in 1991 when Indian governments supported Dunkel proposal and started implementing some of the policies. In 1994 - 1995 WTO was formed. According to the rules of WTO subsidies given to agricultural sector of rich and developed countries was to be reduced. But instead of reducing, their subsidies, they are increasing.

Comparing the prices of agricultural produce in 1991-1994, prices are depressed today. For example price of wheat was \$ 160 per tone which is today \$90 - \$100 per tone. Price of cotton was \$1.10 per pound, today it is 40 -45 cents per pound. Edible oil cost \$ 500 - \$600 per tonne but in 1999 -2000 it came down to \$200 - \$225 per tone. Today edible oil is \$400 - \$450 per tonne. Prices of rubber, coconut, cashew, tea, coffee etc are depressed. An expectation that in the free market export of agricultural products of the third world countries will increase and they will be benefited from this trade, remain a scattered dream. In fact imports of agro-products grew and their internal prices dipped.

On the other side owing to the devaluation of rupee cost of energy increased-which resulted in increasing the input cost. Input cost grew but prices of farm produce went down - debts on farmer increased and they started committing suicides. This also adversely affected employment in villages, migration towards cities has increased. Small business, small scale industries in villages are wiped out. But on the other side market of MNC's is expanding. Purchasing power of a particular class has increased through fifth pay commission. Loans are given for the finished industrial product like car, refrigerator, and a parallel economy is nurtured. Those who have purchasing power spend their monthly salary in paying installments of these consumer loans. The natural effect of this is on budget of kitchen expenses. If the budget of the middle class family is studied we find expenditure on petrol is more than that on edible oil. In short " take loans and drink petrol" is the economy today that favors MNCs. Because of this policy exploitation of farmers and artisans has increased. Employment of common man from unorganized sector is snatched away from him. Unemployment has resulted in lessening purchasing power. That is why we have godowns full of food grains on one side and malnutrition on the other.

In the name of consumer interest and providing cheap food to the poor, prices of food grains are brought down. Costs of petrol and diesel in the international market are increasing in dollars and consequently prices of petrol and diesel are increasing in domestic market. As a result of this, prices of fertilizers and pesticides are also increasing. Thus cost of production is increasing but market prices are decreasing. In international market developed country have increased subsidies to their farm sector, because of this export of agricultural produce from poor countries is not getting market.

Developed countries are talking of free market but their market is protected in Europe. Farmers need a permit to raise number of cows, sheep, goat, pig, etc. (number depends of acres of

land owned by the farmer). In European countries there is provision of subsidy per animal and per hectare. How can an Indian farmer without any subsidies compete with those heavily subsidised farmers? This clearly indicates that there is no level playing field in international market.

Information about agricultural subsidies in developed countries is easily available. I am of the opinion that there must be thorough discussions on this issue. This information must also be given to the poor farmers.

I will like to share my experience in Spain to make things clear. I asked a wheat producer the selling price of his wheat. His reply was "20 peseta per kg". If converted into Indian rupees it is about 5 rupees. In Spain a cup of tea or coffee costs not less than 30 to 40 rupees. I asked the farmer how he lived in such a costly economy. His reply was very straight. He said he gets enough subsidies and economic support from govt.

In Germany I met a farmer who had a permit to raise 12 cows for meat. He was getting 500 Marc per cow per year as a subsidy. In Indian rupees it is 10,000 rupees. Addressing few NGO in auditorium of Switzerland I asked a question to audience 'according to WTO ruling subsidies of Swiss farmer are to be reduced. This will increase the cost of production, so as a consumer you will have to pay higher prices for your bread'. One of the audience answered "this is very important political-economical question. We are ready to pay higher prices for plastic but not for bread."

This clearly indicates that to give cheap food to consumers farmers are not exploited but they are supported by subsidies to maintain their purchasing power in these countries.

Since 1994 this is what is happening *in* the international market and Indian farmers are not getting inroads in the world market. It is preached to farmers that to compete in this international market they should adopt new technology. This new technology in agriculture is going to replace human labor by machine. In fact this technology does not reduce the cost of production. If it would have reduced the cost of production, then what is the need of increasing subsidies of American and European farmers?

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**CHANGES IN INDIAN GARMENT INDUSTRY DUE TO
DISMANTLING OF TRADE QUOTAS– AN EMPIRICAL STUDY**

Prof. A.M. Suresh¹, Mr. Raja K.G.² and Mrs. S. Vijayalakshmi³

1. INTRODUCTION

Textile industry is an important and emerging sector for both the global and Indian economy. India has many of the ingredients conducive to a thriving textile industry, which incidentally is one of the oldest organized industries in India. In a country of growing population like India, the textiles production both in terms of quality and quantity has to keep pace with the preferences and trends of consumers. In a country of growing population like India, the textiles production both in terms of quality and quantity has to keep pace with the preferences and trends of consumers. On the supply side, the textile industry in India accounts for 20 percent of industrial production and is next to agriculture in providing employment. The textile industry plays a vital role in the Indian economy, both with regard to employment generation and earning foreign exchange. Textile sector employs lakhs of workers and also contributes significantly to the national economy through inland and export sales. Table 1 gives the share of India's exports in the world market for the last decade.

Table 1: Export of Apparel: World & India (figure in US \$ billion)

Year	World Exports	India's Share	India's share %
1990	108.13	2.53	2.34
1995	158.34	4.11	2.60
2000	193.26	5.48	2.79
2001	193.26	5.05	2.61
2002	206.38	5.53	2.68

Source: Compendium of International Textile Statistics, 2004

2.The History of International Trade in Textiles and Clothing

2.1 Multifibre Arrangement (MFA) 1974-1994 ⁴

Multi Fiber Agreement (MFA) provided a legal framework under which developed countries could impose quotas on their imports from the more competitive developing

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⁴ www.wto.org

countries under bilateral agreements. The system derogated from the general principles of the General Agreement on Trade and Tariff (GATT), the predecessor of the WTO, which requires all signatories to treat all their trading partners on a basis of equality. The Multi Fiber Agreement (MFA) therefore can be considered as form of protectionism, given that it discriminated against the exports of developing countries, many of who are highly dependent on the textile and garment sectors an important engine of economic development. The Multifibre Arrangement was a major departure from the basic GATT rules and particularly the principle of non-discrimination.

Table 2: Quota phase out schedule

Step	Percentage of products to be brought under GATT (including removal of any quotas)	Percentage of products to be brought under GATT (including removal of any quotas)
Step 1: 1 Jan 1995 (to 31 Dec 1997)	16% (minimum, taking 1990 imports as base)	6.96% per year
Step 2: 1 Jan 1998 (to 31 Dec 2001)	17%	8.7% per year
Step 3: 1 Jan 2002 (to 31 Dec 2004)	18%	11.05% per year
Step 4: 1 Jan 2005 Full integration into GATT (and final elimination of quotas). Agreement on Textiles and Clothing terminates.	49% (maximum)	No quotas left

Source: wto.org

On 1 January 1995 it was replaced by the WTO Agreement on Textiles and Clothing, which sets out a transitional process for the ultimate removal of these quotas. Since 1 January 1995, international textiles and clothing trade has been going through fundamental change under the 10-year transitional programme of the WTO's Agreement on Textiles and Clothing (ATC). Under the Agreement, WTO Members have committed themselves to remove the quotas by 1 January 2005 by integrating the sector fully into GATT rules. Table 2 gives quota phase out plan.

2.2 The WTO Agreement on Textiles and Clothing (ATC) 1995-2004

The Agreement on Textile and Clothing (ATC) is a transitional tool that will be used in place of the Multi Fiber Agreement (MFA) until January 1, 2005. The Agreement on Textile and Clothing (ATC) has number of defining features. Some of these are;

- (a) The product coverage, basically encompassing yarns, fabrics, made-up textile products and clothing;
- (b) A programme for the progressive integration of these textile and clothing products into GATT 1994 rules;
- (c) A liberalization process to progressively enlarge existing quotas (until they are removed) by increasing annual growth rates at each stage;
- (d) A special safeguard mechanism to deal with new cases of serious damage or threat thereof to domestic producers during the transition period;
- (e) Establishment of a Textiles Monitoring Body (“TMB”) to supervise the implementation of the Agreement and ensure that the rules are faithfully followed; and
- (f) Other provisions, including rules on circumvention of the quotas, their administration, treatment of non-MFA restrictions, and commitments undertaken elsewhere under the WTO's agreements and procedures affecting this sector.

The ATC calls for a progressive phasing out of all the MFA restrictions and other discriminatory measures in a period of 10 years. In contrast to the MFA, the ATC is applicable to all members of the WTO.

2. REVIEW OF LITERATURE

All studies indicate that Asia will experience the greatest changes in the distribution of production. The most extreme impact study foresee that China, which currently holds about one-fifth of the global apparel market, might have a 150 % increase in their overall textile and clothing exports⁵ or nearly 50 percent of the world market after MFA phase-outs⁶. These assumptions are based both on the very high utilisation of many quotas by China and its production capacities. According to estimates, India and Pakistan may lose market share to

China, but could compensate through shares taken from other (mostly smaller) suppliers if domestic structural reforms are undertaken. Table 3 gives us a picture of the key players in the world textile market and their core competencies and weaknesses.

⁵ Joseph François and Dean Spinanger, Greater China's Accession to the WTO, December 2001.

⁶ Ianchovichina E. and W. Martin, 2001. Trade Liberalization in China's Accession to the WTO, World Bank, June 2001.

A Study says India will not be able to make the most of quota- free world because there are too many loose threads in its textiles strategy⁷. In the post-ATC era, if the Indian textile and clothing industry is to remain competitive, it has to maintain quality, consistency and commitment to tight delivery schedules, Production; technological and marketing strategies are needed to maintain a competitive edge⁸.

Table 3: Post quota phase - out scenario:

Key countries / regions	Key positives	Key negatives
China	Efficient, low cost, vertically integrated	Growth at the cost of profits
India, Pakistan	Vertically integrated, low cost	Lacks economies of scale and infrastructure support
Mexico (NAFTA), Turkey	Proximity to market, duty and quota free	Lack China and India's degree of competitiveness
ASEAN (Vietnam, Cambodia, Indonesia)	Cheap labour	No other cost or locational advantage
AGOA (African) countries, Bangladesh	Quota and tariff free, cheap labour	Lacks integration and China and India's degree of competitiveness
Hong Kong, Korea, Taiwan	Trading hubs – proximity to China	No cost advantage, protected currently by quotas
USA and EU	Non-quota barriers likely to prove irritant to imports	US\$ 400 bn trade loss likely ov

Source - Industry, I-SEC Research

A recent study⁹ says that even big companies like Raymond and Arvind Mills are building factories that are just a tenth in size compared to those in China. The largest factory of India's largest garment exporter, Gokuldas Images has just 1000 sewing machines while even a medium-sized Chinese factory boasts of 2000 machines. The Chinese companies were ready 2 years before and when the quota regime was phased out, the China's share of export shot up from 9% in 2001 to 45%

⁷ Too little, too late, 15th November edition, Business World by Latha Jishnu.

⁸ Phase-out Will Bring Both Opportunities And Challenges- September 23rd 2004 edition of financial express, by Sarika Gupta.

⁹ The big factories are coming, Mr.T.Surendra, Business world Nov 15th 2004

in 2003, since they had spare capacity waiting. An industry analyst feels that the sector would need an investment of at least \$6 billion to \$7 billion in the next four years, which is more than the current size of the industry. The existing players will not be able to make up this entire investment, hence now there exists wide opportunities available for new companies to make fresh investments in this sector.

3. Research problem

The biggest challenge for the Indian industry in the next few years will be the dismantling of MFA trade quotas after almost four decades of restrictions. With the dismantling of Multi Fiber Agreement (MFA), trade in textile and garment will be a free for all affairs. There are both positive and negative implications of this. Removal of quotas will create new opportunities for Indian textile in international market. To reap the benefits of phasing out of quota system, Indian textile has to be internationally competitive, productive and efficient and it should be fast in responding to changes in consumer preferences. However, with termination of quotas the garment exporting countries will be competing intensively with each other for market share without the protection of a bilateral quota system. Hence the researchers found the need to understand the impact of quotas on Indian garment industry in the post quota scenario.

4. RESEARCH DESIGN

For the purpose of the study, target population was identified as all middle and top-level employees of garment export firms of Bangalore city. The sample population consisted of 50 top and middle level employees of the 12 garments export firms of Bangalore. A structured questionnaire was constructed. The draft was pre-tested and in the light of the outcome of the pretest, the questionnaire was revised and finalized. The questionnaire consisted of 2 parts. Part 1 consisted of background details of the respondents. Part 2 consisted of questions related to the impact of quota phase out on Indian export firms. 50 questionnaires were administered to the respondents and all the questionnaires were returned. This yielded 100 % response rate.

5. Results and Discussions

All the top and middle level employees of various textile mills were interviewed through a structured questionnaire to understand their opinions towards quota free system. The responses were analyzed to arrive at mean scores. These scores were

ascertained after giving weightages 5,4,3,2,1 to answers like strongly agree, agree, neutral, disagree, and strongly disagree. The results are shown in table 4.

Earlier Studies revealed that removal of quotas would create new opportunities for Indian garment sector. The respondents of the present study also feel quota phase out will provide lot of opportunities for long-term investments. This is ranked first with a mean score of 4.200. There is a consensus that with termination of quotas the garment exporting countries will be competing intensively with each other for market share without the protection of a bilateral quota system. The respondents feel that heavy competition from the neighboring countries will be the biggest challenge for the garment sector due to phasing out of quota system with a mean score of 4.16.

Table 4: Changes in the garment sector due to phasing out of the quota system

Factors	Mean	Std. Deviation	Sig (one tailed)
Increase in productivity	3.8400	.99714	0.00**
Increase in quality standards	3.8800	.84853	0.00**
Increased Customer satisfaction	3.2400	1.04119	0.107
Effective Marketing / sales and cost control	3.4800	1.18218	0.06*
Fast Delivery and Service	3.7600	1.09842	0.00**
Better Planning and merchandising	3.4600	.95212	0.050*
Modernization in the industry	3.6600	1.06157	0.00**
Product Diversification	4.0000	.85714	0.00**
Opportunities for long-term investments.	4.2000	.75593	0.00**
Increased Market access to non- quota countries	3.7000	1.03510	0.00**
Unique selling advantage for industry	3.9000	1.09265	0.00**
Increased Popularity of cotton	3.6400	1.10213	0.00**
Heavy competition from the neighboring countries	4.1600	.91160	0.00**
Price wars	3.5600	.95105	0.00**

- Significant at .05, ** significant at .01
- Source: primary data

Executives have agreed that dismantling of trade quotas will lead to Product diversifications (4.00), increase in productivity (3.88), improvement in quality standards (3.84), Fast Delivery and Service, (3.70), modernization in the industry (3.66)

Executives are not sure whether dismantling of trade quotas would lead to increased customer satisfaction (3.24), better planning and merchandizing (3.46) effective marketing and sales control (3.48).

The respondents have also felt that the quota phase out will provide unique selling opportunities (3.90) and result in increased market access to non-quota countries (3.76) and popularity of cotton (3.64).

Interco relations between variables

An important aspect of the study was to identify the relationship between the variables. Correlation analysis can assist to identify the association between the variables that define the post quota scenario. Thus it was decided to conduct correlation analysis in the present study. Correlation analysis was applied for all the 14 variables to understand the relationship between each variable with respect to all other variables. The results are presented in table no 2. For many combinations the correlation is not significant. Only few variables have significant relationships. There are high-level correlations for Modernization of the industry and better planning and merchandizing (.64), Popularity of cotton and unique selling advantage for industry (.56), price wars and heavy competition with the neighboring countries (.55).

Cluster analysis

Cluster analysis is a set of techniques for grouping similar objects or people. Cluster analysis starts with an undifferentiated group of people, events, or objects and attempts to reorganize them into homogeneous subgroups. Three groups were clearly identified using K- means cluster analysis. Table 6 indicates the means for all the 14 variables in clusters 1,2, and 3. Figure 1 gives the cluster profile plots.

Cluster interpretation

Interpreting the clusters involves examining the cluster mean values. Analysis of the mean values (see table 6) for each clusters results in the following interpretation of clusters.

Cluster 1 with 22 cases show strong agreements for most of the changes and show slight disagreement towards increased customer satisfaction and fast delivery and service. Overall this cluster is optimistic about post quota scenario.

Cluster 2 with 11 cases show strong agreements for opportunities for long-term investments. The cluster shows strong disagreement towards marketing / sales control and modernization in the industry. It can be inferred that this cluster is not optimistic about post quota scenario.

Cluster 3 with 17 cases show strong agreements towards increase in productivity, Unique-selling advantage for industry and heavy competition from the neighboring countries. Overall this cluster is cautious about post quota scenario.

The variables in cluster profile plots are ordered by the *F* ratios. The vertical line under each cluster number indicates the grand mean across all data. A variable mean within each cluster is marked by a dot. The horizontal lines indicate one standard deviation above or below the mean. Cluster 1 has above average means of Increase in quality standards, gross domestic product, life expectancy, literacy, and urbanization, and spend considerable money on health care and the military, while the means of their birth rates, infant mortality rates, and birth-to-death ratios are low. The opposite is true for cluster 2.

Table 5- Inter correlations

1		2	3	4	5	6	7	8	9	10	11	12	13
2	-0.24												
3	-0.31*	-0.08											
4	0.27	0.24	-0.27										
5	0.20	-0.03	-0.16	0.09									
6	-0.32*	0.47**	0.05	0.12	0.08								
7	-0.18	0.45**	-0.01	0.23	-0.03	0.64**							
8	-0.14	0.22	-0.09	-0.16	0.02	0.25	0.24						
9	-0.03	0.00	-0.24	0.11	0.18	0.32	0.16	0.22					
10	-0.20	0.37*	-0.15	0.35*	0.04	0.47**	0.42**	0.23	0.39*				
11	0.02	0.20	-0.12	0.27*	-0.12	0.08	0.16	0.24	-0.17	0.00			
12	-0.10	0.23	-0.08	0.29*	-0.24	0.35	0.32*	0.13	-0.01	0.24	0.56**		
13	0.16	0.18	0.00	0.45**	0.08	0.07	0.22	0.20	-0.10	-0.07	0.50**	0.30*	
14	-0.22	0.31*	0.02	0.33*	-0.04	0.40**	0.25	0.15	-0.07	0.07	0.31*	0.46**	0.55**

* Correlation is significant at the 0.05 level (2-tailed).

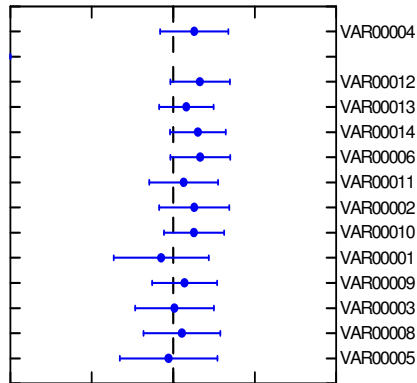
** Correlation is significant at the 0.01 level (2-tailed).

Table 6- Cluster analysis

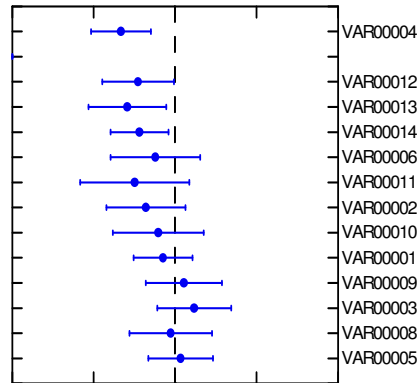
VARIABLES	CLUSTER 1 (22 CASES)	CLUSTER 2 (11 CASES)	CLUSTER 3 (17 CASES)	F RATIO
Increase in productivity	3.55	3.55	4.41	4.91**
Increase in quality standards	4.32	3.27	3.71	7.80**
Increased Customer satisfaction	3.27	3.73	2.88	2.34*
Effective Marketing / sales and cost control	4.09	1.91	3.71	26.39**
Fast Delivery and Service	3.64	3.91	3.82	.26
Better Planning and merchandising	4.09	3.00	2.94	12.79**
Modernization in the industry	4.45	2.82	3.18	20.39**
Product Diversification	4.18	3.91	3.82	.914
Opportunities for long-term investments.	4.41	4.36	3.82	3.54*
Increased Market access to non-quota countries	4.23	3.27	3.29	6.17**
Unique selling advantage for industry	4.18	2.82	4.24	9.25**
Increased Popularity of cotton	4.36	2.64	3.35	15.88**
Heavy competition from the neighboring countries	4.45	3.09	4.47	15.40**
Price wars	4.14	2.73	3.35	12.84**

Cluster Profile Plots

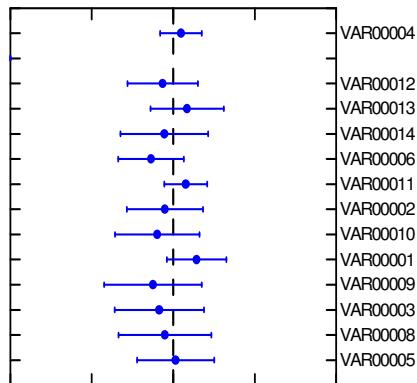
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7. CONCLUSIONS:

The present research focused on identifying the opportunities and challenges posed by post quota phase out scenario. This scenario opens up innumerable opportunities as the quota constraints are completely removed. This includes opportunity for long-term investments, and expansion of the market. As the protection of the bilateral quota system is removed, it is also likely that there will be intensified competition and pressure on prices.

Phasing out of the quota system in the year 2005 will be beneficial to Indian exporters as it provides opportunities for growth in the garment sector and opportunities for long-term investments. Phase out of quota system also poses number of challenges to Indian exporters such as heavy competition, need for on time delivery and need to increase quality and productivity. Exporters can exploit mentioned opportunities only if these challenges are effectively taken care of.

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DIRECTION OF EXPORTS OF COMMERCIAL AGRICULTURAL COMMODITIES

J. K. SACHDEVA*

Introduction

Agricultural commodities like tea, coffee, spices, oilseeds, cotton and cashew can be grouped under cash crops. They are traditional export items, which aggregate to 50% of total agricultural exports. These items are ready for consumption after some value addition. They are used as raw material in food and other industries. The commodities can be ranked high in hierarchy of demands after food items like wheat and rice. The economic status of the consumer plays a significant role in their demand. A review of the literature and expert views concerning the export of these commodities is undertaken in the subsequent section below. Objectives and research methodology have been discussed in Section.3. Results are in Section.4. Section.5 concludes.

2 Literature Review

Indian tea has always been export oriented and has occupied an important place on the international tea map. The industry, however, has not been doing well on the export front in the recent years. In fact, in the decade of the 80's and in the earlier years of the 90's, it failed to repeat the performance it achieved in 1981. Barring occasional upswing, it has been a downhill journey thereafter. Intriguing developments, such as, cash crunch faced by the Iranian and Russian buyers, Lankan inroad into CIS markets, Poland turning to Kenya for cheaper teas or over supply of inferior teas leading to price crash at the tea auction centres were enough to play havoc with the fortunes of the Indian exporters (Kainth,1996a). India has the potential to exploit the enormous tea export opportunities by enhancing the production through increased yield rates. The quality aspect needs serious attention. China, Sri Lanka, Indonesia pose a competitive threat in this field and there is need for a number of policy initiatives so that India's advantages are reinforced and the disadvantages are neutralized. In this context a massive up-gradation in the market information infrastructure in the country is a must. In addition, quality up-gradation will have to be an ongoing process both in the field and in the factory (Talreja, 2003).

Next traditional item among cash crops is coffee. Veena et al (1994) analyzed the direction of the changing situation of Indian coffee exports and found that India could not retain its previous market share to the U.S.A., the Netherlands, Yugoslavia and Italy during the decade prior to 1994. But the actual quantity exported to all these

* Editor, Journal of Global Economy

countries has increased. India has retained its previous market share to USSR, West Germany and others. West Germany and Italy prefer Indian coffee in the world market. The bulk of the coffee exported to the USSR was under bilateral agreement.

India has a long history of over 2,500 years in the spice trade. Its agro-climatic conditions have made the country the natural home of a variety of spices such as pepper, cardamom (small), cardamom (large), chilly, ginger, turmeric, garlic, coriander, cumin, fennel, fenugreek, celery, clove, nutmeg, and saffron. Although Indian spices' exports have been increasing in quantity and value and cover a large number of countries, future prospects depend on exporters' ability to meet quality standards set by importing nations. The Indian spices industry has moved from only trade to consumer-oriented processing and production. Some of the companies have gone into joint ventures/ marketing tie-ups with multinationals, (John, 2003). Kainth (1996) comments that export performance of seed spices has a bearing on domestic prices. The production of seed spices has shown an increase during the last few years but the heavy domestic demand has rendered them uncompetitive at critical points of time. These are crops where farming practices play a key role in their production. Seed spices are comparatively minor exchange earners. Indian coriander finds a market in Singapore, the UAE, Sri Lanka and Oman while cumin is exported in sizable quantities to the US, Singapore, Japan, Saudi Arabia and the UK. Fennel is taken mostly by Saudi Arabia, Japan, the UAE, Sri Lanka, Kuwait and South Korea while bulk of the fenugreek export is to Canada, West Germany and Singapore. India exports spices in raw form and in bulk quantities. The importers process a large part of these into different end points and sell them at higher price. Important value added products are oils and oleoresins from various spices, curry powders and spices in consumer packs. Spice oils and oleoresins have registered the maximum growth in terms of volume and value. The major spice oils exported are pepper oil, ginger oil, celery seed oil, clove oil, cardamom oil. They are exported to the US, the UK, West Germany, France, the Netherlands, Yugoslavia and Australia. (Kainth, 1996; John, 2003)

India exports oil seeds, but there are debatable issues whether India should export oil seeds and import edible oil or discourage exporters to export oilseeds. Chand (2002) writes that due to growing imbalance between demand and supply of edible oilseeds in post green revolution period, India had to import massive amounts of edible oil. Prior to 1994 oilseed sector was protected through QRs on imports and exports. Imports were canalized through State Trading Corporation and then sold through Public Distribution System at prices fixed by the government. Domestic prices of oilseeds were maintained at more than double the world prices (World Bank 1997 as quoted by Chand, 2002), Tariff rates on import were also quite high. From March 1, 1995 edible oils have been put under OGL and are regulated by import tariff, which is changed from time to time depending upon domestic and international price levels. Quota restrictions on export of rapeseed-mustard seed were

lifted in May 1995, while export of oil remains restricted to 5 kg pack. Trade policy on edible oils has been caught between two opposing viewpoints. According to one view, India would be benefited by liberalising import of oil of rapeseed-mustard and other edible oils as their domestic prices have ruled higher than world reference prices for several years. Accordingly, resource use efficiency in edible oilseeds production was found to be low and oilseeds were found to be protected at the cost of cereals. Further, due to restrictions on imports, domestic prices were kept high. According to other view point the policy of import liberalization would have adverse impact on the oilseeds and Indian producers. Though India has been trying to be self reliant in edible oilseed production, reliance on import has continued and increased in recent years. India's agro exports face certain constraints that arise from conflicting domestic policies relating to production, distribution, food security and pricing concerns. In the case of edible oils, the domestic price of two major edible oils - groundnut oil and mustard oil has been more than twice the international price of most globally traded oils. This is because India not only has little comparative price advantage in the production of oilseeds, but oil extraction is also based on obsolete traditional technology as edible oil production is still reserved for the small scale sector. Domestic supply of edible oils is unable to meet the domestic demand requirements and India imports about 4 million tonnes of edible oils annually. Low global prices had benefited India as it was able to import large volumes to meet the growing domestic demand for oils. However, the decline in international production of oilseeds and decline in stocks cause global availability of edible oils to decline thus pushing up international prices, (GOI, BUDGET, 2001-2002).

This study limits to the extent of export oilseeds to various countries and does not have the scope of edible oil import in details, but some factors cannot be ignored in controversies. Edible oils are 'essential' commodities and consumer interests are the major determinants of policies in this sector. High income elasticity of demand keeps demand buoyant and high price elasticity makes prices volatile. Though it has been argued that low world prices of edible oils are a consequence of high levels of protection and agricultural subsidies in developed countries, the Indian oilseed sector will remain under pressure even if these are properly adjusted. What make the oil sector uncompetitive are an inefficient processing sector and the policy of reservation for village and small industries. Both oils and oil meals suffer on this score, (Chand et al, 2004). The quest for raising self-sufficiency levels in edible oils remains a legitimate policy objective. Leaving aside the question of drain on foreign exchange reserves, import volumes have become too large and an upsurge in world prices of this politically sensitive commodity will have serious consequences. Bhupal (2003) observed that in Rajasthan and Haryana about 50 per cent processing units were closed down and the remaining were operating at 18 to 20 per cent below their capacity level. On the other hand farmers were shifting from oilseeds to wheat. Ramaswamy et al. (2002) found that oilseeds markets and prices, in general show

more fluctuations than other crops. The number of oilseeds and products, the jointness of meal and oil productions, the variability in substitution possibilities across crops and varying degrees of correlation between prices of different products are the many factors affecting technical relationships among oilseeds products. For instance, production and prices of palm oil in Malaysia and Indonesia influence the prices of oilseeds and edible oils in India. The excess production of edible oils in those countries and India's liberal import policy has depressing effects on prices in India. And farmers are not able to realise adequate returns. Farmers are therefore forced to stop cultivation of groundnut, mustard etc. India will become all the more totally dependent on imports if these conditions persist. The farmers are reluctant to diversify from wheat and rice to oil seeds

Cotton and garments are the important items exported by India. Cotton trade is highly complex. The number of grade specifications in which exports and imports are classified is very large. Besides, cotton is traded in various forms like raw cotton, yarn etc. India used to export small to moderate quantity of cotton but in the recent years dependence on import has increased substantially. The main reasons for this are 1) the stagnant production of cotton in the country, 2) international price fluctuations and 3) domestic demand. Due to very large number of specifications and quality variations it is difficult to undertake exact comparison of domestic and international prices. For instance, in most of the cases prices in US markets is found to be less than half of the prices quoted for Egyptian cotton, (Chand, 2002). Average price of cotton in US markets ruled higher than the Indian price in all the years. India has a very large milling capacity for textile and garments manufacturing, and export of such items constitutes important share in the total export earnings. Therefore, export of raw cotton is not a good yardstick for export performance of the country. Excessive emphasis on cotton export can cause adverse impact on the agro-processing industry and also on export of value added products from the country. Thus there is a need to study whether it is more advantageous to promote export of raw cotton or to promote export of the manufactured products. Domestic prices also play an important role in increasing the production. They should be remunerative to cotton growers. There is another dilemma. In the spinning sector, production of cotton yarn is influenced by many factors like export of cotton yarn, previous year's production and price of cotton. Exports significantly influence production of cotton yarn. But high spiral tendency in cotton price has adverse impact on cotton yarn production. Therefore, while maintaining remunerative cotton prices, the tendency in cotton prices to increase should be arrested through increasing the production of cotton. In the weaving sector, in both mill and decentralised units, export variable is important in determining the production of cotton fabrics, (Gopal, 1999).

The trend growth of the value of the Indian cotton exports declined in the post-liberalization period as compared to pre-liberalization period. In order to bring back the glory of Indian cotton in the global cotton trade map and to attain the competitive edge, it is necessary to adopt cost saving technologies and go for

production of export-oriented long staple cotton varieties for improving the competitiveness of our cotton exports, (Mahesh, 2003). The price policy has failed to reduce price variability and contributes neither to farm income stability nor to protect the interest of the farmers. The support price fixed by the government does not reflect the market behaviour. The government should devise production-oriented price policies aimed at rational utilisation of scarce resources and in protecting the interests of the producers and consumers, (Rathi et al, 2003).

Cashew is the most important component of agriculture export basket. India is the largest producer, processor and exporter of cashew in the world. Its share in world production ranged between 39 to 62 per cent during 1991-95. Liberalization policy since 1990s has positive effect on cashew export. The quantity of cashew kernels exported grew by 6.08 per cent during 1991-95. The positive growth rate in respect of cashew export was due to the increased domestic production and increased demand for cashew kernels in the international market. Variation in the exports of cashew depends upon domestic production, export price, domestic price, domestic consumption and world export. Further, the export price has slightly affected India's cashew exports, (Naik et al.,2003).

3.1 Objectives

1. Generally economists are of the view that only one commodity should be analysed at a time to do fair justice to research, but in the present study an attempt has been made to generalise whether export of commercial crops have increased after economic reforms and establishment of WTO by taking six sample commodities.
2. To analyse the exports of tea, coffee, spices, cotton, oilseeds and cashew.
3. To measure the export growth in the aftermath of economic reforms.
4. To study whether the past performance influences the future performance.
5. To study the volatility of export.
6. To explore the relationship between exports, imports and production.

3.2 Research Methodology

To achieve the above objectives four techniques have been used:

- i) Compounded growth rate (CGR)
- ii) Unit Root Technique
- iii) Instability Index (INS)
- iv) Regression on de-trended series

All the above techniques help to rank the countries with statistically significant growth, less volatility in export volumes and a good momentum of past performance.

Past performance can effect on future performance due to momentum. Statistically we say that time series have autocorrelation as succeeding years data is related to lag periods. Economist measure autocorrelation by Durbin Watson method with module $d = (\sum (e_t - e_{t-1})^2) / (\sum e_t^2)$ where 'e' is the error term "d" has a bound between 0 and 4. If there is no correlation d is expected to be 2, (Gujarathi, 1995).

Durbin Watson test has many limitations, as it does not have lagged dependent variable in calculations. As we are interested to know the lagged effect of both dependent and independent variable, Unit Root technique (Augmented Dickey fuller Test) has been used in preference to Durbin Watson test. This helps us to see not only the effect of lagged period but also sum total of all differences of lagged variables. There is not much literature on the subject except a few generalisations. Unit Root testing technique of time series is helpful to find whether business in past is temporary or permanent arrangement. In business momentum of past performance has impact on present performance. Customers are so loyal that they ignore slight variations in prices and other issue. Unit Root model has been explained in Appendix "A" at the end of the thesis.

Remarks of Hoffmann et al (2002) are worth noting. They observe that when a time series contains unit roots, any shock – whether policy or random – would have a permanent impact on the series while a series without unit roots would be subject to a temporary effect. If any country's (Y's) exports to destination X contain unit roots, we can conclude that any shock to trade relationships between country Y and country X would have a permanent effect. Conversely, if the series does not show the presence of unit roots, any shock would be temporary in nature. Any exogenous shocks that may affect Y's exports to the markets with unit root may affect bi-lateral export relations permanently. While analysing the exports of Malaysia, Hoffmann cites that September 11th attacks in the heart of the US might have caused permanent damage to exports from Malaysia if American consumers tend to be more nationalistic in their purchase. In situations like this, it is imperative that the Malaysian government introduces policy initiatives to counter such damage. It must be emphasized here that such policy inducements would also tend to have a permanent effect on exports. Another instance is the introduction of the Euro and its effect on Malaysia's exports to the EU. If the euro proves to promote greater intra-EU trade at the expense of non-EU exports, it would pay for Malaysian officials to initiate trade missions to the EU to win contracts. In other words, for every negative shock a positive one has to be introduced to ensure a return to normality. Unit Root Technique is usually used to find how many times series should be differenced to de-trend it. We have used this technique to compare the series which have past performance momentum and to see a) countries where present strategies are working b) where there is more momentum of past than present strategies. ADF module is

$$Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \alpha_i \sum \Delta Y_{t-1} + \varepsilon_t$$

Where Y_t is amount of export at time t in time series, Y_{t-1} is the lagged one year export, $\sum \Delta Y_{t-1}$ is the sum of all first differences and ε_t is error term. Working on the above concept, the series were tested using tau (τ) stat. This test may give an indication whether present strategies are working well or there is a past performance momentum

All the above techniques help to rank the countries with statistically significant growth, less volatility in export volumes and a good momentum of past performance.

Basically the major present strategies are devaluation of rupee (due to economic reforms with in India) and market access due to AoA of WTO. Period 1992 to 2003 cannot be subdivided to see the effects separately as time period between the two is too short to see statistical significance due to less degree of freedom. Exports to and imports from only the major countries have been considered.

4. Results

TEA

In year 2002, against the world trade of 2317.34 million US D, India, being third in rank of word exporters, exported tea valued at 326.63 million US D. In 2002, top tea exporters in the world were Sri Lanka, China, India, UK, Kenya and Indonesia. Top importers were UK, Russian Federation, Japan, USA, Egypt and Saudi Arabia. All developed countries are in re-export business, (**Table 1**).

Table 1 WORLD TEA TRADE IN YEAR 2002

TOP EXPORTERS	VALUE IN US D MILLION	TOP IMPORTERS	VALUE IN US D MILLION
Sri Lanka	650.4	UK	281.99
China	331.76	Russian Fed	288.67
India	326.64	Japan	179.55
UK	191.26	USA	173.70
Kenya	140.91	Egypt	141.81
Indonesia	103.43	Saudi Arabia	113.49
World	2317.34		

Table 2 World's and India's Tea Export in Value and Quantity and Production of Tea in India

YEAR	Total World Trade Value In Million US Dollars	World's weight '000 MT's	India total Value	India weight, 000 MT	Production of Tea in India
1993	2314	1222.72	331.85	153.16	703.9
1994	2067	1061.40	308.40	150.87	753
1995	2278.3	1168.38	359.05	158.33	753.9

1996	2467.68	1213.66	282.58	138.36	761
1997	2982.16	1315.94	497.24	191.47	787
1998	3361.09	1422.44	518.26	201.80	836
1999	2787.88	1368.16	406.11	177.51	855
2000	2948.06	1489.21	431.60	200.87	835
2001	2833.56	1446.56	367.21	177.60	848
2002	2521.82	1354.51	326.63	181.62	847.25
CGR	2.92***	2.91*	1.91	2.87***	2.09*
INS	10.42	5.71	21.89	12.21	1.11
ADF τ-STAT (Unit Root) #	-1.9363	-1.8523	-1.6789	-1.3945	-.8888

Significance value for 5% level is -2.89 and for 10% level is -2.58

* significance at 1% level, ** significance at 5% level, *** significant at 10% level.

During the period, 1993-2002, it is observed world trade of tea grew by 2.92% in dollar terms which is statistically significant at 10% level, while quantity of world exports grew by 2.91% which is statistically significant at 1% level. Difference in significance is due to slight price volatility during this period. Instability indices (INS) of value (10.42%) and quantity (5.71%) tell the same story. (**Table 2**) Nonetheless, comparatively this volatility appears to be negligible.

In comparison to World Trade, India exported comparatively more tea in quantity than value during the period under consideration. CGR of export quantity of tea is 2.87%, which is statistically significant 10% level while in dollar terms CGR is only 1.91% which is not statistically significant. This can be due to devaluation of rupee, (**Table 2**).

To see whether exports are related to production, de-trended export quantity series and de-trended production series were regressed on each other, among many results the following important result is worth noting

$$U_{\text{production}} = .8448 U_{\text{export (t-1)}}$$

$$(3.4288^*) \quad R^2 = .60 \quad n = 9$$

* Statistically significant at 1% level.

$U_{\text{production}}$ and U_{export} are the residuals of productions and export time series such as where $Y_t = a + bt + U_t$ in which Y_t is the export at time t. Figure in brackets is t-stat which is statistically significant at 1% level, which means proceeding year's exports effect succeeding years' production. Commercial crops usually have such relations, past exports may affect production or vice versa.

India's exports of tea to world and all major countries have Unit Roots at 5% significance level, which means past performance effects future outcomes. There is

momentum and autocorrelation in all series, which means customer's loyalty plays significant role than present strategies, even though rupee devaluation has played some part. Growth rate of tea exports to UAE, USA, Iraq, Netherlands, Kazakhstan, Australia and Turkey are statistically significant as shown in **Table 3**. Business to Netherlands, Germany, USA and UAE is stable as compared to other countries. Though CGR of exports to Iraq, Kazakhstan and Turkey is high and statistically significant but exports are highly volatile as shown by Instability Index (INS).

India is losing its business with Russian Fed, UK, Poland and Egypt. It may be noted that fall is due to lagged effect also. There is a Unit Root in all series. Exports to Poland, Iraq, Japan, Saudi Arabia, Kazakhstan and Australia are highly volatile.

TABLE 3 Export of Tea To Major Countries (1993-2002)

EXPORT PARTNER	CGR	INS	ADF τ-STAT (Unit Root) #
RUSSIAN FED	-2.03	42.83	-1.423
UAE	5.19**	22.65	-1.3442
UK	-1.49	21.32	-2.0307
POLAND	-8.96	41.66	-1.8566
USA	8.57**	19.63	-1.1930
GERMANY	0.17	17.43	-1.6713
IRAQ	41.69**	51.71	-.7966
JAPAN	3.03	38.13	-1.5909
SAUDI ARABIA	7.23	50.69	-2.5039
NETHERLANDS	5.04*	14.31	-.8452
KAZAKHSTAN	48.01*	37.28	-1.0824
AUSTRALIA	17.13*	85.60	.7337
IRAN	0.77	72.06	-1.7427
TURKEY	35.08***	108.18	-1.8353
Egypt	-27.74	46.10	-.9295
OTHERS	-1.96	16.49	-3.2681@

Significance value for 5% level is -2.89 and for 10% level is -2.58 @ no unit root

- significance at 1% level, ** significance at 5% level, *** significant at 10% level.

Coffee

Coffee includes coffee, green and roasted, coffee extracts, essences, concentrates and preparations. In year 2002, world exported coffee worth 7.895 billion dollars. Worlds' top exporters were Brazil, Columbia, Germany, USA, Italy, Guatemala, Belgium, Indonesia, Mexico and India. India ranks tenth among Coffee exporters and exported coffee worth 204.56 million US D in year 2002, (**Table 4**)

Value-wise worlds' growth of coffee during the period 1993-2002 is negative but negligible (-.46%), however quantity-wise coffee export in the world is growing at 3.07% which is statistically significant at 1% level. It means prices of coffee have fallen during this period. If we see India's export figures value-wise and quantity-wise, India's CGR of coffee quantity export is 4.56% which is statistically significant at 1% level, but CGR in dollar terms is negative. CGR of -2.66% in value clearly shows that prices are falling but India's exports in quantity have risen due to devaluation effect (**Table 5**).

Table 4
WORLD COFFEE TRADE IN YEAR 2002

TOP EXPORTERS	VALUE IN US D MILLION	TOP IMPORTERS	VALUE IN US D MILLION
BRAZIL	1384.79	USA	1796.3
COLUMBIA	864.76	GERMANY	1111.4
GERMANY	835.75	JAPAN	666.67
USA	364.17	FRANCE	582.25
ITALY	336.78	ITALY	427.86
GUATEMALA	262.04	CANADA	380.47
BELGIUM	245.74	BELGIUM	312.08
INDONESIA	239.62	UK	308.63
MEXICO	237.528	NETHERLANDS	279.72
INDIA	204.56	SPAIN	242.49
World	7895	WORLD#	8741

Difference due to CIF value and FOB value

Do we produce for exports or does production affect exports? Coefficient of correlation between export and production is .73. De-trended time series export quantity and production quantity were regressed on each other. Out of many results Following result is worth noting.

$$U_{\text{export}(t)} = -.4412 U_{\text{production}(t-1)} \dots\dots\dots (1)$$

$$(-1.9839**) \quad R^2 = .33 \quad n = 9$$

**** Statistically significant 10% level**

$U_{\text{production}}$ and U_{export} are the residuals of export time series such as where $Y_t = a + bt + U_t$ in which Y_t is the export at time t . Figure in bracket is t -stat which is statistically significant at 10% level which means export is negatively related to production. Proceeding years' production affects succeeding years' exports. In commercial crops, such relation is but natural as one year lagged exports affect productions or vice versa

India exports coffee to Russian Federation, Italy, Germany, USA, Spain, Belgium, Netherlands, Poland, Switzerland, Finland, Czech republic and other countries as shown in **Table 6**. India's exports to Spain and Belgium are growing at CGR of 12.02% and 20.50%, which are statistically significant at 10% and 5% level. In dollar terms India's exports to Italy, Germany, USA, Japan, Poland, Switzerland, Finland and Czech rep are falling. Being momentum of past performance, there is a unit root in all time series of coffee exports, even the negative growth rates have lagged performance effect. As there is a wide fluctuation in prices, series show negative trend to most of the countries, (**Table 7**). As CGR of devaluation is 5.7%, if this devaluation CGR is added to dollar term growth of export, we shall arrive at approximate growth rate of exports in rupee term. In rupee term exports to Italy, Switzerland and Thailand are rising.

TABLE.5 World And India's Export Of Coffee In Value And Quantity, And Production In India Value In Million Us D

YEAR	Total world trade (VALUE)	WORLD weight '000 MT's	India's production	India export value	India export weight,000tonnes
1993	5374.65	5184.63	162	174.04	121.76
1994	11527.69	5090.20	208	335.41	131.64
1995	14141.18	4712.36	180	448.48	158.48
1996	12307.41	5373.41	223	401.84	163.24
1997	15982.88	5528.88	205	454.97	153.83
1998	14830.68	5587.30	228	410.61	193.87
1999	12134.77	5918.08	265	331.05	190.56
2000	10717.13	6276.75	292	264.10	185.61
2001	7825.80	6237.30	301	232.24	177.19
2002	7895.56	6355.06	317	204.56	185.55
CGR	-0.46	3.07*	7.33*	-2.66	4.56*
INS	20.62	3.12	6.02	19.59	5.95
ADF τ -STAT (Unit Root) #	-.9781	-.3285	.7265	-.9218	-2.2294

Significance value for 5% level is -2.89 and for 10% level is -2.58 @ no unit root
 * significance at 1% level, ** significance at 5% level, *** significant at 10% level.

TABLE 6 India's Export of Coffee To Major Countries

EXPORT PARTNER	CGR	INS	ADF τ-STAT (Unit Root) #
RUSSIAN FED	2.42	30.87	-2.5345
ITALY	-1.73	27.02	-1.3624
GERMANY	-7.26	31.07	-.7185
USA	-14.88	29.70	-1.2766
SPAIN	12.02***	28.84	-1.8562
BELGIUM	20.50**	18.68	-2.0346
NETHERLANDS	2.91	38.39	-2.3945
JAPAN	-12.69	42.05	-1.0456
POLAND	-17.65	62.99	-1.5698
SWITZERLAND	-0.42	34.56	-4.9215@
FINLAND	-3.82	71.52	-1.6776
Czech rep	-50.98	94.24	-.8781
OTHERS	0.80	19.77	-1.6454

Significance value for 5% level is -2.89 and for 10% level is -2.58
 @ no unit root
 * significance at 1% level, ** significance at 5% level, *** significant at 10% level.

Spices

Since ages, India has been named as gold mine. This gold mine has been created by exports of spices. Our analysis for the period 1993-2002 confirms the same. Among all the agricultural products, analyzed so far, spices show significant growth both quantity-wise and value-wise. Spices exports are spread to all over the world.

India is number one exporter of spices. In year 2002, there was a world export of 2641.06 million US D. Top exporters were India, China, Indonesia, Singapore, USA, France, Brazil, Germany and Sri Lanka. Top importers were USA, Germany, Japan, France, Singapore, UK, Netherlands and India, (**Table 7**).

As against the world CGR of 6.22%, India' CGR is 6.56% which is statistically significant at 5% level, (**Table 8**). Exports are highly stable with instability index of 6.84% only. There is a significant growth of Indian spices to countries like Germany (6.56%), UK (9.32%), Japan (10.97%), France (6.80%), Malaysia (15.33%), Saudi Arabia (10.18%), Sri Lanka (12.85%), and Mexico (24.13%). CGRs are statistically significant as shown in **Table 9**. India also exports spices to countries like USA, Singapore, Netherlands, Bangladesh and Italy, though

growth rates are not statistically significant but seeing the UNIT root, t-stat and Instability index these growths are very important. There is no unit root to series for Singapore. Business to this country is volatile as in case of other commodities. In most commodities, business to Singapore and Japan is declining, but spices exports are rising.

Table 7 WORLD SPICES TRADE IN YEAR 2002

TOP EXPORTERS	VALUE IN US D MILLION	TOP IMPORTERS	VALUE IN US D MILLION
INDIA	337.52	USA	590.38
CHINA	212.82	GERMANY	186.83
INDONESIA	205.92	JAPAN	177.23
SINGAPORE	174.11	FRANCE	160.70
USA	170.68	SINGAPORE	137.18
FRANCE	126.84	UK	131.94
BRAZIL	112.41	NETHERLANDS	113.42
GERMANY	106.99	INDIA	110.14
SRI LANKA	96.39		
World	2858.98	WORLD#	2641.06

Difference due to CIF value and FOB value

TABLE 8 WORLD AND INDIA'S EXPORT OF SPICES IN VALUE
Value In Million US D

YEAR	Total world trade (VALUE)	India's export
1993	1473.19	195.25
1994	1809.39	202.94
1995	2214.72	253.73
1996	2155.94	340.96
1997	2589.16	389.54
1998	2687.50	387.90
1999	2821.40	414.12
2000	2760.74	365.82
2001	2679.87	318.59
2002	2641.06	337.52
CGR	6.22*	6.56**
INS	2.58	6.84
ADF τ-STAT (Unit Root) #	-2.8966@	-2.9423@

Significance value for 5% level is -2.89 and for 10% level is -2.58

@ no unit root

* significance at 1% level, ** significance at 5% level, *** significant at 10% level.

TABLE 9 India's Export of SPICES To Major Countries

EXPORT PARTNER	CGR	INS	ADF τ-STAT (Unit Root) #
USA	4.01	25.44	-1.8148
GERMANY	6.56**	22.28	-1.5272
UK	9.32*	4.40	-3.2711@
JAPAN	10.97*	11.29	-1.4045
FRANCE	6.80*	10.10	-1.5805
SINGAPORE	3.71	27.15	-3.5891@
NETHERLANDS	5.99	36.00	-1.9430
UAE	3.67	24.79	-2.8201@
BANGLADESH	14.22	69.27	-1.3268
MALAYSIA	15.33*	26.67	-2.2335
SAUDI ARABIA	10.18*	30.12	-1.1945
SRI LANKA	12.85**	24.49	-.8482
MEXICO	24.13***	53.00	-1.7885
ITALY	2.66	22.42	-1.4041
OTHERS	6.00**	8.86	-2.2418

Significance value for 5% level is -2.89 and for 10% level is -2.58

@ no unit root

* significance at 1% level, ** significance at 5% level, *** significant at 10% level

India is in a leading position, China is the follower. Competition appears to be hard, we should prepare ourselves. India should play a driving seat role in price war and should try to maintain its position. Countries like Netherlands, Singapore, Bangladesh, Saudi Arabia and Mexico where exports are volatile should be concentrated. UK series has no Unit Root. Environment should be created so that present strategies have permanent effect on importers.

Cotton

In year 2002 world (all countries) imported 5424.71 million US D worth cotton. Top importers were Indonesia, Turkey, Mexico, Italy, Rep of Korea, Japan, India, Russian federation and China. Top exporters were USA, Australia, Egypt, Greece, Syria, Indonesia, France, Italy and Thailand. India exported cotton in year 1993, 1996 and 1977 to countries like Japan and Indonesia. Export series from 1993-2002 is highly volatile and had an insignificant negative growth, (**Table 10**).

As wheat has been exported and in succeeding imported, Cotton has been exported in good quantity in year 1993, 1996, and 1997, but has been imported in year 1994, 1995, 1999, 2001, 2001 and 2002 (**Table 11**). Relation of cotton production and import quantity has been calculated by regression on de-trended series as follows

$$U_{\text{export}(t)} = .224 U_{\text{production}(t-1)} \\ (-2.1802^*) \quad R^2 = .37 \quad n = 9$$

$$U_{\text{import}(t)} = -.2352 U_{\text{production}(t-1)} \\ (-2.336^*) \quad R^2 = .40 \quad n = 9$$

$U_{\text{production}}$ and U_{export} are the residuals of export time series such as where $Y_t = a + bt + U_t$ in which Y_t is the export at time t . *t-stats in the above equations are statistically significant at 5% level. Above equations show that one proceeding year's production affects imports and exports.

India has imported more cotton than export during the period under consideration. Import series both value-wise and quantity wise show a significant high growth, but instability index is very high; high growth with high volatility can be termed as a good indication. High import demand by textile industry may be reason for high import. But volatile import and export has created problems at production level. In case of wheat, farmers are not affected as wheat import and export are related to stocks

But in case of cotton, import and exports are linked with production; farmers are affected, when they are unable to sell their produce due to low exports and high imports. Present predicament is the outcome of a little protection to cotton, as **rate of Customs Duty on cotton is only 10%** (year 2003). It is worth noting that Customs duty on wheat is 100%, while on rice is 70%.

TABLE 10 EXPORT OF COTTON INCLUDING WASTE (Value In Million US D)

YEAR	Total world trade	India total	INDIA'S WEIGHT exported in '000 tonnes	INDIA'S PRODUCTION	EXPORT TO JAPAN	EXPORT TO INDONESIA	EXPORT TO OTHERS
1993	3246.16	208.23	194.39	1825.97	29.87	28.23	150.14
1994	4879.20	44.35	34.76	2020.96	9.48	10.60	24.27
1995	7166.88	60.66	33.28	2186.37	12.71	2.27	45.69
1996	6936.28	443.33	269.51	2419.27	41.88	74.30	327.15
1997	6619.61	219.28	156.79	1844.67	17.95	38.31	163.02
1998	6016.13	49.16	41.95	2088.8	6.27	0.94	41.94
1999	4766.34	17.59	15.83	1960	6.42	0.00	11.18
2000	5265.67	19.76	18.55	1640.9	4.47	0.01	15.29

2001	5122.75	6.56	7.01	1987.3	2.89	0.00	3.67
2002	4838.54	10.21	11.76	1583	5.48	0.22	4.51
CGR	0.71	-29.34	-25.78	-2.01	-19.35	-73.90	-31.21
INS	14.13	159.80	146.55	15.04	108.97	198.75	161.72
ADF τ - STAT (Unit Root) #	-2.3599	1.7762	-1.8179	-9379	1.5181	-1.8207	-1.7955

TABLE 11 IMPORT OF COTTON INCLUDING WASTE Value In Million US D

YEAR	India's cotton production '000 MTs	India total IMPORT VALUE	Import weight '000 MT tonnes
1993	1825.97	5.86	3.82
1994	2020.96	161.56	80.87
1995	2186.37	155.47	69.62
1996	2419.27	8.88	2.92
1997	1844.67	21.67	9.97
1998	2088.8	90.67	57.40
1999	1960	288.59	236.75
2000	1640.9	263.38	212.13
2001	1987.3	434.75	386.87
2002	1583	254.28	233.82
CGR	-2.00683	39.87***	51.45426**
INS	15.04	58.56	58.41
ADF τ -STAT (Unit Root) #	-9379	-8492	-1995

Significance value for 5% level is -2.89 and for 10% level is -2.58

@ no unit root

* significance at 1% level, ** significance at 5% level, *** significant at 10% level

Oil Seeds

This group comprises mustard, sunflower, rye and groundnuts. In year 2002, there was world trade of 16.31 billion US dollars. Top importers of oil seeds were China, Japan, Germany, Netherlands, Mexico, Spain, Belgium, UK and Rep of Korea. Top exporters of world were USA, Brazil, Argentina, Canada, France, China, Australia, Netherlands and Paraguay, (**Table 13**). In year 2002, India exported oilseeds of value of 141.67 million US D. During the period 1993-2002, against the world growth of 4.32%, export of India's oil seeds grew at the rate of 7.55%, which is statistically significant at 10% level.

World's instability index is 6.77% while India's instability index is 32.42% which means India's exports of oil seeds is highly volatile. As there is no Unit Root in the series for the period under consideration, there is no momentum of past exports and only present strategies are working and these strategies are not of permanent nature according to statistical analysis. (**Table 14**)

TABLE.12WORLD OIL SEEDS TRADE IN YEAR 2002

TOP EXPORTERS	VALUE IN US D MILLION	TOP IMPORTERS	VALUE IN US D MILLION
USA	6076	CHINA	2641.0
BRAZIL	3037.5	JAPAN	1987.9
ARGENTINA	1280.62	GERMANY	1443.31
CANADA	1050.34	NETHERLANDS	1417.57
FRANCE	534.75	MEXICO	1251.58
CHINA	445.75	SPAIN	918.59
AUSTRALIA	409.0	BELGIUM	634.7
NETHERLANDS	369.35	UK	425.3
PARAGUAY	254.82	REP OF KOREA	390.0
		WORLD	16310

TABLE 13 WORLD TRADE IN OIL SEEDS Value in Million US D

YEAR	Total world trade	India total
1993	8953.10	84.18
1994	11097.62	82.11
1995	11975.29	156.83
1996	15015.12	186.37
1997	16421.83	250.09
1998	14666.61	121.06
1999	12824.10	187.79
2000	13968.48	231.27
2001	14828.50	195.84
2002	15213.71	141.67
CGR	4.32**	7.55***
INS	6.77	32.42
UNIT ROOT	-2.2103	-2.9066@

Growth rate of oil seeds to USA during 1993-2002 is 14.51%, which is statistically significant at 1% level. There is a good growth to other countries like Indonesia, Netherlands, Germany, Egypt, Turkey, Philippines, Malaysia and Russian Federation, but these growth rates are insignificant statistically, as exports volume is highly volatile from year to year. This is also shown by instability index. (**Table 14**)

TABLE 14 INDIA'S EXPORT OF OIL SEEDS TO MAJOR COUNTRIES

EXPORT PARTNER	CGR	INS	ADF τ -STAT (Unit Root) #
INDONESIA	4.57	53.02	-3.6782@
NETHERLANDS	2.09	36.21	-3.0914@
UK	-12.68	84.21	-1.2680
USA	14.51*	19.66	-1.0233
GERMANY	2.47	24.02	-2.9107@
EGYPT	24.15	60.43	-1.7826
TURKEY	9.08	45.35	-3.0535@
SINGAPORE	-3.49	51.47	-1.7461
PHILIPPINES	6.03	94.47	-1.6777
MALAYSIA	15.50	57.00	-3.8998@
RUSSIAN FED	1.26	59.15	-3.3150@
OTHERS	14.09*	29.11	-1.8843

Significance value for 5% level is less than -2.89 and for 10% level is -2.58

@ no unit root

* significance at 1% level, ** significance at 5% level, *** significant at 10% level

CASHEW

World imported cashew nuts (fresh and dried) valued at 1006.61 million US D in year 2002. India was the top exporter of cashew nuts with export of 422.215 million US D. India has almost 56% share (as world's export value is 755.36 million US D). Other exporters were Brazil, Cote 'divour, Tanzania, Indonesia and Netherlands. Top importers were USA, India, Netherlands, UK, Germany, Canada, Australia and Japan, (**Table 15**). Among all the commodities analyzed so far cashew is the only commodity, in which India has good control as figures reveal that India is in the business of re-export. Against the world's import growth rate of 5.3%, India's export of cashew in dollar terms is growing at the rate of 2.7%. In tonnage terms it is growing at 5.9%, which means prices are falling. India is exporting more in quantity but receiving less in dollars. CGR in weight is significant at 1% level. Against the world's instability of 12.51%, India's instability in dollar term is 17.04%, but that of weight is 10.02%. It again means devaluation has played an important role.

India exports cashew to UK, USA, Netherlands, Japan, UAE, France, Saudi Arabia, Australia and other countries. CGR to USA, UAE, France and Saudi Arabia are statistically significant as shown in **Table 17**. Volatile business to Russian Federation is clearly shown by high instability index. All series have Unit Root which

means lagged effect have played major role than present strategies. Business to Japan, Russia and Australia is falling.

TABLE 15 WORLD CASHEW TRADE IN YEAR 2002

TOP EXPORTERS	VALUE IN US D MILLION	TOP IMPORTERS	VALUE IN US D MILLION
INDIA	422.22	USA	374.49
BRAZIL	105.65	INDIA	254.95
COTE' D'IVOR	49.43	NETHERLANDS	58.04
TANZANIA	47.23	UK	39.67
INDONESIA	34.81	GERMANY	35.89
NETHERLANDS	29.34	CANADA	31.09
		AUSTRALIA	28.65
		JAPAN	27.37
WORLD	756.36	WORLD#	1000.61

Difference due to CIF value and FOB value

TABLE 16 WORLD AND INDIA'S CASHEW EXPORTS VALUE AND QUANTITY (Value In Million US D)

YEAR	Total World Trade	Weight '000 MT's	India Value	India's Wt
1993	656.69	288.33	334.50	69.83
1994	881.22	408.53	398.29	76.90
1995	815.43	336.72	383.07	70.07
1996	857.77	349.59	359.94	68.66
1997	937.52	416.52	377.99	76.54
1998	1013.91	398.89	390.59	76.94
1999	1339.16	595.75	596.64	96.66
2000	1198.17	508.28	456.41	89.15
2001	975.93	544.81	398.31	98.20
2002	1089.37	670.32	422.20	129.44
CGR	5.36*	8.34*	2.78	5.93*
INS	12.51	17.04	18.66	10.02
UNIT ROOT	-1.2331	-.2398	-1.7178	-1.2595

TABLE 17 INDIA'S EXPORT OF CASHEW TO MAJOR COUNTRIES

EXPORT PARTNER	CGR	INS	ADF τ-STAT (Unit Root) #
UK	5.44	30.44	-1.4150
USA	7.57**	26.25	-1.0378
NETHERLANDS	-1.39	29.62	-1.7482
JAPAN	-3.78	17.39	-2.9352@
UAE	9.16*	19.33	-1.1079
FRANCE	23.76*	6.01	-1.6868
SAUDI ARABIA	17.86*	16.54	-.9522
AUSTRALIA	-16.56	29.87	-.9879
RUSSIAN FED	-30.69	212.05	-1.5555
OTHERS	2.53	16.08	-1.2389

Significance value for 5% level is less than -2.89 and for 10% level is -2.58

@ no unit root * significance at 1% level, ** significance at 5% level, *** significant at 10% level

TABLE 18 CASHEW IMPORTS (Value in Million US D)

YEAR	Total Value	TANZANIA	GUINEA BISSAU	COTE D'IVOIRE	INDONESIA	SINGAPORE	OTHERS
1993	153.88	46.74	14.31	15.14	16.30	5.35	56.04
1994	220.06	43.27	27.74	10.59	19.07	53.42	65.96
1995	226.72	80.03	34.19	23.46	18.21	0.27	70.55
1996	193.58	59.72	14.99	14.63	6.41	44.41	53.43
1997	206.15	56.70	43.14	22.42	29.45	6.12	48.33
1998	230.48	111.53	18.82	19.07	17.31	0.27	63.49
1999	276.40	98.52	36.07	37.50	22.23	0.34	81.73
2000	214.20	39.42	60.19	42.30	8.77	0.00	63.53
2001	91.40	33.48	9.76	19.75	5.94	0.02	22.45
2002	254.95	51.12	46.97	49.90	34.91	0.09	71.95
CGR	-0.43	-1.41	4.98	13.37*	-1.07	-62.54	-2.55
INS	26.60	45.34	39.64	56.18	50.68	201.16	31.64
UNIT ROOT	-3.9615@	-2.8225@	-2.7805@	-.9518	-2.8718@	1.3337	-8.087@

India imports cashew from West African coastal countries like Tanzania, Guinea Bissau, Cote d'Ivoire and Indonesia. (**Table 5.b.18**) Unit Roots tests, CGR and instability index clearly show that India does not depend on a permanent supplier. This is a very good strategy. Growth rates of imports from all countries are insignificant except Cote d'Ivoire, but it is highly instable. Cashew import export business by India is best module, India should adopt for other commodities also like USA.

5 Conclusions

Analysis of exports of cash crops like tea, coffee, cotton, spices, oilseeds, and cashew reveal that devaluation has played significant role in the exports of these commodities immediately after economic reforms. Tea and coffee are not performing well. Growth of tea is stagnant and coffee is negative in dollar term. However if we see growth in rupee term it is slightly positive. In both the cases during last ten years (1993-2002), prices of these commodities have fallen and there is more export in quantity and value received is less. Production of tea and coffee is related to exports. In case of tea, exports of tea affect the production in the succeeding year. In case of coffee production affects the exports of succeeding year. Competition is very hard. India exports tea and coffee to developed countries.

India is a top exporter of spices and cashew. Spices and cashew are exported to both developed and developing countries. Business of these commodities is very stable compared to other commodities.

Export of cotton and oil seeds raises many question marks. India's export of cotton and its imports in subsequent years has created a lot problems to farmers as export and import are related with production. India's imports of edible oil and exports of oilseeds can not be justified. India needs to protect cotton growers.

International prices of the commercial commodities fell after 1995 and it did not help developing countries to expand their business, however India's export of commercial agricultural commodities to developed countries especially American and European countries has increased after establishment of WTO. Their export to Developed East Asian Countries fell after the onset of economic reforms and establishment of WTO.

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EXPENDITURE COMPOSITION IN INDIAN STATE GOVERNMENTS

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Introduction

The study of Expenditure Composition on scientific basis helps us to understand the relative importance, quality, effects and nature of various kinds of expenditure. The study of expenditure composition at the disaggregative level would be of useful to policy makers to examine and evaluate the effects and efficiency of allocation of fiscal resources on desirable directions. Prof Shiras said that the test of public expenditure is not the aggregate expenditure, but it is the pattern of expenditure. In Democratic society, tax payers want to know whether their tax contributions are properly spent on the matters beneficial to them and also for the greater benefits of the entire community. Experts in Public finance recognized the importance of studying the behaviour of different government expenditure compositions. Most economists believed that a basis of classification of expenditure composition should not be absolute, but it should be relative to the purpose for which the classification is intended to serve. Hence, the modern fiscal economists construct many classifications to serve the purpose of their enquiries.

Some authors have given the tests of good classification of expenditure composition. A good classification should be mutually exclusive and object classified for more scientific and sensible understanding. As such, a good classification should be exact and without overlaps i.e. there should not be any doubt or ambiguity as to which class a public expenditure is to be placed and on what basis a public expenditure has been placed in a particular class. Economists such as Cohn and Plehn classified the government expenditure as per the benefits and Nicholson classified it on the basis of amount of revenue obtained by the state in return for the services. Adam Smith classified public expenditure as to the functions of the government. Mill, Roscher, Dolton, Pigou and Mehta are some of the leading economist who classified the expenditure in different ways. Public expenditure can also be classified in economic and functional directions.

Expenditure Composition

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There is no particular standard in the study of expenditure composition. One or other way, all are capital, all are revenue, all are plan, all are non-plan, all are development and all are non-development. It all depends according to situation and time. A particular category of expenditure may be treated as non-developmental, even though such expenditure is highly warranted. For an instance, setting up of a public park (public good) may be considered as non-developmental, but it is highly needed as such a park would act as a place of recreation for the common man and aged. But in practice, they need to be classified as per the nature of utilization as fiscal goods and services. In such situation, Revenue expenditure may contain some element of capital nature. For example, provision of a ceiling fan to a doctor serving in a Primary Health Centre (PHC) functioning at a remote village. Even in Development expenditure, there exist some non development elements of activities. For instance, establishment of a Health Institute constitute development expenditure, of which a portion of expenditure incurred for creation of a park and water fountain at the institutes complex represent non-development expenditure.

In the study of public expenditure, the expenditure compositions that are commonly used in practice are Revenue expenditure, Capital expenditure, Plan expenditure, Non-plan expenditure, Development expenditure and Non-development expenditure. As mentioned earlier, there is no standard classification of public expenditure. There are also productive and nonproductive elements of expenditure composition. Public or tax payers can derive many classifications as they desire to verify the direction and quality of spending their tax money. Some of them are seasonal and some of them are purposeful. Though the merits and demerits of these broader categories of expenditures are widely discussed and understandable, the merits and demerits of several sub categories possibly classifiable within these broader categories are unknown; inspite of these sub-categories which has unique features and relevance in influencing overall expenditure of the government and socio-economic activities.

While the broader categories of expenditure composition such as Revenue and Capital make us understand the quality of government expenditure in a broader sense, these broader categories comprise of many sub expenditure categories. Classification study of further compositions of such sub-expenditure categories will provide adequate understanding about the nature and quality of disaggregative compositions within the Revenue expenditure and Capital expenditure. Thus, a reasonable understanding of broader categorization and sub categorization would help policy makers to monitor the expenditure pattern for greater contribution of socio-economic development.

As stated earlier, each expenditure category serves certain specific purpose. Development expenditures contribute greater societal benefits and non-development expenditures generate largely individual benefits. Revenue expenditures mostly satisfy current tax payers and that of capital expenditures future tax payers through asset creation. Within Revenue Expenditure, Revenue development expenditure strengthens individual quality for societal benefits and that of revenue non development expenditure

gains individual benefits at the cost of societal loss. Revenue plan expenditures increase individual satisfaction leading to societal benefits and that of Revenue non-plan deprives individual benefits for societal cause. Within Revenue plan expenditure, its development component promotes specialized inputs for societal benefits and that of non-development component promote specialized inputs. Within Revenue non-plan expenditure, its development component benefits both individual and the society and that of non-development components benefits individual in the absence of societal development. Plan expenditures reflect people's requirement and non-plan expenditures represent quality of maintenance. Within capital expenditure, capital development expenditure reflects aptitude for asset creation and that of non-development imply crowding out of development assets. Capital plan expenditure shows aptitude for permanent asset development for long term benefits and that of capital non plan generates assets of occasional benefits. Within Capital plan, its development component creates assets for societal progress and that of non-development component creates contingent assets. Within capital non-plan expenditure, development component is for development through individuals, and that of non-development for individual benefits. Expenditure in the form of loans and advances shows the resource position.

However, certain compositions of expenditures are really good and some of them are very bad. What is required here is to ensure that whatever be the nature of expenditure, it should be more beneficial to the greater society in socio-economic development. As classified by the earlier economist, the expenditure grading are warranted to benefit the society in different ways.

Objective of the paper

In the following discussion, several possible compositions of state Governments expenditures and their nature and trend in Indian States are presented. Deeper the classification, deeper would be the understanding of the nature and quality of expenditure categories. Given the heterogeneous character of the Indian States, it is pertinent to study the level of State Government expenditure in each state in sufficiently disaggregated form. In Part -I of the presentation, discussion on the state government expenditure composition is provided. In Part II, the magnitude of state government expenditure in different compositions is presented. For the present study purpose, average annual share has been used for each state with respect to the respective aggregate State Government expenditure for the years 1993-94 to 2003-04. The data compiled from Hand Book of Statistics on State Government Finances published by the Reserve Bank of India has been utilised.

PART-I

CONCEPTS AND ILLUSTRATIONS OF EXPENDITURE COMPOSITIONS

In this part, the concept of different expenditure compositions is explained in detail with illustration drawn from prevailing situation. The concepts of development Vs non-

development expenditure, Revenue Vs Capital Expenditure, Plan Vs Non-Plan Expenditure, Loans and advances expenditures and concepts of sub-expenditure categories within these broader categories are discussed with telling examples.

Development expenditure vs Non-Development expenditure

Government expenditure can be classified as development expenditure and non-development expenditure. The expenditure which enables the process of socio-economic development by creating social infrastructures such as education, health, water supply, housing, sanitation and economic infrastructures like power, roads, bridges, transport, irrigation and telecommunication is considered as **development expenditure**. Because, these sectors, are considered as developmental sectors for economic development. Expenditure on agriculture, rural development, power and irrigation support the economy, agriculturally, industrially and infrastructurally sound for sustainable development. The purpose of these expenditures is for creating socio-economic overheads. For instance, spending on education and health are meant for improving social overheads and there by improving the quality of human capital and standard of life and labour productivity. Similarly, spending on industry, rural development, irrigation and water are meant for creating economic over heads. Creation of both social and economic overheads would pave way for development of greater society and economy. Therefore, this expenditure is called development expenditure.

Non-Development Expenditures on the other hand, does not support directly the Socio-Economic Development. These expenditures have no immediate impact on the current development of the economy or society. The expenditure incurred towards interest payments has been cited as a classic example of this category. By nature, the expenditure on interest payment is considered as non-development in the study of expenditure composition, even if such expenditure is incurred on the loans received for strengthening power or road sectors for industrial development. Non-development expenditures would hamper the resource availability for the current developmental works. If borrowed funds are used for capital projects, these projects would yield higher returns, and then the impact of non-development expenditure in the form of interest payment would be compensated. Non-Development composition of expenditure can also be seen under Revenue Expenditure, capital expenditure, Plan Expenditure, Non-Plan Expenditure and Loans and Advances.

Plan Expenditure vs Non-Plan expenditure

Government expenditure compositions also include plan expenditure and non-plan expenditure. Any scheme to accomplish a purpose represents plan expenditure like industrial plan for higher production. **Plan expenditure** is an expenditure which is incurred under a plan scheme. Governments run annual plans under five-year plans and formulate several plan schemes and programmes for socio economic development in a planned manner with planned economy. In each plan, several new schemes are designed for sectoral developments. The expenditure incurred on plan schemes is termed as plan expenditure. For

instance, governments may consider construction of a new water canal and such a new water canal scheme may be designed or planned for irrigation development during a particular five year plan period. The expenditure earmarked and incurred on the construction of a new water canal is known as plan expenditure, because it is planned by the planners in the Planning Commission or Planning Boards of State Governments. Further, the government may plan to construct a social welfare hostel building for providing free educational accommodation for educating the poor students belonging to weaker sections and government may like to include this plan of constructing a hostel during a particular plan year, say in 2005-06. The amount earmarked for this specific purpose during this specific plan year is considered as plan expenditure. Similarly government may desire to plan a scheme for construction of dam during the twelfth plan. All the expenditures incurred towards construction of Dam till its completion would be classified as plan expenditure. If the project spills over to 10 or 20 years, yearly expenditure incurred would be included in the new plans and the expenditure would be met from other plan period till its completion. Plan schemes are designed on the needs of the society and the economy. Plan expenditures are essential for the growth of socio economic sectors and they require long term funding with higher magnitude. Higher level of plan expenditure is desirable for creation of progressive society and economy.

The plan expenditure can further be classified as plan development expenditure and plan non-development expenditure. When a plan scheme is generated and expenditure is earmarked, it constitutes both development and non-development purpose. Expenditure is said to be ***plan development expenditure*** when plan expenditure is incurred on developmental scheme. For instance; an adult education scheme. It is plan expenditure. Educating the people through adult education scheme will improve the efficiency of people participating in developmental activities. Similarly, inclusion of a special scheme for training government physicians can be considered as plan development scheme and such training would help physicians to improve and provide better health services. Sectors such as education, health, Water Supply Sanitation, Housing and Urban Development Agricultural, Rural Development, Irrigation and Power, transport industry, Nutrition, social sector and welfare of SC/ST/BC are development sectors. Plan development schemes are meant for promoting socio economic development. For example, Nagarjuna Canal Project, Adult Education Programme, Malaria Eradication programme, mid-day meal scheme etc. In contrast to plan development expenditure, there exists ***plan non-development expenditure***. It is a plan expenditure, but on non development items. Non development expenditure does not directly represent development purposes as in the case of spending on school buildings, hospitals. For instance, a plan scheme may comprise construction of government servant's quarters for police personnel. It may come under plan scheme, but not directly used for greater developmental purposes and thus such expenditure is classified as plan non-development expenditure.

In the construction of quarters for government servants, the expenditure incurred towards purchase of steel, cement and sand are capital expenditure and the expenditure

resulting from the appointment of a watchman/security guard in the guard room functioning in servant quarter constitutes revenue expenditure. Hence, former may be said to be plan non-development capital expenditure and later is classified as plan-non development revenue expenditure.

The study of *Non-Plan Expenditure* unveils the spirit of plan schemes. Non plan expenditure is running expenditure. The relevance and the degree of needfulness of plan schemes is reflected in the flow of non-plan expenditure. The flow of non-plan expenditure would also imply seriousness and utility of plan schemes. Non-plan expenditures are directly related to plan expenditure and hence it is borne out of plan expenditure. It is normally committed expenditure. Hence the expenditure that is being incurred after the completion of a plan project is known as the non-plan expenditure. I mean it is "none" but the scheme is planned and the expenditure still continues. For instance, once the plan scheme of formation of a new road-bridge or construction of a water tank in a residential locality is completed, the subsequent expenditure being incurred for their maintenance is referred to as non plan expenditure on bridge or water tank. These maintenance expenditures are required to replace damaged cement slab, cleaning and painting. Further, a school building under a plan scheme may be completed in the year 2005. For instance, construction of a school building in a remote village was planned during a particular plan period for improvement of school enrolment of rural children. Once the construction of the school building is completed, plan expenditure gets stopped. The subsequent expenditure incurred towards procuring inputs for working of the school such as teachers, school watchman, repainting and repairs constitute non-plan expenditure representing school building. It may be of revenue form or capital form. Non-plan expenditure is essential, but it should be ensured that they are productive and efficient. Wastage has become an issue in this category of expenditure

Non-plan expenditure incurred under all development sectors such as, education, urban development; SC/ST/OBC/PWD, health and economic services are considered as *non-plan development expenditure*. Further, maintenance expenditure towards sports stadium and light houses at port trust are also case for this form of expenditure.

Non-plan expenditure is also incurred on non-development items. For example, expenditure towards election, for purchase of ballot papers, voting machine and payment of TA/DA towards employees on election duty, and also expenditure incurred towards Natural Calamity, interest payments, police and fire service are termed as *non-plan non-development expenditure*.

Revenue Expenditure Vs Capital Expenditure

The expenditure which is normally incurred out of regular revenue or income of the Government is called **Revenue Expenditure**. This expenditure can be seen under revenue account. The regular revenue for the Government normally originates from tax and non tax sources. Government also realizes financial resources as means of borrowing. But

borrowings cannot be treated as a regular resource to the government. But such resources would become the non revenue receipt for the Government and not the normal revenue for the government. Thus, the expenditure incurred out of regular revenue of the government is considered as Revenue Expenditure. This expenditure normally occurs in the form of revenue to the recipients for supply of goods and services to the Government. For instance, Salaries and wages of Government servants are classified as revenue expenditure as it provides payments to the government servants towards the service rendered by them for administering the governmental activities. Revenue expenditures are generally incurred for current commitments as they are mostly driven by revenue in short-term. The goods and services which are generated on the impact of revenue expenditure are not physical assets in nature. The expenditure incurred towards salaries and wages, pension, interest payments in different economic and social sectors such as, education, health, administration, agriculture, irrigation, rural development, power sectors etc. are fine examples of revenue expenditure. Revenue expenditure is found in all socio-economic sectors. Revenue Expenditures are essential for administering and running sectoral developmental activities. The revenue expenditures are running in nature and these running expenditures have become part of developmental activities. For an illustration, government incurs more revenue expenditure on education and health in the form of salaries and wages. Even though, the nature of expenditure is revenue and short term, they have become an essential segment in providing education and health for socio economic development by generating quality human capital. They are revenue expenditures but are not bad expenditure. At the same time, too much of revenue expenditure becomes inefficient in attaining the goal of promoting education and health. For instance, if Rs. 100 is allocated for education and health sectors and out of which Rs. 90 is used for paying salaries and wages, pension to teachers, doctors and nurses, without allocating reasonable amount for creating and procuring infrastructure such as schools or hospital buildings with more furniture in classrooms, beds and equipments, then the revenue expenditure could be considered qualitatively inefficient in the provision of education and health services to the masses. Thus, without sufficient infrastructure, revenue expenditure will not generate more qualitative effects.

Revenue expenditure is important, but while incurring revenue expenditure, major portion of government expenditure should be earmarked for creating infrastructure, asset creation for sustainable promotion for health, education and others. Revenue component of expenditure is also found within plan expenditure and non plan expenditure. Within revenue expenditure, certain proportion of it is incurred for development purpose. The expenditure incurred towards purchase of jeep in the Public Works Department (PWD) is treated as Revenue Development expenditure. It is called ***Revenue development expenditure***, as it is incurred under revenue expenditure but for development purpose. For instance, in a scheme of educational development, (say library service) government may earmark revenue expenditure. When the Librarian uses this revenue expenditure for purchase of books to add to the existing stock, it is said to be revenue development

expenditure or librarian subscribes to additional magazines or news papers or international journals, such of these expenditure incurred are treated as revenue development expenditure.

At the same time, revenue expenditure is also incurred towards certain non-development item and such expenditure is treated as ***Revenue Non-Development expenditure***. For instance, if the government incurs expenditure towards purchase of jeep in police department, such expenditure is called Revenue Non Development expenditure. This category of expenditure is revenue in nature, but incurred for non development purpose. Collection of electricity bills on account of un-served museums or office complex and expenditure incurred towards the payment of electricity bill is considered as revenue expenditure towards non development items. The other classic example for revenue non development expenditure is expenditure being made towards maintenance of garden or parks in official residence of government servants. In some other cases, Revenue non-developmental expenditures are also incurred towards beautification of residence of ministers, civil servants and official buildings of an organization or establishments. Expenditure incurred towards washing, painting and guarding of official buildings are classic examples in this case of expenditure. Revenue expenditure is also found under plan and non-plan schemes. As stated earlier, governments formulate plan schemes involving annual plan expenditure which are of revenue and capital nature for operationalisation of such scheme.

The revenue nature of expenditure incurred on the plan project is considered as ***revenue plan expenditure***. To complete a plan project, governments has to incur both revenue and capital expenditure as plan schemes have combination of both revenue and capital categories of items, for an instance, to consider a plan scheme for providing mid-day meals to poor children in the school. This scheme is included under a five year plan. Annually certain amount of budget is earmarked for mid-day meal scheme. The amount earmarked for mid-meal scheme is utilized for procuring goods and services of both revenue and capital in nature. To conduct a mid-day meal scheme, a midday meal shelter needs to be built under capital category and a cook has to be appointed under revenue category. The salaries and wages on cooks are classified as revenue plan expenditure. It is a "plan" scheme, but the expenditure (salary) is of revenue in nature. Similarly, government may plan construction of a guard room near to a new power plant. The expenditure incurred towards the construction of a guard room is capital in nature and posting of a gate guard and expenditure incurred towards his salary is revenue in nature. Hence, under the plan scheme, the revenue expenditure made towards the gate guard is plan revenue expenditure. In some cases, plan revenue expenditure is inefficient. For instance; one room school may have 3 teachers. The expenditure incurred on these teachers is of revenue plan expenditure. Sufficient numbers of class rooms are possible by incurring more expenditure in the form of plan-capital expenditure. Even the Revenue Plan expenditure is incurred on development and non-development categories. When the revenue expenditure that occurs under the plan scheme is allocated under development sectors, such

effect of expenditure can be considered as ***Revenue Plan Development Expenditure***. This expenditure is incurred under a plan scheme of development nature. For instance, salaries and wages paid to a nurse serving in a village Primary Health Centre (PHC) fall under this category. This scheme is formulated by government as a plan scheme for improving the health condition of villagers and regularly incurs revenue expenditure in the form of salaries and wages to those serving nurses. Because, health is grouped as development sector in budget classification, the expenditure towards salaries of nurse is classified as revenue plan development expenditure of the government.

On the other hand, revenue expenditure is also incurred under a "plan" scheme with non-development character. For instance: occurrence of expenditure towards the decoration of Government Auditorium and Swimming Pool in a Government Guest House. This nature of expenditure is seen as ***Revenue Plan Non-Development Expenditure***.

As mentioned earlier, revenue expenditure is incurred on non-plan schemes too. This is basically revenue expenditure, but incurred on the works completed under plan scheme. When a project under a plan scheme is completed, the maintenance expenditure incurred on it is considered as non-plan expenditure of the project. For instance, after completion of a sub-way on a busy cross road, the expenditure incurred towards maintenance of regular cleaning, lighting, patch works and white washing are revenue in nature and such expenditure can be classified as ***Revenue non-plan expenditure***.

The revenue non-plan expenditure is also incurred towards development and non-development purposes. These expenditures are identified under the completed projects of development and non-development in nature. For instance, an additional accountant added to the existing strength of staff in Accountant General Office and the establishment expenses being incurred on account of this can be viewed as Revenue Non-Plan expenditure. As such expenditure would not be directly beneficial to greater part of the society; such expenditure can be considered as non development expenditure. Thus, the expenditure incurred towards the payment of salary on account of appointment of additional accountant can be termed as ***Revenue Non-Plan Non-Development Expenditure***.

Additional staff to the existing work force is not always non-developmental. For instance, appointing a civil engineer to the existing staff strength in a Public Works Department or Municipal Department, which carries out the works of the mass such as construction of roads, bridges and school or hospital buildings or carrying out water works and sanitation may be considered as developmental activities as the services rendered by such additional staff would provide higher level of satisfaction to the greater segment of society. Thus, the expenses incurred for such activities, as in the form of salaries to Civil Engineers can be viewed as revenue expenditure and such expenditure towards the generation of greater satisfaction and relief to the greater segment of society is considered as developmental expenditure. Thus, the kind of high utility expenditure (Salaries and wages to Civil Engineers) incurred towards such activities can be termed as ***Revenue Non-Plan Development Expenditure***. On the other hand, donations to

charitable institutions and electricity charges paid on account of using auditorium in the Government Office Complex and its maintenance are the nature of expenditure included under Revenue Non-Plan Non-Development expenditure category.

Capital Outlay

In the classification of government expenditure as "revenue expenditure" and "capital expenditure," later can further be sub-divided into *capital outlay and loans and advances*. Capital outlay represents direct spending on asset creating activities. On the other hand, loans and advances are also made for asset creation through other economic agents such as parastatal organization and individuals. This kind of expenditure generates assets in the socio economic areas. This is an asset creating expenditure. Thus, the expenditure incurred by the government for asset and infrastructure creation is stated to be **capital outlay**. Infrastructure for school buildings, dams, roads, bridges and hospitals are the outcome of expenditure incurred by the government in the form of capital outlay. These are long term expenditures for sustainable development. Purchase of printing machine for use in government printing press, drilling machine for water boards and laying of water pipes are also fall under this category. Capital outlay is essential for efficient, effective and optimal generation of output and services in the economy. For development efforts, capital outlay needs to be high and growing. Overall quality of government expenditure would become poor, when the magnitude of capital outlay is narrow and reducing and such poor quality of expenditure would result in emergence of weak asset and infrastructure base and thereby hampering the economic progress. Capital outlay is noticed in plan and non-plan expenditure.

One way of incurring capital outlay of the government is by spending it on either developmental or non developmental purposes. Although government incurs capital outlays, which are asset creating in nature, some of them are development and some are non-development. Capital development outlays are said to be asset creating expenditure on developmental items when they are used for creating hospital, school or road construction. For instance, expenditure incurred of capital nature on items such as steel, cement, bricks, sands and machinery and equipments towards construction of developmental structures such as school building, hospitals or a water tank in a residential locality is considered as **capital development outlay** and such outlay would contribute in production of quality human capital assets in the long run. Capital outlay for development item is crucial for socio economic development. Its share should be more in the total expenditure of the government as assets created through such expenditure would contribute for sustainable development in the long run.

Capital outlay is also incurred on non developmental items. These expenditures are asset creating in nature, but are not for general benefit of the society. For instance, capital outlay incurred on the construction of government guest house or housing quarters for government employees are considered as capital outlay, but for non development purpose. Hence, such expenditure is termed as **capital non-development**

outlay. The expenditure of this nature is called capital outlay non-development expenditure. In this case, capital outlays are incurred for purchase of capital materials such as steel, cement and wood for construction of these buildings. Such expenditure would satisfy the employees for higher per capita output, but for diverting this expenditure, on the other hand, on construction of irrigation canals or primary health centre would provide satisfaction for general societies for socio economic development.

Capital outlay can be noticed under plan and non-plan schemes. As mentioned earlier, plan project consists of both revenue and capital components of expenditure. As the projects involve capital and revenue input items, the expenditure incurred towards capital items under a plan project is called capital plan outlay. For instance, a plan scheme for construction of FCI godowns at a particular area may be considered by the government, in view of heavy food grain production in that area and the necessity arising out of additional distributional needs. The expenditure incurred on the construction of godowns (buildings) is considered as **Capital Plan Outlay** and the salaries expenditure incurred towards FCI staff are plan revenue. Certain plan schemes are of capital intensive and certain schemes are revenue intensive. Capital intensive plan schemes are desirable as they have long term impact on asset creation. Capital intensive projects are power, roads, telecommunication and irrigation etc. Higher level of capital outlay in the planned project would keep the project long lasting and efficient.

The capital outlays incurred under plan schemes are distributed for both development and non-development purposes. The category of capital outlay which is incurred on capital development nature under plan schemes is called **capital plan development outlay**. When government sanctions Rs. 1.0 crore of capital outlay to implement a particular plan scheme, a certain proportion of it is going towards development purposes. This is termed as capital plan development outlay. For instance; Government may plan an educational scheme for adults. Out of the fund allocated for this adult education programme, the portion of fund which goes towards construction of a class room for conducting night classes under adult education programme is considered as capital plan development outlay as this scheme is planned and the expenditure made is for buying steel, cement and wood to get a class room for attaining educated society. Construction of a polytechnic college building also falls under this category.

There occur certain categories of expenditure which are planned and capital in nature but meant for non development purpose. For instance, expenditure incurred towards construction of recreation club for government servants and buildings for museum and Archives fall under this category. This is termed as **capital plan non-development outlay**.

Certain element of capital outlay is also required to finance non-plan schemes in the form of **Capital Non-Plan Outlay**. This category of expenditure incurred is capital in nature, but incurred on the completed plan project. Expenditure incurred towards construction of a toilet in the existing Taluk Office complex and such additional

expenditure on the completed project can be categorized as capital non plan outlay. Taluk Office is completed under a plan scheme and the office has already started functioning. After few years, a need occurred to have an additional toilet due to heavy flow of visitors. Then the expenditure would be incurred in the construction of toilet is non plan in nature, having involved capital works. Capital non-plan outlay is occurring both under development and non-development projects. A category of expenditure is termed as capital non plan development outlay when a toilet is constructed in schools or colleges and thus classified as development outlay. As the construction of toilet involves capital works, it is a capital outlay. Thus, an addition of a toilet to the existing school building is called **capital non-plan development outlay**. Further, Construction of a library room in rural or semi-urban areas is a fine example in this context. Even though this expenditure is non-plan; providing of such educational facilities would provide additional knowledge and skills to the common men who are living in localities which are educationally weak.

There occurs capital outlay under non plan schemes for non development purposes. For instance, expenditure on district administration. It is "non development" as this expenditure falls under the category of district administration and not directly contributes to socio economic development. This form of expenditure is termed as **capital non-plan non-development outlay**. Expenditure on general administration is considered as non-development expenditure in public expenditure classification. Construction of a swimming pool in a government guest house located on high-way or office buildings are the other telling examples. The expenditures on these categories are considered as inefficient in its coverage and utilization as it is restricted only to occasionally visiting senior government official. Purchase of voting machine during democratic election is also a case under this category.

Loans and Advances

This is a sort of expenditure revealed by the governments. As mentioned earlier, loans and advances extended by the government is considered to be a constituent of capital expenditure in the study of Indian Public Expenditure Analysis. In order to arrive at aggregate government expenditure, loans and advances extended by governments are considered as one kind of expenditure and this kind of expenditure is generally treated as capital expenditure. Thus, the expenditure incurred by the governments in the form of loans and advances to other governmental agencies, public sector undertakings, corporations, departments and societies associated with governmental functioning and services such as Power Corporation, Transport Corporations, State Financial Corporations and Infrastructure Corporations are considered as capital expenditure.

Loans and Advances are extended by State Governments to these agencies to support in their effort of asset creation through economic agents. Loans and advances extended by State Governments constitute important source of finance for these corporations. These Corporations are assigned with specialized tasks as State Governments are unable to involve themselves directly on the provision of certain specific services. For

example, housing corporation, power corporation etc. Though loans and advances are supportive in nature, government should ensure its proper and efficient utilization for better returns and recovery. For instance, governments extend loans and advances to state Electricity Board and Housing Board. These loans and advances are also extended to different entities both for development and non-development purposes. The kind of expenditure made by the government by giving loans and advances for developmental sectors are called loans development expenditure. For instance; governments extend loans and advances to developmental sectors such as education, health, power, irrigation, agriculture, roads. When government provides loans and advances to State Electricity Board for setting up a new power generating project for additional generation of power for irrigation purpose, such expenditure becomes developmental as power is considered as development sector, on the other hand, Housing Board may use the loans and advances for constructing homes. This category of expenditure is also said to be ***Loans and Advances Development Expenditure***, as housing is treated as development sector. Loans and advances extended by the government to Scheduled Caste/Tribe Finance Corporation for constructing additional educational hostels for rural children also fall under this category. Further, loans and advances provided by the government to Infrastructure Development Corporation for development purposes such port development and road development are considered as loan development expenditure, as ports and roads are categorized as development sector.

For an illustration, government provides loans and advances to Road Transport Corporation and Power Development Corporation for construction of roads, bridges, Power House and procurement of additional transport vehicles. These loans and advances are made under developmental sectors. This category of expenditure is said to be loan development expenditure as these loans are made for development sectors and also for creation of infrastructure for facilitating economic activities. As infrastructure becomes essential element of development, such expenditure support needs to be ensured for efficient entities for socio-economic infrastructure creations. All types of loans are not necessarily developmental. Some of them are used for non-developmental purposes. This form of expenditure is treated as ***Loans and Advances Non-Development expenditure***. These loans and advances are made for developmental sectors as mentioned above to meet certain non-developmental expenses such as interest payments, repayment of loans taken from other lending agencies. For instance, when governments grant loans and advances to State Electricity Boards and SEB in turn uses this for repayment of loans to Power Finance Corporation (PFC) and such expenditure is said to be Loans and Advances Non-Development expenditure. Similarly, loans and advances provided by the government to government employees come under loans and advances non-development. When the loans and advances availed by Housing board or SEBs are used for repaying their debt from lending agencies like LIC or Power Finance Corporation such expenditure is called Loans and Advances Non Development Expenditure.

A certain portion of loans and advances extended by State Government is used for carrying out plan and non-plan projects/works by the recipients of these loans and advances. Loans and advances extended by the Government which are used to implement plan schemes proposed by certain government enterprise such as Housing Board or Electricity Board is called ***Loans and Advances Plan Expenditure***. For instance; the Housing Board may design its own plan scheme to construct houses with a help of loans and advances extended by the State Government. Thus, loans and advances sought by the Housing Board to implement their own plan scheme is said to be Loans and Advances Plan Expenditure. This category of expenditure is considered as loans and advances for implementing a plan scheme.

When the extended loans and advances to Housing Board is used for carrying out the sectoral plan scheme of provision of houses to weaker section, such expenditure is said to be ***Loans and advances plan development expenditure***. Loans and advances to carry out the plan schemes of other development sectors such as health, education and water supply and sanitation are also placed under this category. The loans and advances extended to agricultural universities are considered as developmental loan to agricultural sector when such loans are utilised to implement a specific scheme of development of seeds like cashew or oil seeds. Thus, the Loans and advances used for development by agricultural university is called Loans and Advances Plan Development Expenditure.

If such expenditure is incurred for providing loan to Employees Credit Society of agricultural university to make employees loan, it is said to be ***Loans and advances plan non development expenditure***.

Sometime, loans and advances made by governments are used for non-plan purposes by the receiving entities for making loans and advances. On the other hand, House building advances to Government servants, motor vehicle loans and interest payments are telling examples of **loans and advances non plan expenditure**. These loans cannot be planned as they arise to the demanding situation, but not for overall development. While making use of these loans and advances for non-plan schemes, they are used under both development and non-development heads. Where they are used for givinghousing loans to University employees, they are called **Loans and advances Non-Plan Development**. When they are disbursed in the form of festival advance, they are treated as **Loans and Advances Non-Plan Non-Development**.

PART- II

MAGNITUDE OF EXPENDITURE COMPOSITIONS: STATE-WISE

ANALYSIS

In this part, the magnitude of expenditure composition in State Governments has been presented. The share of different expenditure categories has been worked out in relation to aggregate expenditure of the respective State Governments.

Development expenditure by all states constituted 66.66 per cent of all states aggregate expenditure. Development expenditure is found relatively less in the states of Sikkim, Punjab, Bihar, Haryana and Kerala. As a result, these states witnessed relatively higher share of non-development expenditure in their respective total expenditure.

By classifying the aggregate expenditure into plan and non plan expenditure, higher proportion of plan expenditure was noticed in the total expenditure of Arunachal Pradesh, Mizoram, Tripura and Meghalaya. In these states, plan expenditures were concentrated more at development schemes. In contrast, non plan category of expenditure (constituting 72.84% per cent for all states) was found high in majority of the states particularly in West Bengal, Tamilnadu, Bihar, Maharashtra, Haryana, Karnataka, Goa and Uttar Pradesh. These non-plan expenditures for development purpose were 40.10 per cent and that for non-development 32.75%. Non-plan expenditure under development schemes was found high in the States of Gujarat, Tamilnadu, Maharashtra, West Bengal, Andhra Pradesh and Bihar. On the other hand, non-plan expenditure for non-development purpose was found relatively high in the States of Sikkim and Punjab.

In the classification of government expenditure into Revenue expenditure and capital expenditure, all states revenue expenditure constituted 84.97% of all states aggregate expenditure and such revenue expenditure for development purposes accounted for 52.32 percent and for non development 32.65%. Amongst the states, Tamilnadu, Madhya Pradesh, Gujarat, Karnataka, Assam, Mizoram and Arunachal Pradesh had allocated higher proportion of their respective total expenditure towards revenue expenditure particularly placing under developmental heads. In contrast, states of Sikkim, Punjab, Bihar, Haryana and West Bengal distributed from their respective aggregate expenditure towards revenue expenditure mainly for non-development purpose.

An another expenditure category revenue-plan expenditure accounted for 14.49 per cent in aggregate expenditure for all states and such expenditure was found relatively high in north eastern states. In contrast, revenue non-plan expenditure accounted for 70.47 percent of all states aggregate expenditure with relatively low proportion in Arunachal Pradesh, Mizoram, Tripura and Meghalaya. The expenditure category, revenue plan for development and for non-development purposes accounted for 14.23 percent and 0.27 percent respectively. Revenue plan development expenditure was found relatively high in the states of Arunachal Pradesh, Mizoram, Himachal Pradesh, Tripura and Assam and revenue non-plan development expenditure, on average, constituted 38.11%. In the respective total government expenditure, states such as Gujarat, Tamilnadu, Maharashtra, Goa, Andhra Pradesh and West Bengal earmarked relatively higher proportion of their aggregate expenditure towards revenue non-plan development expenditure. In contrast, revenue non-plan non-development expenditure accounting for 32.36% was found relatively high in the States of Sikkim, Punjab, Haryana, Bihar, Kerala and West Bengal.

TABLE -1 Table Shows Average Share of Major Expenditure Categories during 1990-91 to 2003-04 (As % of State Aggregate Expenditure)

States	Development Expenditure	Non- Development Expenditure	Plan Expenditure	Plan Development Expenditure	Plan Non Development Expenditure	Non Plan Expenditure	Non Plan Development Expenditure	Non Plan Non Development Expenditure
	1	2	3	3(a)	3(b)	4	4(a)	4(b)
All States	66.66	33.34	27.13	26.55	0.58	72.84	40.10	32.75
Andhra Pradesh	71.36	28.64	30.18	29.82	0.36	69.82	41.54	28.27
Arunachal	76.68	23.32	54.07	52.58	1.49	45.93	24.10	21.83
Assam	67.31	32.69	30.77	30.23	0.54	69.23	37.08	32.15
Bihar	62.11	37.89	21.94	20.98	0.96	78.06	41.13	36.93
Chhattisgarh	71.44	28.56	36.13	35.65	0.48	63.87	35.79	28.08
Goa	64.37	35.63	24.46	23.52	0.93	75.54	40.84	34.70
Gujarat	73.59	26.41	25.32	25.03	0.30	74.68	48.56	26.11
Haryana	62.18	37.82	23.18	22.62	0.56	76.82	39.56	37.25
Himachal	68.22	31.78	38.17	36.95	1.22	61.83	31.27	30.56
Jammu and	65.09	34.91	31.43	28.93	2.50	68.57	36.17	32.41
Jharkhand	68.65	31.35	43.80	40.47	3.33	56.20	28.18	28.02
Karnataka	71.33	28.67	31.98	31.66	0.32	68.02	39.67	28.34
Kerala	62.92	37.08	24.99	24.63	0.36	75.01	38.29	36.72
Madhya	70.88	29.12	32.15	31.67	0.48	67.85	39.21	28.64
Maharashtra	67.56	32.44	22.89	22.66	0.23	77.11	44.90	32.21
Manipur	70.01	29.99	38.35	37.44	0.91	62.03	33.28	28.75
Meghalaya	71.99	28.01	39.10	37.56	1.54	60.90	34.43	26.48
Mizoram	73.78	26.22	41.43	40.30	1.13	58.57	33.48	25.09
Nagaland	63.65	36.35	37.32	35.28	2.05	62.68	28.37	34.30
NCT Delhi	72.86	27.14	51.04	49.15	1.89	48.96	23.71	25.25
Orissa	65.75	34.25	33.97	33.54	0.43	66.03	32.21	33.83
Punjab	56.22	43.78	20.34	19.78	0.56	79.66	36.44	43.22
Rajasthan	66.82	33.18	29.55	28.87	0.68	70.45	37.94	32.50
Sikkim	47.18	52.82	29.55	28.68	0.88	70.45	18.51	51.94
Tamil Nadu	68.99	31.01	21.79	21.42	0.37	78.21	47.57	30.64
Tripura	71.72	28.28	40.44	38.43	2.01	59.56	33.29	26.28
Uttar Pradesh	63.53	36.47	25.39	24.72	0.67	74.34	38.66	35.67
Uttaranchal	78.53	21.47	40.07	38.51	1.57	59.93	40.02	19.91
West Bengal	63.51	36.49	21.65	21.37	0.28	78.35	42.13	36.22

Source: *Hand Book of Statistics on State Govt Finances-Reserve Bank of India 2004*

NCT Delhi from 1993-94, Chhattisgarh & Uttaranchal from 2000-01, Jarkhand from 2001-02

TABLE - 2

Table Shows Average Share of Major Expenditure Categories during 1990-91 to 2003-04 (As % of State Aggregate Expenditure)

States	Revenue Expenditure	Revenue Development Expenditure	Revenue Non Development Expenditure	Revenue Plan Expenditure	Revenue Plan Development Expenditure	Revenue- Plan Non Development Expenditure	Revenue Non Plan Expenditure	Revenue Non Plan Development Expenditure	Revenue- Non Plan Non Development Expenditure
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	5	5(a)	5(b)	5(c)	5c(i)	5c(ii)	5(d)	5d(i)	5d(ii)
All States	84.97	52.32	32.65	14.49	14.23	0.27	70.47	38.11	32.36
Andhra Pradesh	83.35	55.25	28.10	15.28	15.06	0.22	68.07	40.19	27.88
Arunachal Pradesh	71.02	49.18	21.85	25.21	25.07	0.14	45.82	24.11	21.71
Assam	88.02	55.58	32.44	21.10	20.73	0.38	66.92	34.85	32.07
Bihar	89.00	51.33	37.67	13.26	12.41	0.85	75.73	38.92	36.82
Chhattisgarh	86.35	58.16	28.19	22.81	22.68	0.13	63.54	35.48	28.06
Goa	84.95	50.18	34.77	9.93	9.72	0.21	75.02	40.47	34.56
Gujarat	83.62	57.74	25.88	11.49	11.35	0.15	72.13	46.39	25.74
Haryana	86.21	49.08	37.13	11.54	11.30	0.14	74.66	37.78	36.88
Himachal Pradesh	84.36	53.31	31.05	22.93	22.22	0.72	61.42	31.09	30.33
Jammu and Kashmir	78.40	45.90	32.51	11.09	10.65	0.44	67.32	35.25	32.07
Jharkhand	79.19	48.28	30.91	24.50	21.55	2.86	54.69	26.73	27.96
Karnataka	84.37	56.13	28.24	18.59	18.53	0.05	65.78	37.59	28.19
Kerala	89.76	53.08	36.68	15.85	15.79	0.05	73.91	37.29	36.62
Madhya Pradesh	86.62	57.75	28.87	19.34	19.02	0.31	67.28	38.73	28.55
Maharashtra	85.28	53.08	32.20	11.22	11.14	0.09	74.05	41.94	32.12
Manipur	78.88	49.22	29.33	17.24	16.91	0.33	61.64	32.96	28.67
Meghalaya	79.93	53.15	26.78	20.93	20.14	0.79	59.01	33.01	26.00
Mizoram	80.78	55.43	25.34	23.77	23.28	0.49	57.00	32.15	24.85
Nagaland	80.69	45.88	34.81	18.49	17.88	0.61	62.20	28.00	34.20
NCT Delhi	56.36	40.14	16.21	19.09	18.52	0.57	37.27	21.62	15.65
Orissa	84.14	50.98	33.16	20.20	19.96	0.24	63.94	31.02	32.92
Punjab	86.98	43.73	43.26	8.47	8.20	0.27	78.51	35.53	42.99
Rajasthan	82.57	50.13	32.44	13.13	12.78	0.35	69.44	37.35	32.09
Sikkim	84.69	32.60	52.09	14.46	14.29	0.17	70.23	18.30	51.93
Tamil Nadu	89.65	59.36	30.30	14.41	14.36	0.05	75.24	45.00	30.25
Tripura	80.32	54.39	25.93	21.59	21.47	0.12	58.74	32.92	25.82
Uttar Pradesh	83.42	47.48	35.93	13.70	13.35	0.35	69.72	34.27	35.45
Uttaranchal	85.24	64.98	20.26	26.91	25.92	0.98	58.33	39.06	19.28
West Bengal	87.49	51.27	36.23	11.73	11.68	0.05	75.76	39.58	36.18

Source; *Hand Book of Statistics on State Govt Finances-Reserve Bank of India 2004*

NCT Delhi from 1993-94, Chhattisgarh & Uttaranchal from 2000-01, Jarkhand from 2001-02

TABLE - 3 Table Shows Average Share of Major Expenditure Categories during 1990-91 to 2003-04 (As % of State Aggregate Expenditure)

	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advance	Loans & Advances
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States		Develop	Non	Plan	Plan	Plan	Non Plan	Non Plan	Non Plan
	7	7(a)	7(b)	7 (c)	7c(i)	7c(ii)	7(d)	7d(i)	7d(ii)
All States	4.95	4.67	0.33	3.31	3.31	0.00	1.65	1.32	0.33
Andhra	6.85	6.56	0.28	5.38	5.38	0.00	1.47	1.19	0.28
Arunachal	0.26	0.13	0.12	0.10	0.10	0.00	0.15	0.03	0.12
Assam	3.69	3.64	0.06	2.44	2.44	0.00	1.25	1.20	0.06
Bihar	4.21	4.17	0.04	1.97	1.97	0.00	2.23	2.19	0.04
Chhattisgar	0.91	0.88	0.02	0.69	0.69	0.00	0.22	0.19	0.02
Goa	0.66	0.54	0.12	0.19	0.19	0.00	0.47	0.35	0.12
Gujarat	4.91	4.56	0.34	3.04	3.04	0.00	1.87	1.53	0.34
Haryana	5.19	4.82	0.37	4.04	4.03	0.00	1.16	0.79	0.37
Himachal	1.53	1.29	0.23	1.10	1.10	0.00	0.42	0.19	0.23
Jammu and	0.92	0.88	0.05	0.21	0.21	0.00	0.72	0.67	0.05
Jharkhand	3.56	3.49	0.06	2.04	2.04	0.00	1.51	1.45	0.06
Karnataka	3.53	3.38	0.14	3.22	3.22	0.00	0.31	0.17	0.14
Kerala	3.64	3.56	0.08	2.56	2.56	0.00	1.08	1.00	0.08
Madhya	3.09	3.01	0.08	2.62	2.62	0.00	0.47	0.38	0.08
Maharashtr	4.05	3.98	0.06	2.48	2.48	0.00	1.56	1.50	0.06
Manipur	0.50	0.42	0.07	0.36	0.36	0.00	0.15	0.08	0.07
Meghalaya	3.83	3.49	0.34	2.07	2.07	0.00	1.76	1.41	0.34
Mizoram	2.72	2.47	0.25	1.60	1.57	0.03	1.11	0.90	0.22
Nagaland	1.40	1.30	0.10	0.94	0.94	0.00	0.46	0.36	0.10
NCT Delhi	32.56	22.70	9.86	20.57	20.31	0.26	11.99	2.39	9.60
Orissa	3.59	2.82	0.77	1.83	1.83	0.00	1.76	0.99	0.77
Punjab	5.31	5.09	0.22	4.40	4.40	0.00	0.91	0.69	0.22
Rajasthan	3.89	3.48	0.41	3.04	3.04	0.01	0.85	0.44	0.41
Sikkim	0.21	0.20	0.01	0.02	0.02	0.00	0.19	0.18	0.01
Tamil Nadu	4.53	4.26	0.27	1.78	1.77	0.01	2.75	2.49	0.26
Tripura	0.34	0.25	0.09	0.15	0.14	0.01	0.20	0.12	0.08
Uttar	6.32	6.61	0.06	4.06	4.06	0.00	2.26	2.20	0.06
Uttaranchal	3.38	3.34	0.04	3.00	3.00	0.00	0.37	0.33	0.04
West	6.40	6.36	0.03	4.49	4.49	0.00	1.90	1.87	0.03

Source: Hand Book of Statistics on State Govt Finances-Reserve Bank of India 2004

NCT Delhi from 1993-94, Chhattisgarh & Uttaranchal from 2000-01, Jarkhand from 2001-02

Unfortunately, capital outlay constituted 10.05 percent of all states aggregate expenditure. Except Arunachal Pradesh, Manipur, Jammu and Kashmir and Tripura, all other states allocated less than one fifth of their respective total expenditure towards capital outlays. Similar was the case in respect of development component of capital outlay.

On the other hand, except in some of the north eastern states, all other states allocated less than a percent of their aggregate expenditure towards capital outlay for non-development purpose. In the allocation of all states aggregate expenditure, capital outlay for

plan purpose constituted 9.32 percent. Except states like Arunachal Pradesh, Manipur, Jammu and Kashmir, all other states allocated less than one fifth of their respective aggregate expenditure towards capital outlay in the form of plan expenditure, mostly for development purposes rather than non developmental heads. As a result, allocations for capital outlay to meet particularly of non plan items of both development and non development nature were become negligible in all the states.

Loans and advances extended by all states accounted for 4.95 per cent of all states aggregate expenditure and such type of expenditure incurred by states was relatively found high in the states of Uttar Pradesh, Andhra Pradesh, West Bengal and Punjab. All other states spent less than 5 percent of their respective aggregate expenditure in the form of Loans and Advances.

Loans for development purposes accounted for 4.67 percent of aggregate expenditure and that for non development purposes with 0.33 percent and loans and advances for plan schemes constituted 3.31 percent and for non plan 1.65 percent. Loans and advances for plan and non-plan schemes are mainly meant for development purposes.

Conclusion

Given a heterogenic character of State Governments, study of expenditure composition would provide sufficient perceptive about the quality of public expenditure incurred at the state level. There is no definite form or classification of public expenditure. All depends upon time and situation. For instance, revenue expenditure or non-plan expenditure may have more relevance in one state than others. When a flood damages a particular area or drought affects a particular group of people, the government expenditure in the form of revenue non-plan non-development would become relevant to provide immediate remedy to the affected place and persons. For an instance, provision of clothing, food material, shelter and equipments such as Bullock cart or cycle rickshaw in the flood or drought affected areas. Hence, no particular composition or category of expenditure would remain relevant for ever. No expenditure is bad and no expenditure is good. It is the question of how a particular expenditure serves efficiently in the prevailing situation. In the aggregate expenditure of all states, development expenditure constituted higher than non-development expenditure and that of non plan expenditure accounted for higher share than plan expenditure. Choice of expenditure quality is demand and supply driven. All depends on demands of people and natural resources.

Higher proportion of capital outlay is desirable particularly under plan schemes particularly for development purposes. Similarly, revenue expenditure under plan for development purpose is more desirable than revenue expenditure as such. Similarly, loans and advances for plan schemes particularly for development purpose are highly desirable. Thus, the study of expenditure compositions at the disaggregate level would act as an instrument of expenditure restructuring.

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(Views expressed in this attempt are of my own and not necessarily of the Department or the Institution which I belong).