Macroeconomics of Poverty Reduction: India Case Study

Coordinators: R. Radhakrishna and Manoj Panda

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Introduction

1.1 Historical Backdrop

India, located in South Asia is a large country that ranks second in the world in terms of population and seventh in terms of geographical area. Its civilization is very old dating back to at least 5000 years. Its greatly diversified land includes various types of forests, broad plains, large coastlines, tallest mountains and deserts. The people belong to different ethnic groups and religions and they speak several languages. When Columbus and Vasco da Gama were attempting to explore new sea routes, India was among the richest countries in the world. It became one of the poorest in the world by the end of the colonial era in 1947 when India became independent.

India has a democratic and federal system of government with 29 states and 6 union territories. Like most other colonies, India greatly lagged behind economically and socially compared to the developed world. Periodic estimates of national income available since mid-nineteenth century indicate that the per capita income virtually stagnated in India till independence when world income grew several fold due to industrial and technological revolution. A large mass of the population was living in abysmal conditions. The national government formed after independence placed priority on ‘economic growth with social justice’. A mixed economy model with a major role for the state in industrial production was adopted with an emphasis on import substitution strategy. While this policy helped to lay the foundation for industrialization and technological change, national income growth remained low at about 3-4 per cent per annum for several decades. The outward oriented Asian countries grew much faster during this period by taking advantage of post-war expansion in international trade and investment flows.

Finally, in the wake of a balance of payments crisis in 1991, Indian policy makers initiated a process of wide ranging economic reforms to shift to a more market friendly trade and industrial policy regime. India was a latecomer to economic liberalization. The economic reform process has been steady but gradual because of a need for wide consultation and broad consensus so necessary in a democratic society. The process of

consultation and debate has contributed to non-reversal of policies even under different political parties that have formed the government after the reforms. Whether and to what extent India has achieved the stated objective of higher growth and faster poverty removal during the post-reform period has been a matter of intense debate. These developments make India an interesting case study for examining issues in macroeconomics of poverty reduction.

1.2 Indian Economy: Key Current Statistics

Some key current statistics of India are given in Table 1.1 by way of introduction. India's population crossed one billion when the last century ended and another 8 million have been added by 2004. A large part of India is very densely populated with an average of 363 persons per square kilometer. The annual income generation in the country is valued at US$ 675 billion using prevailing exchange rate in 2004 and per capita income stands at $620 compared to world average of $6280. When adjusted for purchasing power parity (PPP) to reflect command over commodities, per capita income works out to $PPP 3100. The level of living as reflected in purchasing power of an average Indian is roughly one third of world average and one tenth of the developed high-income countries.

India lags behind the developed countries in several other dimensions like education and health. About a third of its population of age 7 years and above is illiterate with large male-female and urban-rural gaps in literacy rates. Sex ratio is low at 933 females per thousand males. Mortality rates among infants and children are high; there are 63 infant deaths on an average for every thousand live births. Death rate among children under age 5 years is 87 per thousand. Life expectancy of 64 years at birth is 4 years lower than the world average.

India has a large number of people that have been socially deprived for centuries due to historical discrimination and isolation from the mainstream of the society. They have been classified as scheduled caste (SC) and scheduled tribes (ST) in the Indian constitution and account for 16 and 8 per cent of the total population respectively. By and large, they are at the bottom of the social ladder. The constitution has provisions for positive discrimination in favour of such groups in terms of reservation in government

jobs and educational institutions. In recent years, reservation has been extended to include other backward classes (OBC).

Table 1.1: Key Current Statistics of India

	Unit	Year	Value
Total population	Million	2004	1079.7
Geographical Area	Million square km.	2004	3.29
Density of Population	Per square km.	2004	363
Gross National Income (GNI)	US$ billion	2004	674.6
GNI per capita	US$	2004	620
GNI per capita	$ PPP (Purchasing Power Parity)	2004	3100
Urbanisation rate	% of Total Population	2001	27.8
Literacy rate	% of population of age 7+ years	2001	65.4
Male-female gap in literacy	Percentage points	2001	21.7
Urban-rural gap in literacy	Percentage points	2001	21.2
Expected years of schooling	Number of years	2002	10
Population growth rate	% Per annum	1991-2001	1.7
Sex ratio	No. of females per '000 males	2001	933
Life expectancy at birth	Years	1998-2002	63.9
Urban-rural gap in life expectancy	Years	1998-2002	7.8
Female-male gap in life expectancy	Years	1998-2002	1.5
Infant mortality rate	Per thousand live births	2003	60
Male – Female gap in infant mortality	Per thousand live births	2003	7.0
.0Under-5 child mortality rate	Per thousand	2003	87
Proportion of Poor (Below $1 a day)	% of Total Population	1999-2000	35.3
Proportion of Poor (Below $2 a day)	% of Total Population	1999-2000	80.6
Scheduled Caste Population	% of Total Population	2001	16.2
Scheduled Tribe Population	% of Total Population	2001	8.2

Source: Census of India, 2001 and World Development Report, 2006.

As many as 350 million people accounting for 35 per cent of the country's population cannot afford to spend $1 a day on their essential needs and live in abysmally poor conditions. Since India has a large proportion of the world's poor and illiterates, its progress in the spheres of poverty, education and health in the coming decade will considerably influence achievement of the Millennium Development Goals of the United Nations.

1.3 An Overview of Shift in Policy Regimes

We now turn to a brief discussion of policy changes brought about in India in recent decades. As stated earlier, India followed a mixed economy model after its independence. While both public and private sectors coexisted, a central role was assigned to the state's planning machinery for resource allocation across sectors. The stated primary objectives of the planning process have been economic growth, social justice and self-reliance. The Five-Year Plans initiated since 1951 provided the basic framework for the economic development strategy of the country. Accounting for about half of the capital formation in the economy, the government sector directly played a major role in the production process of the country for several decades. In the agricultural sector, production decisions were by and large taken by private producers with government's role limited to infrastructure development such as irrigation, extension services and trade in some major commodities. In the manufacturing and service sectors, state played a commanding role by owning and operating many industries on its own and by regulating private investment through the licensing instrument for establishment of new industries. The industrial development strategy based on the logic underlying Feldman-Mahalanobis type model stressed on development of capital goods in the early phases of industrialization. Under the assumption of a closed economy (due to limited possibility of imports of capital goods) and non-shiftability of capital between consumer goods and capital goods, the model showed that a higher proportion of investment in the capital goods sector leads to higher long term growth of an economy[1].

A distrust of the market forces among intellectual and political thinkers during the decades following independence prevailed due to perceived connection of imperial economic interests with free trade policies[2]. Inward looking import substitution policy pursued for about four decades led to limited trade and investment relations with the rest of the world. Export pessimism persisted in the belief that export opportunities would follow development of a large and diversified industrial base. The growth-enhancing role of exports was not well recognized. India developed domestic industry through a highly

[1] See, Mahalanobis (1955), Bhagawati and Chakravarty (1969), and Rudra (1975).

[2] See, Ahluwalia and Williamson (2003). They note two other factors that reinforced the inward looking policy: (a) success of Soviet Union in achieving industrial power and (b) influential intellectual opinion prevailing then in Latin America.

protected system involving quotas and prohibitively high tariffs for most products. The objective of self-reliance was equated with import substitution rather than ability to pay for imports. While the industrial licensing system was meant to direct resources in 'socially desired' directions, it gave large discretionary power to government bureaucrats and technocrats to control investment decisions of private industries. In addition, it prevented domestic competition. Trade barriers, on the other hand, disallowed competition from the rest of the world in both agriculture and industry. Efficiency suffered due to excessive protective measures. The government administered foreign exchange rate and bank interest rates. The Central Government had unlimited access to borrowing from the Reserve Bank and monetary policy played an accommodating role to fiscal policy.

This regime started changing towards a more market friendly system in 1991[3]. The reform process, which was wide-ranging and intense in the beginning, has continued to expand to new areas over the years, albeit slowly. Industry has been deregulated by abolition of the license system for establishment and capacity creation. International trade has been liberalized by gradual removal of all import quotas and reduction of tariff rates to moderate levels. Foreign investment has been promoted by permitting majority share holding in several industries to modernize technology and take advantage of global division of labor. India has moved into a regime of current account convertibility and let the foreign exchange rate be determined by the market forces subject to Central Bank's occasional interventions to check volatility. Government started disinvesting its equity in public sector enterprises and the process still continues. The Central government gave up its right to unlimited borrowing from the Central Bank. The financial sector was also gradually liberalized and interest rates were freed within bounds. On the whole, these measures have fundamentally changed the policy framework. The basic logic of reforms obviously was more efficient resource allocation by promoting domestic and foreign competition.

[3] Many economists and policy makers had earlier advocated the need for reforms particularly after the successful experience of East Asian countries with regard to high growth and poverty reduction. Indeed, some reforms were undertaken during mid-1980s; but a comprehensive reform package was introduced only in 1991and followed through in the following years.

1.4 Issues in Macroeconomic Policy and Poverty

The gradual but steady reform process since 1991 in a large democracy with high incidence of poverty naturally led to a wide debate on the effects of liberalisation. There is consensus that trend growth in GDP has improved to about 6 per cent per annum. But, attempts to quantify change of poverty in the post reform period have not led to general agreement on magnitude of poverty reduction. Some major macroeconomic policy issues emerging in the context of poverty reduction relate to:

- Effects of changing structure of production and income generation process on poverty and inequality.
- Adequacy of social sector expenditure by the state governments who have primary responsibility for education and health sectors.
- Changing labour market conditions and casualisation of labour.
- Role of public investment in infrastructure and irrigation.
- Effectiveness of credit delivery system to underdeveloped regions after liberalization of the financial sector.
- Whether macro policies affect poverty primarily through growth or they play additional role in addition to the growth effects.
- Some states have made substantial progress in poverty reduction while others continue to stay on almost where they were a decade ago. Which forces have contributed to this situation: structural factors, inadequacy of resources or governance issues?

1.5 Approach of this Study

In this case study of India on 'Macroeconomics of Poverty Reduction', we have attempted to analyse some of the above issues. Given India's size, diversity and federal structure, experiences at the state level are as important as those at the national level. The state governments in particular have major responsibility for agricultural development and provision of services in the social sectors like health and education. The India Report consists of two parts: (a) national level overall report and (b) study of four selected states. The selected states are: (i) Tamil Nadu in southern part of the country which has low

incidence of poverty compared to the national average and has undertaken effective social sector programmes in the past, (ii) two poorest states Bihar and Orissa in the eastern part, and (iii) Rajasthan in the north which is emerging out of high poverty during the last decade. Table 1.2 gives basic statistics about area, population and per capita income of various states in India.

Poverty refers to deprivations in human well being below a critical minimum level. To set the boundary of our analysis, two points on the concept of poverty might be mentioned at the outset. First, poverty is a multidimensional concept and deprivations in areas such as income, health and education are all important facets of human welfare. The Millennium Development Goals (MDGs) of the United Nations as well as development policy frameworks of national governments recognize the multidimensionality of poverty. Although we discuss some issues related to education and health, our focus in the national level report has been mostly on income poverty which relates to the first of the MDGs. The selected state reports have examined income as well as non-income dimensions at greater details in their respective states.

Second, in our analysis of impact of various policies on poverty, we have mostly used the notion of 'absolute poverty' widely used by the government and policy analysts in India. However, it was not always possible to quantitatively link macroeconomic policy with trends in incidence of absolute poverty. We have used a general notion of poverty in such cases and tried to examine policy issues with respect to their impact on level of living of low-income groups.

Incidence of absolute poverty in a community depends on the growth factor and the distribution factor. Impact of macroeconomic policies on poverty operates through these two primary channels. If the distribution factor were invariant, an increase in mean income would reduce poverty. On the other hand, given the same mean income, more equal income distribution would reduce poverty provided mean income is greater than the poverty line. When mean income growth is accompanied by more unequal income distribution, poverty effect depends on which of the two effects dominate. If positive growth effect dominates over adverse distribution effect, poverty would fall; otherwise, it would rise. If mean income grows with a drop in inequality, both growth and distribution factors are favourable to the poor and poverty falls fast.

Table 1.2: State-Wise Area, Population and Per Capita Income of India

States	Geographical Area (thousand sq. km) 2001	Population (million) 2001	Per Capita NSDP, 2003-04 (Rs. at current Prices), (P)
Andhra Pradesh	275	76.21	20757
Arunachal Pradesh	84	1.10	17393
Assam	78	26.66	13139
Bihar	94	83.00	5780
Jharkhand	80	26.95	12509
Delhi	1	13.85	51664
Goa	4	1.35	53092*
Gujarat	196	50.67	26979
Haryana	44	21.15	29963
Himachal Pradesh	56	6.08	24903
Jammu & Kashmir	222	10.14	13320#
Karnataka	192	52.85	21696
Kerala	39	31.84	24492
Madhya Pradesh	308	60.35	14011
Chhatisgarh	135	20.83	14863
Maharashtra	308	96.88	29204
Manipur	22	2.17	14766
Meghalaya	22	2.32	18135
Mizoram	21	0.89	22207*
Nagaland	17	1.99	18911#
Orissa	156	36.81	12388
Punjab	50	24.36	27851
Rajasthan	342	56.51	15486
Sikkim	7	0.54	21586
Tamil Nadu	130	62.41	23358
Tripura	10	3.20	18676*
Uttar Pradesh	241	166.20	10817
Uttaranchal	53	8.49	13260#
West Bengal	89	80.18	20896
India	3287	1028.61	21142@

Note: Data for India includes territories directly administered by the union government.

Per Capita NSDP (Net State Domestic Product) estimates are based on 1993-94 series.

* For the year 2002-03. # For the year 2001-02. @ Per capita NDP based on 1999-2000 series. P: Provisional estimates

Source: Census of India, 2001 and Economic Survey, 2005-06.

The observed growth or distribution effects in a society are net result of complex interactions of economic, social, demographic and political factors. In reality, no policy operates in isolation in a society. Hence, it is necessary to examine changes in incidence of poverty observed over time and across regions, and relate these changes to major policy variables to identify correlations and associations. Depending on availability of data, one might be able to isolate effect of a specific factor controlling for other factors using some statistical techniques. Admittedly, quantifiable data have their own limitations and may not reveal full impact of various policies on poverty in a complex situation. Researchers often use descriptive reasoning as the best way to examine overall impact of evolving socio-economic institutions and their operational framework. The chapters that follow use various methods to trace the poverty impact of macro policies depending on issues and data availability.

1.6 Chapter Outline

Following this introduction, chapter 2 narrates the movement in poverty during recent decades at the national as well as state level in India. It also discusses the variations in income poverty and social sector variables across states. Chapter 3 discusses income growth and employment pattern in a comparative perspective during the pre-reform and post-reform periods. Chapter 4 relates to major developments in fiscal policy from the perspective of poverty reduction and social sector expenditure. Chapter 5 deals with external sector policies and their impact on growth and poverty. Chapter 6 traces the poverty impact of monetary policy and financial sector liberalization. Chapter 7 is a synthesis of the four state level case studies. Chapter 8 makes an overall quantitative assessment of the relationship of poverty with various macroeconomic variables policies. Finally, chapter 9 contains the summary and conclusions.

Chapter 2
Trends in Incidence of Poverty and Related Variables[1]

2.1 Introduction

Poverty ordinarily refers to deprivation of a minimum level of living defined in income (or its surrogate consumption) terms. Persons or households who cannot afford the minimum necessities for healthy, active and decent living are called poor. Poverty, however, is multidimensional in nature. Apart from the income approach to poverty, there are other ways to conceptualise poverty. Thus, one could plausibly consider deprivations in areas such as literacy, schooling, life expectancy, child mortality, malnutrition, safe water and sanitation. The Human Development Report of the UNDP, based on capabilities approach pioneered by Amartya Sen, considers some of these non-income dimensions of deprivation. This approach centres around the capability upgradation and enlargement of opportunities for the people. While income deprivation is an important element and in some cases closely associated with other types of deprivation, they are not all encompassing and might not always move together with other deprivations (as we discuss later). Income becomes important in the capability approach to the extent it helps in expanding basic capabilities of people to function. While this report recognizes the importance of the non-monetary dimensions of deprivations, it is mostly, though not exclusively, concerned with income poverty.

In a classic work on the Indian poverty published as far back as 1901, Dadabhai Naoroji[2] had computed the level of living necessary for subsistence by considering what was "necessary for the bare wants of a human being, to keep him in ordinary good health and decency". He compared it with per capita income to draw attention of the colonial government to mass poverty in India. The basic idea to estimate what is commonly known as the poverty line in recent decades is similar to estimation of subsistence level of living by Naoroji. Many years later, Dandekar and Rath (1971) attempted to provide a normative basis to the derivation of poverty lines by relying on the relationship between consumption expenditure and nutritional (calorie) intake. It has been empirically

[1] This chapter is written by Manoj Panda.

[2] The book in fact was written by Naoroji several years prior to its publication and preceded Rowntree's early work on British poverty (Rowntree, 1901).

observed that when household per capita income or consumption expenditure increases, the average per capita energy intake rises and tends to reach a plateau at a fairly high level of income. Dandekar and Rath exploited this relationship and defined the poverty line as that level of consumption expenditure at which calorie intake is just sufficient to meet the average calorie norm prescribed by nutritionists.

India has a long tradition of systematic database on household consumption expenditure from household surveys conducted by the National Sample Survey Organization (NSSO) right from early fifties. Our discussion below on poverty and inequality in India is based on the NSSO expenditure data. A large number of researchers within and outside India have used the NSSO data to study long-term relationship between growth and poverty in the context of a large developing country.

NSSO collects consumption expenditure and other socio-economic information from sample households through interview method during various 'rounds' of its surveys. The data during the initial rounds were experimental in nature and were not comparable over time with regard to design and coverage of the survey, period of reference in the interview and concepts. Hence, we have not used the data for some initial rounds. NSSO conducted budget surveys more or less on an annual basis till 1972-73. After that it undertook surveys on a quinquennial basis with large sample size and also several ‘thin sample’ surveys since 1986-87 in between the quinquennial rounds. These so called 'thin samples' still cover about 50-100 thousand households and many researchers regard them as fairly large enough to indicate broad trends at the national level, though sampling errors might be large at state level. The official estimates of poverty at national and state levels are based on quinquennial rounds only.

Household consumption in the NSSO data consists of consumption of goods and services out of monetary purchases, receipts in exchange of goods and services, home grown stocks and free receipts. Consumption is more closely related to 'permanent income’ as it is less influenced by transient factors. It is thus a better indicator of usual level of living of a household. But, it does not reflect the savings or borrowing position of the household. If, for example, there were distressed borrowings by the poor to meet basic essential consumption needs, such vulnerability would not be reflected in the consumption data.

Box 2.1: Some Concepts in Measurement of Poverty

Poverty line: It is the income or consumption expenditure level that is considered to represent the minimum desirable level of living in a society for all its citizens. This minimum level may be defined in absolute or relative terms. The absolute poverty line is often defined as the threshold income that just meets food expenditure corresponding to minimum energy (calorie) need of an average person and makes a small allowance for nonfood expenditure.

Head count ratio (HCR): It is the proportion (or percentage) of persons in a society whose income or expenditure falls below the poverty line. It is the most commonly used measure of poverty.

Poverty gap (PG): It refers to the proportionate shortfall of income of all the poor from the poverty line and expressed in per capita terms of the entire population. It tells us whether the poor are more or less poor and thus reflects the average depth of poverty. If the numbers of poor and total population are the same in two societies but the poor have less income in the second society than the first, PG index would be higher for the second society even though HCR is the same for the two.

Squared poverty gap (SPG): It is a normalized weighted sum of the squares of the poverty gaps of the population and reflects the intensity of poverty. For a given value of the PG, a regressive transfer among the poor would indicate a higher SPG value. HCR, PG and SPG are special cases of a measure suggested by Foster, Greer and Thorbecke (1984).

Lorenz curve: It is a curve that represents the relationship between the cumulative proportion of income and cumulative proportion of the population in income distribution, beginning with the lowest income group. If there were perfect income equality, the Lorenz curve would be a 45-degree line.

Gini coefficient: It is the area between the Lorenz curve and the 45-degree line, expressed as a percentage of the area under the 45-degree line. It is a commonly used measure of inequality. With perfect income equality, the Gini coefficient would be equal to zero; with perfect inequality, it would equal one. Gini coefficient normally ranges from 0.3 to 0.7 in cross-country data.

$1 a-day poverty line: It is used by several international organizations for comparison of poverty across countries and actually refers to an income or consumption level of $1.08 per person per day based on 1993 dollars adjusted for purchasing power parity (PPP). The Millennium Development Goal sets its poverty target in terms of this poverty line.

Source: Based on ADB (2004)

2.2 Official Poverty Estimates

The Planning Commission makes the official estimates of poverty in India using the NSSO large-scale quinquennial data on the basis of the methodology recommended by an Expert Group in 1993. It had earlier followed the methodology suggested by a "Task Force on Projection of Minimum Needs and Effective Consumption Demand" in 1979. The Expert Group advised continuation of base poverty line for 1973-74 as estimated by the Task force but suggested changes in the price adjustment procedure for other years. The base poverty line is defined as per capita per month consumption expenditure of Rs. 49 for rural areas and Rs. 57 for urban areas at that year's prices[3]. These lines met the recommended per capita daily intake of 2400 calories for rural areas and 2100 calories for urban areas as per observed NSSO consumption pattern for 1973-74. The updating of the poverty line is carried out using consumer price index for agricultural labourers for rural poverty line and for industrial workers for urban poverty line with appropriate weights that reflect consumption pattern of people around the poverty line. The Expert Group also recommended that, given the diversity in a large country like India, poverty should be estimated at the state level using state level data and the national level estimates be then derived on the basis of state level poverty estimates. It might be noted that the poverty line refers to private consumption expenditure only and does not factor in expenditure on basic social services like health care and education which were earlier provided free by the state. With increasing dependence on the market for these services, there is a need to consider such expenditure in future.

Official estimates of number and percentage of poor are given in Table 2.1 and Figure 2.1. See Box 2.1 for various concepts of poverty. The HCR has declined by about one third from 56% in 1973-74 to 37% in 1993-94 and further to 27 per cent in rural areas. The fall has been slower from 49% to 32% in urban areas over two decades 1973-74 to 1993-94 and to 23% in 1999-2000.[4] At the all-India (i.e., rural and urban combined) level, HCR has fallen from 55% in 1973-74 to 36% in 1993-94 and to 26% in 1999-2000.

[3] Several authors had used other estimates of poverty line before hand. See, for example, Dandekar and Rath (1971) and several papers in Srinivasan and Bardhan (1974).

[4] The rural and urban poverty lines in India are not strictly comparable since they may not represent the same utility norm, though the lines for either rural or urban areas are comparable over time (see, for example, the special chapter in ADB, 2004).

Thus, poverty has fallen by about 10 percentage points in 8 years after the reforms. The *absolute number* of poor has remained virtually unchanged at around 320 million during 1973 to 1993 due to population growth[5]. The fall in poverty ratio during 1993-1999 was sharp enough to cause the absolute number to fall to 260 million in 1999-2000.

Table 2.1: Incidence of Poverty in India: 1973- 2000 (Official Estimates)

	Unit	1973-74	1983	1987-88	1993-94	1999-2000
Poverty Ratio (corresponding to official poverty line)						
Rural	%	56.4	45.7	39.1	37.3	27.1
Urban	%	49.0	40.8	38.2	32.4	23.6
Total	%	54.9	44.5	38.9	36.0	26.1
Number of Poor						
Rural	Millions	261	252	232	244	193
Urban	Millions	60	71	75	76	67
Total	Millions	321	323	307	320	260
Proportion of total poor living in rural areas	%	81.3	78.0	75.6	76.2	74.3

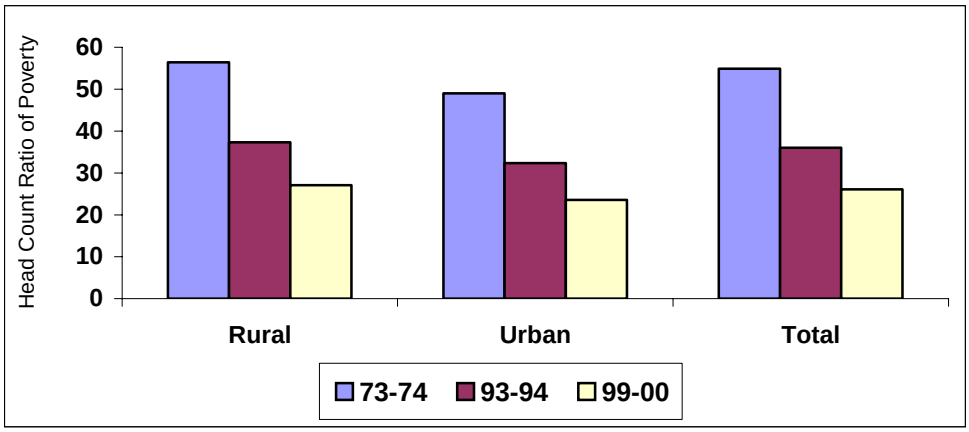


Figure 2.1: Official Estimates of Poverty 1973-1999

The official estimates for 1999-2000 have, however, attracted severe criticism of comparability with earlier rounds. The NSSO in India used a 30-day recall period from its inception in the early 1950s until 1993-94. In 1999-2000 (55th round) survey NSSO collected consumption data on food items using two different recall periods of 7 days and

[5] NSSO data does not track the same households over time. Using panel data from NCAER, Mehta and Bhide (2003) report that majority of households in rural areas who were poor in 1970-71 remained poor even after a decade.

30 days from the same households. Critics pointed out that the respondents in the survey overestimated food consumption due to the mix-up of the recall periods. Alternative estimates made by Deaton and Dreze (2002) and Sundaram and Tendulkar (2003) show that poverty reduced during 1990s but by a lower extent of 5-7 percentage points than 10 percentage points by official estimates. Sen and Himanshu (2004) make a critical and comprehensive examination of the comparability of the 55th round data with various adjustment procedures and argue that comparable reduction in HCR was lower by about 3 percentage points at the most, but they do not rule out possibility of no reduction too!

Apart from comparability, there is also the question of validity of the NSSO consumption expenditure survey data, which is subject to sampling and non-sampling errors. Comparison of NSSO data with those in National Accounts Statistics (NAS) reveal large discrepancies[6], NSSO estimate of total consumption being on the lower side. The concepts and coverage of consumption is often different between the two sources. Private consumption in NAS includes non-profit private enterprises apart from households and is derived as a residual from the commodity balance equations based on several assumptions. Surveys on household consumption miss the homeless and government expenditure on education and health. Top income groups are known to underreport their consumption and some among them might even refuse to answer survey questions. Moreover, the recall method may not adequately capture expenditure on food eaten outside by various members of the household. Even though differences between the two sets of data persist, most observers agree that NAS need not provide a more reliable basis for estimates of total household consumption for poverty calculation. On the recommendation of the Expert Group (GoI, 1993), the Planning Commission has abandoned the practice of adjusting NSS consumption distribution data with an uniform correction factor for expenditure class specific means to tally with the NAS aggregate private consumption estimate[7].

[6] Such discrepancy between survey based data and NAS can be found in almost all countries including several industrial economies. In the US, for example, the discrepancy has risen from 20 per cent in 1984 to 36 per cent in 2001 (Cline, 2004).

[7] Bhalla (2003) argues for reviving the earlier practice. See, several articles in Deaton and Kozel (2005) on this aspect, particularly the ones by Minhas, Kulshreshtha and Kar, and Sundaram and Tendulkar.

2.3 International Poverty Comparison

National poverty lines reflect national consensus on minimum level of living for the people and are not clearly comparable across nations. International organizations such as the United Nations and the World Bank have been using a poverty line that refers to an income or consumption expenditure of $1.08 a day per person at 1993 PPP. The corresponding poverty estimates for India are given in Table 2.2. Using the international line, a larger number of people –about 35 per cent- turn out to be poor reflecting the fact that the international line is higher than the national line. The trend in poverty is, however, similar irrespective of whichever line is used. We might note that the MDG goal has been stated in terms of this international line and the poverty estimates in terms of this line tells us the magnitude of the task ahead to achieve the MDG goals. The table also gives poverty estimates for South Asia and Sub-Saharan Africa for comparison. Note that number of poor in India in 2001 exceeds that in entire Sub-Saharan Africa, but poverty gap is considerably lower.

Table 2.2: Poverty measures for India using International Poverty Line of $1 a day

	1984	1993	1999	2001
India				
Head Count Index	49.8	42.3	35.3	34.7
Number of Poor (In millions)	373.5	380	352.4	358.6
Poverty Gap Indices	14.99	10.86	7.22	7.08
South Asia				
Head Count Index	46.8	40.1	32.2	31.3
Number of Poor (In millions)	460.3	476.2	428.5	431.1
Poverty Gap Indices	13.86	10.21	6.63	6.37
Sub-Saharan Africa				
Head Count Index	46.3	44	45.7	46.9
Number of Poor (In millions)	198.3	242.3	294	315.8
Poverty Gap Indices	19.65	19.24	20.14	20.29

Source: Shaohua Chen and Martin Ravallion, 2004

2.4 Long-term Poverty Trends

World Bank has estimated poverty in India for a fairly long period using data from various NSSO rounds till 1993-94. These estimates are based on the above official

benchmark poverty lines of Rs.49 and Rs.57 at 1973-74 prices for rural and urban areas respectively. We have updated these estimates to include another 8 thin rounds carried out after 1993-94 in order to assess poverty using all available data in recent decades.[8]

Table 2.3 gives incidence of poverty in India using three alternative measures: head count ratio (HCR), poverty gap (PG) and squared of the poverty gap (SPG) (see, Box 2.1). The following major conclusions could be derived from Table 2.3 and the Figure 2.2.

- The poverty indices were marked by sharp year-to-year fluctuations till mid-1970s without a long-term trend in either direction. There were, however, medium term cycles. The percentage of poor increased sharply through the mid-sixties to reach a peak of about 64 per cent in 1966-67 and then fell with marginal upward movements in between. While the declining trend continued beyond 1973, the incidence of poverty did not fall below early sixties levels up to 1983 in the rural sector and up to 1977 in the urban sector. The changes in poverty trends at the all-India level are similar to those at the rural sector.
- Poverty estimates clearly showed declining trends in both rural and urban areas during 1973-74 to 1989-90. During this period, the HCR fell from 56 per cent to 34 per cent in rural India and from 48 per cent to 33 per cent in urban India. The severity index of poverty fell even more by about half during this period. This period of fall in poverty incidentally coincides with the period when the economy moved up to an accelerated phase of growth.
- Poverty increased during 1990-91 to 1992 covering the period of economic crisis and initial years of reform. It declined in 1993-94, though the 1989-90 level in incidence of poverty could not be recovered for quite some time till 1998 in the rural sector.
- Poverty incidence has remained markedly at a lower level since 1999-2000 to 20003 compared to earlier period. The average for 4 thin rounds since 2000 works

[8] The deflators used by the Bank to estimate poverty lines are slightly different from the official ones as it corrects for certain problem in the fuel and light group. While updating the estimates to recent thin rounds, we have updated the poverty line using consumer price index number for agricultural labourers (CPIAL) at state level in rural areas and that for industrial workers at all-India level for urban areas.

out to 25 per cent for rural areas and 24 per cent for urban areas. Overall, there is 12 and 10 percentage points drop in head count ratio of poverty since 1990-91.[9]

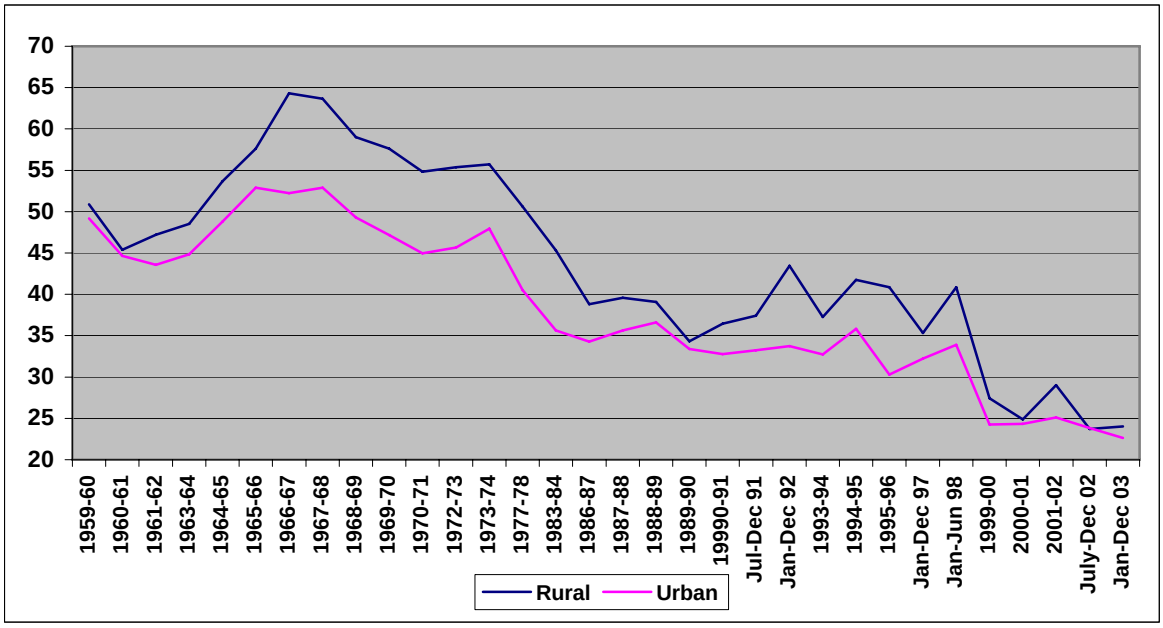


Figure 2.2: Head Count Ratio of Poverty: India 1959 to 2003

[9] Note that conclusions based on thin rounds may not be as firm as those based on quinquennial rounds with large sample size.

Table 2.3 Incidence, Depth and Intensity of Poverty in Rural & Urban India: 1958-2003

Period	Rural			Urban		
	HCR	PG	SPG	HCR	PG	SPG
Jul 58-Jun 59	53.26	17.74	7.88	44.76	13.75	5.87
Jul 59-Jun 60	50.89	15.29	6.13	49.17	15.83	6.75
Jul 60-Aug 61	45.40	13.60	5.53	44.65	13.84	5.83
Sep 61-Jul 62	47.20	13.60	5.31	43.55	13.79	6.05
Feb 63-Jan 64	48.53	13.88	5.49	44.83	13.29	5.17
Jul 64-Jun 65	53.66	16.08	6.60	48.78	15.24	6.38
Jul 65-Jun 66	57.60	17.97	7.60	52.90	16.82	6.98
Jul 66-Jun 67	64.30	22.01	10.01	52.24	16.81	7.19
Jul 67-Jun 68	63.67	21.80	9.85	52.91	16.93	7.22
Jul 68-Jun 69	59.00	18.96	8.17	49.29	15.54	6.54
Jul 69-Jun 70	57.61	18.24	7.73	47.16	14.32	5.86
Jul 70-Jun 71	54.84	16.55	6.80	44.98	13.35	5.35
Oct 72-Sep 73	55.36	17.35	7.33	45.67	13.46	5.26
Oct 73-Jun 74	55.72	17.18	7.13	47.96	13.60	5.22
Jul 77-Jun 78	50.60	15.03	6.06	40.50	11.69	4.53
Jan 83-Dec 83	45.31	12.65	4.84	35.65	9.52	3.56
Jul 86-Jun 87	38.81	10.01	3.70	34.29	9.10	3.40
Jul 87-Jun 88	39.60	9.70	3.40	35.65	9.31	3.25
Jul 88-Jun 89	39.06	9.50	3.29	36.60	9.54	3.29
Jul 89-Jun 90	34.30	7.80	2.58	33.40	8.51	3.04
Jul 90-Jun 91	36.43	8.64	2.93	32.76	8.51	3.12
Jul 91-Dec 91	37.42	8.29	2.68	33.23	8.24	2.90
Jan 92-Dec 92	43.47	10.88	3.81	33.73	8.82	3.19
Jul 93-Jun 94	37.28	8.60	2.88	32.73	8.24	2.79
Jul 94-Jun 95	41.76	9.55	3.10	35.84	9.54	3.52
Jul 95-Jun 96	40.87	9.84	3.26	30.31	7.31	2.51
Jan-Dec 97	35.31	8.48	2.83	32.23	8.26	2.99
Jan 98-Jun 98	40.87	9.84	3.26	33.91	8.89	3.28
July99-June 00	27.41	5.35	1.56	24.26	5.26	1.53
July00-June 01	24.88	4.68	1.33	24.34	5.56	1.79
July01-June 02	29.00	6.42	2.10	25.09	6.02	2.03
July-Dec 02	23.70	4.45	1.29	23.82	5.10	1.46
Jan-Dec 03	24.03	4.72	1.45	22.63	5.15	1.70

Source: World Bank estimates till 1992 and own estimates since 1993-94.

2.5 Regional Pattern of Poverty

All regions in India are not equally poor. Table 2.4 shows head count ratio of poverty for 15 major states that account for more than 90 per cent of the country's population. The estimates refer to three thick NSSO rounds used for official poverty estimates and average of four thin rounds carried out during 2000-2003 as an indicator of more recent developments[10]. Incidence of poverty varies largely across states. On the one end of the spectrum lie the developed states like Punjab and Haryana where poverty ratio lies within a single digit, while Orissa and Bihar lie at the other end with above 40 percent of the population remaining below the poverty line in recent years. Table 2.5 gives the growth rates in three poverty measures - head count ratio, poverty gap and squared poverty gap – for the major states during 1970-2003.

Several important observations may be made in connection with variations in incidence of poverty across states:

- The overall ranking of states has not undergone much change over the years. The highest poverty incidence continues to prevail in Orissa for rural areas and in Madhya Pradesh for urban areas. Bihar and Uttar Pradesh too have high poverty.
- Poverty incidence is the least in Punjab at 5-6% of the population in both rural and urban areas. Haryana ranks second best with 8-10% poverty. Kerala and Andhra Pradesh have made big progress in reducing rural poverty to a low level of about 10% in rural areas, but not as much in urban areas.
- Kerala, Andhra Pradesh, Punjab, Haryana and Gujarat are among the best performing states in terms of poverty reduction (Table 2.5). These are also the states which have been doing better than average on the growth front[11]. However, Karnataka and West Bengal, the two best performers on the growth front in the post reform era, have reduced poverty only moderately.
- Note that all the indices reveal similar pattern across states. In fact, changes in depth and intensity of poverty have generally been better in quantitative terms

[10] As noted earlier, state level estimates in the thin rounds could involve big margins of error and even the average of four thin rounds should be treated as tentative finding till information from the next large scale survey are available.

[11] See, the following chapter.

than those in head count ratio. Thus, benefits of the development process do not seem to be confined to people near the poverty line.[12]

- As per official poverty estimates, there are several states which have higher poverty in urban areas than in rural areas; Andhra Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu fall in this list. Deaton and Dreze (2002) find the differential in official estimates of poverty lines between urban and rural areas to be implausible for several states. Their alternative estimates of poverty incidence for urban areas are lower than those for rural areas.

Table 2.4: Head Count Ratio of Poverty for Major Indian States

	Rural				Urban			
States	1983	1993-94	1999-2000	Average of 2000-03	1983	1993-94	1999-2000	Average of 2000-03
Andhra Pradesh	26.53	15.92	11.05	9.80	36.30	38.33	26.63	25.25
Assam	42.60	45.01	40.04	21.40	21.73	7.73	7.47	4.74
Bihar	64.37	58.21	44.30	32.26	47.33	34.50	32.91	27.29
Gujarat	29.80	22.18	13.17	13.14	39.14	27.89	15.59	10.86
Haryana	20.56	28.02	8.27	8.65	24.15	16.38	9.99	10.03
Karnataka	36.33	29.88	17.38	13.28	42.82	40.14	25.25	27.31
Kerala	39.03	25.76	9.38	9.24	45.68	24.55	20.27	15.03
Madhya Pradesh	48.90	40.64	37.06	33.40	53.06	48.38	38.44	40.35
Maharashtra	45.23	37.93	23.72	18.96	40.26	35.15	26.81	25.29
Orissa	67.53	49.72	48.01	46.53	49.15	41.64	42.83	33.93
Punjab	13.20	11.95	6.35	5.49	23.79	11.35	5.75	5.69
Rajasthan	33.50	26.46	13.74	16.28	37.94	30.49	19.85	27.66
Tamil Nadu	53.99	32.48	20.55	18.38	46.96	39.77	22.11	24.90
Uttar Pradesh	46.45	42.28	31.22	33.17	49.82	35.39	30.89	29.92
West Bengal	63.05	40.80	31.85	24.80	32.32	22.41	14.86	15.87
India	45.65	37.27	27.09	25.40	40.79	32.36	23.62	23.97

Source: Planning Commission for 1983, 1993-94 and 1999-2000. Own estimates for average of four thin rounds during 2000-2003.

[12] This result holds at a broad group level like aggregate state and might be consistent with intensification of poverty for certain vulnerable groups.

Table 2.5: Growth Rates in Poverty Indices: Rural & Urban, 1970-2003

States	Rural			Urban		
	H	PG	SPG	H	PG	SPG
Andhra Pradesh	-4.17	-6.06	-7.36	-1.67	-2.28	-2.79
Assam	-1.22	-1.54	-1.85	-3.68	-4.46	-5.11
Bihar	-1.10	-2.44	-3.62	-1.96	-3.20	-4.37
Gujarat	-3.57	-5.35	-6.68	-3.82	-5.72	-7.41
Haryana	-3.42	-4.61	-5.40	-3.98	-6.07	-7.88
Karnataka	-2.73	-4.23	-5.35	-1.69	-2.33	-2.88
Kerala	-4.72	-6.97	-8.51	-3.37	-5.08	-6.22
Madhya Pradesh	-2.44	-3.61	-4.35	-0.75	-1.13	-1.45
Maharashtra	-1.15	-2.16	-2.99	-1.30	-1.80	-2.12
Orissa	-0.97	-1.73	-2.43	-1.40	-2.06	-2.59
Punjab	-3.87	-6.07	-8.08	-4.38	-5.89	-6.99
Rajasthan	-2.84	-4.63	-5.97	-1.71	-2.69	-3.60
Tamil Nadu	-2.98	-4.58	-5.73	-1.57	-2.21	-2.71
Uttar Pradesh	-0.91	-1.69	-2.31	-1.62	-2.60	-3.51
West Bengal	-1.98	-3.14	-4.04	-1.49	-2.34	-3.07
All India	-1.69	-2.82	-3.70	-1.64	-2.43	-3.10

Source: Own estimates
Note: These trend growth rates are computed by fitting exponential function of the type $\ln(Y) = a + b.T$, where Y is the concerned variable and T is time trend.
All values are significant.

2.6 Poverty by Social Groups

Table 2.6 gives the poverty ratios by different social groups such as scheduled tribe (ST), scheduled caste (SC) and other backward classes (OBC) in the Indian social hierarchy. Incidence of poverty varies widely across social groups. High incidence of poverty prevails among the scheduled tribe and scheduled caste population, which have suffered from social and/or economic exclusion for centuries in India[13]. More than 45% of households among the ST group are poor while the corresponding number is only 15% among the non-backward households classified under the 'others' category in the table.

[13] The ST and SC categories account for a little less than a quarter of the population.

Table 2.6: Rural Poverty by Social Groups in Major States: 1999-2000

State	ST	SC	OBC	Others
Andhra Pradesh	23.07	16.47	9.59	3.4
Assam	39.16	44.97	40.4	39.36
Bihar	59.37	59.3	42.83	26.28
Gujarat	27.5	15.57	11.15	4.58
Haryana	0	17.02	10.82	1.13
Karnataka	24.86	25.67	15.74	11.05
Kerala	25.04	15.61	10.88	4.96
Madhya Pradesh	57.14	41.21	32.32	11.7
Maharashtra	44.2	31.64	21.89	12.78
Orissa	73.1	52.3	39.7	24.01
Punjab	16.64	11.88	6.97	0.56
Rajasthan	24.83	19.52	10.21	6.03
Tamil Nadu	44.58	31.73	14.64	10.64
Uttar Pradesh	34.68	43.38	32.96	17.62
West Bengal	50.05	34.91	20	29.42
All India	45.82	35.89	26.96	14.98

2.6 Poverty by Occupation Class

While most poverty estimates for India are based on the NSSO consumption expenditure distribution data, estimates based on income distribution data are available from sporadic income distribution surveys conducted by the National Council of Applied economic Research (NCAER). Table 2.6 reports the head count ratio of poverty estimated by Pradhan and Roy (2003) using both income and consumption distribution data from NCAER's MIMAP (Micro Impacts of Macroeconomic and Adjustment Policy) survey for 1994-95. The authors use the official poverty lines adjusted for prices. So, these lines are essentially defined in terms of per capita consumption and not strictly applicable for income distribution due to the implicit assumption of zero savings at the poverty line. Hence, poverty estimates based on income are invariably lower than those based on consumption in Table 2.7. At the national level, income based poverty at 25 per cent is about 12 percentage points lower than consumption based poverty estimate of 37 per cent.

More interestingly, the table shows variation of poverty by occupation group. Incidence of poverty is the highest among wage earning class. It is about 60 per cent higher than

that for all groups. An important revelation is that wage earners in both agricultural and non-agricultural sectors are almost equally poor. Poverty is the least among salaried group followed by the self-employed in non-agriculture. Poverty among self-employed in agriculture is higher than average for all groups.

Table 2.7: Head Count Ratio by Occupation Group Using Income and Consumption Distribution Data, 1994-95

	Income Based Poverty			Consumption Based Poverty		
	Rural	Urban	All India	Rural	Urban	All India
Self Employed in Agriculture	27.4	31.0	27.5	36.8	64.8	37.3
Self Employed in Non-Agriculture	8.1	18.1	13.0	15.1	38.6	26.6
Salaried	6.6	5.3	5.9	18.5	14.2	16.1
Agricultural Wage Earners	42.3	64.0	42.9	55.0	80.0	55.7
Non-Agricultural Wage Earners	43.7	41.6	43.1	53.6	61.0	55.7
Others	15.4	10.4	13.5	29.5	21.4	26.4
All Groups	28.6	14.8	25.1	39.4	28.4	36.6

Source: Pradhan and Roy (2003): The Well Being of Indian Households, MIMAP - India Survey Report, NCAER. Consumption based estimates refer to those based on CE-II comparable to NSSO consumption expenditure concept.

Table 2.8 shows distribution of poor by occupation group again based on NCAER's MIMAP survey. Agricultural labourers form the largest group among the rural poor accounting for about 45 per cent of rural poor. The self-employed in agriculture accounts for another 30 per cent of rural poor population. Thus, about three-quarters of poor households are primarily dependent on agricultural income. In urban area, the non-agricultural wage income earners constitute only 25 per cent of urban poor. The self-employed in non-agriculture account for about a third of urban poor. Although the incidence of poverty among salaried class is low compared to the average, the poor are dependent on salary income account for as high as 28 per cent of total urban poor reflecting large size of salaried group in urban population.

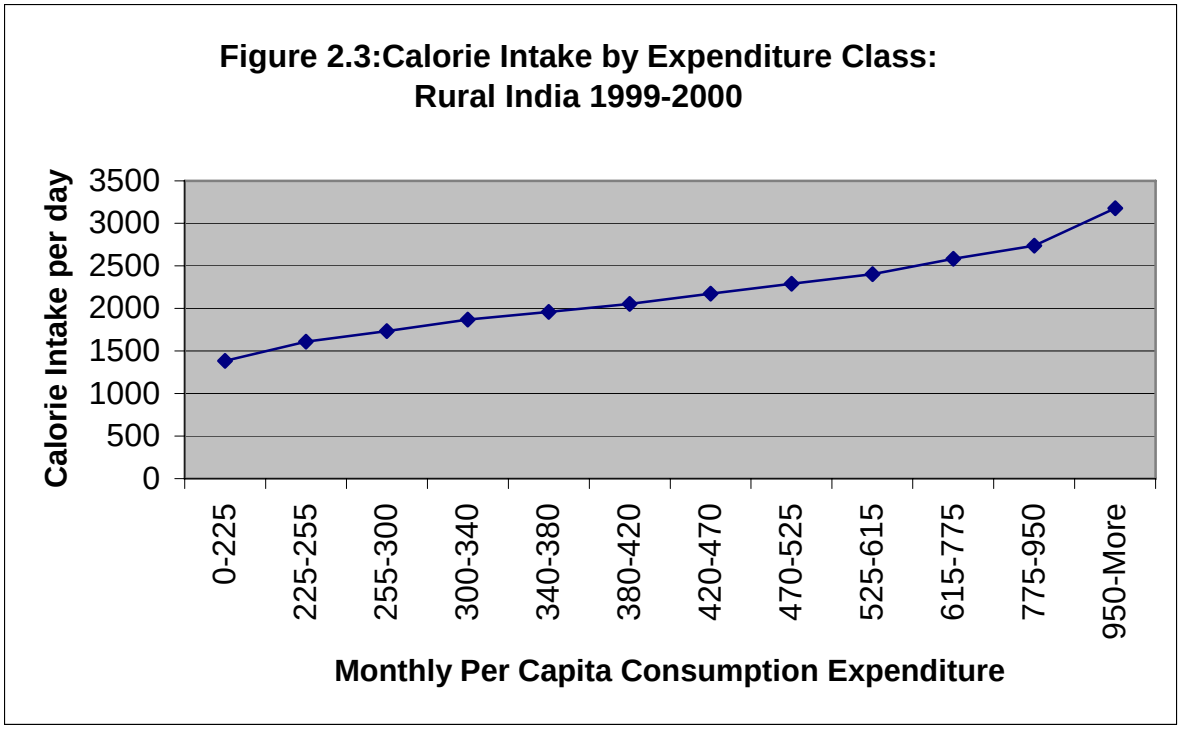
Table 2.8: Distribution of Poor by Occupation Group, 1994-95

Head Count Ratio	Income Based Poverty			Consumption Based Poverty		
	Rural	Urban	All India	Rural	Urban	All India
Self Employed in Agriculture	31.5	3.5	27.3	30.8	3.8	25.5
Self Employed in Non-Agriculture	2.4	29.0	6.4	3.3	32.2	9.0
Salaried	3.3	19.7	5.8	6.7	27.6	10.7
Agricultural Wage Earners	46.0	11.2	40.8	43.5	7.3	36.5
Non-Agricultural Wage Earners	15.2	32.7	17.8	13.5	24.9	15.7
Others	1.7	3.9	2.0	2.3	4.2	2.6
All Groups	100.0	100.0	100.0	100.0	100.0	100.0

Source: Pradhan and Roy (2003). Note as in Table 2.6.

2.7 Nutrition

Although the poverty line for the base year is often based on nutritional intake, the poverty measures do not directly reflect nutritional deficiency. For example, the official poverty line in India corresponds to an income level that is just adequate to meet the calorie norm in 1973-74. This does not mean that all persons above the poverty line meet the calorie intake norm and all persons below the poverty line are calorie deficient. Generally speaking, there is an increasing relationship between calorie intake and income or consumption expenditure (see, Figure: 2.3). Per capita income is a major determinant of calorie intake, but there are also other factors like household composition, share of food expenditure, tastes and preferences, availability of types of food that determine food consumption and energy intake. The ranking of households by per capita income and per capita calorie intake are not identical. While calorie intake would be highly correlated with income, it is not a perfect correlation.



Source: Based on NSSO data

Secondly, the quantified relationship between calorie intake and income need not be very stable. Income level good enough to meet the calorie norm in the base year need not do so in subsequent years if consumption pattern changes due to changes in tastes and preferences, relative prices and other factors. Indeed, there has been considerable diversification in consumption pattern of people from food to non-food items, within food group from cereals to non-cereal food items, and within cereals from coarse to fine cereals. Such changes have meant that households at the poverty line have substantially less calorie intake than the norms in recent years[14]. Hence, monitoring of nutritional intake by itself is of interest.

In an inter-state analysis, Sen (2005) reports that per capita calorie intake in the poverty line class (e.g., consumption class that contains the poverty line) is the lowest for Kerala (1389 calories) for rural areas and for Haryana (1457 calories) for urban areas in 1999-2000. What is also interesting is that the poverty line class in Orissa has the highest calories for both rural and urban areas, 2117 and 2450 respectively.

[14] See, Panda and Rath (2004) for such evidence on India and explanations in terms of consumer behaviour. This paper also demonstrates that there could be situations when reduction in standard poverty measures need not be welfare improving in terms of real consumption.

Analysing the food and nutrition security issues, Radhakrishna (2005) notes that the per capita cereals consumption in India has been on a declining trend during the last three decades. According to the NSSO data, per capita cereals consumption in rural areas fell from 15.3 kg per month in 1970-71 to 12.7 kg in 1999-2000 and in urban areas from 11.4 kg to 10.4 kg. This declining trend could be observed in most states with sharp decline of about 6 kg taking place in Punjab and Haryana. In the year 1999-2000, per capita per month cereal consumption in a prosperous state like Punjab was 10.6 kg in rural and 9.2 kg in urban areas while it was 15.1 kg in rural and 14.5 kg in urban areas in a backward state like Orissa.

Rao (2000) observes that the decline in cereal consumption has been greater in rural areas in those states where improvement in rural infrastructure has made non-cereal food and non-food consumption items available to rural households. Cereals need might also have fallen due to reduction in heavy manual work associated with farm mechanisation and consequent reduction in calorie need. A fall in cereal consumption and calorie intake need not be interpreted as a sign of welfare deterioration in such situations.

Table 2.9 shows average per capita calorie intake for various expenditure classes of the population in different years. The per capita calorie intake of the entire population rose during 1970s but has fallen subsequently despite growth in real per capita total consumption expenditure. Rural calorie intake particularly has stagnated for all sections of the population during 1990s due to diversification of the consumption basket. The improvement in overall urban per capita calorie intake is almost exclusively due to improvement noticed among top 30 per cent of the population. While per capita calorie intake of bottom 30 per cent of urban population nearly stagnated, that of middle 40 per cent declined substantially. Radhakrishna (2005) notes: “In my view, food diversification is justifiable from a nutritional perspective only if it enhances nutritional status by increasing the status of micronutrients, even though it may not add much calorie to the diet. Given the state of knowledge, it is extremely difficult to make any inferences about the impact of dietary diversification on the nutritional status. However, what is worrisome is the low per capita calorie intake (1600-1700 k cal/day) of the bottom 30 per cent which falls short of the required norm” (p.1818). There clearly is a need to increase energy intake among this section of the population.

Table 2.9: Average Per Capita Calorie Intake and Its Growth Rates in India

Expenditure Class	1972-73	1977-78	1993-94	1999-2000
	K. Cal/day			
Rural				
Bottom 30 per cent	1504	1630	1678	1696
Middle 40 per cent	2170	2296	2119	2116
Top 30 per cent	3161	3190	2672	2646
All Groups	2268	2364	2152	2149
Urban				
Bottom 30 per cent	1579	1701	1701	1715
Middle 40 per cent	2154	2154	2438	2136
Top 30 per cent	2572	2979	2405	2622
All Groups	2107	2379	2071	2156

Source: Radhakrishna (2005)

Incidence of malnutrition is much higher than incidence of income poverty. Abolition of income poverty need not imply abolition of malnutrition. Micronutrient deficiency of some type or other is common among both rural and urban people. Vitamin A deficiency is widely prevalent in rural areas and leads to preventable blindness in acute cases. National Family Health Survey for 1998-99 shows that about half of pregnant women suffer from iron deficiency that causes anaemia. This leads to high incidence of low weight at birth among children, which in turn contributes to child malnutrition. Analysis by Radhakrishna and Ravi (2004) reveal that the probability of a child falling into malnutrition decreases with improvement in mother's nutrition status, mother's education, mother's age and antenatal visit. But, the probability increases if mother is working. This might largely be reflecting conditions among poor households who are not able to make proper alternative arrangement for child care when mother is forced to go to work.

2.8 Human Development

Table 2.10 shows human development index (HDI) across states prepared by the Planning Commission for 1991 and 2001. There is improvement in HDI over time in both rural and urban areas. Urban-rural differences continue to prevail in all states. Kerala occupies the top slot in HDI ranking across states, though it is a middle income state.

Some high income states like Punjab, Tamil Nadu and Maharshtra perform well in HDI too.

Table 2.10:Human Development Index - 1991 and 2001

States	Rural - 1991		Urban - 1991		Rural - 2001		Urban - 2001	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.344	9	0.473	12	0.377	9	0.416	10
Assam	0.326	11	0.555	5	0.348	10	0.386	14
Bihar	0.286	13	0.460	14	0.308	15	0.367	15
Gujarat	0.380	6	0.532	7	0.437	6	0.479	6
Haryana	0.409	4	0.562	3	0.443	5	0.509	5
Karnataka	0.367	8	0.523	8	0.412	7	0.478	7
Kerala	0.576	1	0.628	1	0.591	1	0.638	1
Madhya Pradesh	0.282	15	0.491	11	0.377	9	0.416	10
Maharashtra	0.403	5	0.548	6	0.452	4	0.523	4
Orissa	0.328	10	0.469	13	0.345	12	0.404	11
Punjab	0.447	2	0.566	2	0.475	2	0.537	2
Rajasthan	0.298	12	0.492	10	0.347	11	0.424	9
Tamil Nadu	0.421	3	0.560	4	0.466	3	0.537	2
Uttar Pradesh	0.284	14	0.444	15	0.314	14	0.388	13
West Bengal	0.370	7	0.511	9	0.404	8	0.472	8
India	0.340		0.511		0.381		0.472	

Source: Planning Commission (2002)

Health

Table 2.11 shows gradual improvement in some selected health indicators over the years since 1951. Crude birth rate has come down from 41 in 1951 to 34 in 1981 and further to 25 in 2002, while the death rate has fallen faster from 25 in 1951 to 13 in 1981 and 8 in 2002. Infant and child mortality rates too have reduced by more than half to 63 and 19 respectively in 2002. Life expectancy at birth for females stood at 36 years and was lower than 37 years for males in 1951. It increased faster for females over the last five decades and is estimated to be 67 years during 2001-06 for females and 64 years for males. Women have a natural ability to live longer and higher female life expectancy is in line with those observed for developed countries.

Table 2.11: Selected Health Indicators for India

Variable	1951	1981	1991	Latest year[1]
Crude Birth Rate (Per 1000 Population)	40.8	33.9	29.5	25.0 (2002)
Crude Death Rate (Per 1000 Population)	25.1	12.5	9.8	8.1 (2002)
Infant Mortality Rate (IMR) (Per 1000 live births)	146 (1951-61)	110	80	63 (2002)
Child (0-4 years) Mortality Rate (Per 1000 children)	57.3 (1972)	41.2	26.5	19.3 (2001)
Life Expectancy at Birth (years)				
Male	37.2	54.1	59.7 (1991-95)	63.9 (2001-06)
Female	36.2	54.7	60.9 (1991-95)	66.9 (2001-06)

NA: Not Available.
[1] The dates in the brackets indicate years for which latest information is available.
Source: Economic Survey 2004-05.

Table 2.12 gives variations across states in life expectancy and infant mortality. As is well known, Kerala's score in human development is close to that of developed countries. Life expectancy at birth in Kerala is 72 years for males and 75 years for females. Among the rest, the states of Punjab, Tamil Nadu and Maharashtra have achieved better life expectancy for both male and females. Bihar, one of the poorest states has larger life expectancy for male than Indian average, but not for females. On the other hand, a rich state like Gujarat has lower record on life expectancy than many other states.

Turning to infant mortality, Kerala again stands out way above other Indian states with a rate of 9 and 12 for boys and girls respectively. Punjab again has the second lowest infant mortality rate of 38 for boys. But, it has a very large difference in mortality rate for boys and girls, the latter being as high as 66. Indeed, Punjab exhibits the highest difference by gender among all the major states, followed by Haryana. It is worth noting that infant mortality rate for girls is lower than boys in several states such as Andhra Pradesh, Karnataka, Maharashtra, Orissa, Tamil Nadu and West Bengal.

The main responsibility for health and family welfare lies with state governments. Centre supplements the efforts of the states by providing supplementary funds for national level programmes such as those for communicable diseases, specialised research

centres etc. It also coordinates health assistance received from international agencies. On the whole, health concerns of the rural people have not been reasonably addressed. Governments have recognised the need for comprehensive primary health care system and a network of referral systems. They have also laid emphasis on health extension services with emphasis on preventive rather than curative services. There has been success in significant reduction in incidence of some communicable diseases or in complete eradication in some cases. But, the health care system has come under stress in recent years for various reasons including financial support, manpower availability and infrastructure provisions. One problem with health sector policies is that there is multiplicity of public programmes and interventions resulting in thin spread of available resources. There is also a need for a proper recognition of the complementary role of private health service for those who can afford it.

Table 2.12: Life expectancy and Infant Mortality
Across Major Indian States by Gender

States	Life Expectancy at birth (2001-06)		Infant Mortality Rate (per 1000 live births) 2002	
	Male	Female	Male	Female
Andhra Pradesh	62.8	65.0	64	60
Assam	59.0	60.9	70	71
Bihar	65.7	64.8	56	66
Gujarat	63.1	64.1	55	66
Haryana	64.6	69.3	54	73
Karnataka	62.4	66.4	56	53
Kerala	71.7	75.0	9	12
Madhya Pradesh	59.2	58.0	81	88
Maharashtra	66.8	69.8	48	42
Orissa	60.1	59.7	95	79
Punjab	69.8	72.0	38	66
Rajasthan	62.2	62.8	75	80
Tamil Nadu	67.0	69.8	46	43
Uttar Pradesh	63.5	64.1	76	84
West Bengal	66.1	69.3	53	45
India	63.9	66.9	62	65

Education

There are large differences in literacy rate among the states as revealed by Table 2.13. It varies from 91 per cent in Kerala to 47 per cent in Bihar in 2001. Maharashtra and Tamil Nadu have achieved 77 and 73 per cent literacy rate compared to the national average of 65. Punjab, Gujarat, West Bengal, Haryana and Karnataka are other states that have more than national average literacy rates. Substantial gender gap in literacy is again evident across states. In none of the states in Table 2.13 female literacy is higher than male literacy. Kerala has the lowest gap with 6 percentage points difference between male and female literacy rates while Rajasthan has the highest with 32 percentage points.

Table 2.13 Literacy Rate for Major States in India (2001 Census) (in %)

States	Persons	Males	Females	Gender Gap*
Andhra Pradesh	61.1	70.9	51.2	19.7
Assam	64.3	71.9	56.0	15.9
Bihar	47.5	60.3	33.6	26.8
Goa	82.3	88.9	75.5	13.4
Gujarat	70.0	80.5	58.6	21.9
Haryana	68.6	79.3	56.3	22.9
Himachal Pradesh	77.1	86.0	68.1	17.9
Jammu & Kashmir	54.5	65.8	41.8	23.9
Karnataka	67.0	76.3	57.5	18.8
Kerala	90.9	94.2	87.9	6.3
Madhya Pradesh	64.1	76.8	50.3	26.5
Maharashtra	77.3	86.3	67.5	18.8
Orissa	63.6	76.0	51.0	25.0
Punjab	70.0	75.6	63.6	12.1
Rajasthan	61.0	76.5	44.3	32.1
Tamil Nadu	73.5	82.3	64.6	17.8
Uttar Pradesh	57.4	70.2	43.0	27.3
West Bengal	69.2	77.6	60.2	17.4
India	65.4	76.0	54.3	21.7

Literacy rate is defined as number of literates as a percentage of population in the age group 7 years and above.

Source: www.censusindia.net

Like health, educational development in the public sector is the primary responsibility of state and local governments under the Indian constitution. The Central government plays a supplementary role in national level policy formulation and financial help for undertaking some programmes initiated by it. There has been rapid progress in spread of literacy and access of children to schools reflected in enrolment rates in recent decades, particularly in some of the educationally backward states. High drop out rate in schools is a major problem in providing a minimum level of education to all children. There has been an improvement in recent years in the retention of students from primary schools to middle schools.

Improvement in quality of education in schools is an important issue that needs urgent policy attention. This requires adequate provision of number of teachers and infrastructure in schools. A regulatory framework for maintaining standards needs to be introduced so that service providers are made accountable to local governments, NGOs and community organisations.

A universal education programme called Sarva Shiksha Abhijan has been initiated to provide eight years of schooling to all children in the age group 6-14 years by 2010. Apart from improving general coverage to all children, it places emphasis on correcting some major weaknesses like bridging the large gender gap in educational attainment and in universal retention of children up to the middle school level.

2.9 Consumption Inequality

The NSSO data have also been used to estimate the concentration index (Gini Coefficient or Lorenz Ratio) for rural and urban population of the country. The estimates in nominal terms are shown in Figure 2.3. Urban inequality in consumption expenditure is invariably larger than rural inequality. There is a tendency of a reduction in inequality within the rural sector from around 0.30 in early 1970s to 0.27 in recent years[15]. It might be noted in this context a point made by Sen and Himanshu (2004) that comparison of inequality measures directly computed from NSSO data for 50th round (1993-94) and 55th round (1999-2000) are misleading due to the fact that 50th round used 30-day recall

[15] Statistical tests, too, confirm a reduction in rural inequality in nominal terms without adjustment for differential inflation rates faced by different income classes.

period and 55th round 365-day recall period for durables like clothing etc. They find that measured inequality with 365-day recall is lower than that with 30-day recall by as much as 5 Gini points. There seems to have been an increase in inequality during 2001-03 compared to 1999-2000[16].

So far as urban areas are concerned, there is no noticeable long-term change in consumption distribution measured by Gini concentration ratio during 1970-2003. The Gini ratio has generally fluctuated within a range of 0.34 to 0.38 in urban India during this period. Again, there seems to have been an increase in urban inequality after 1999-2000.

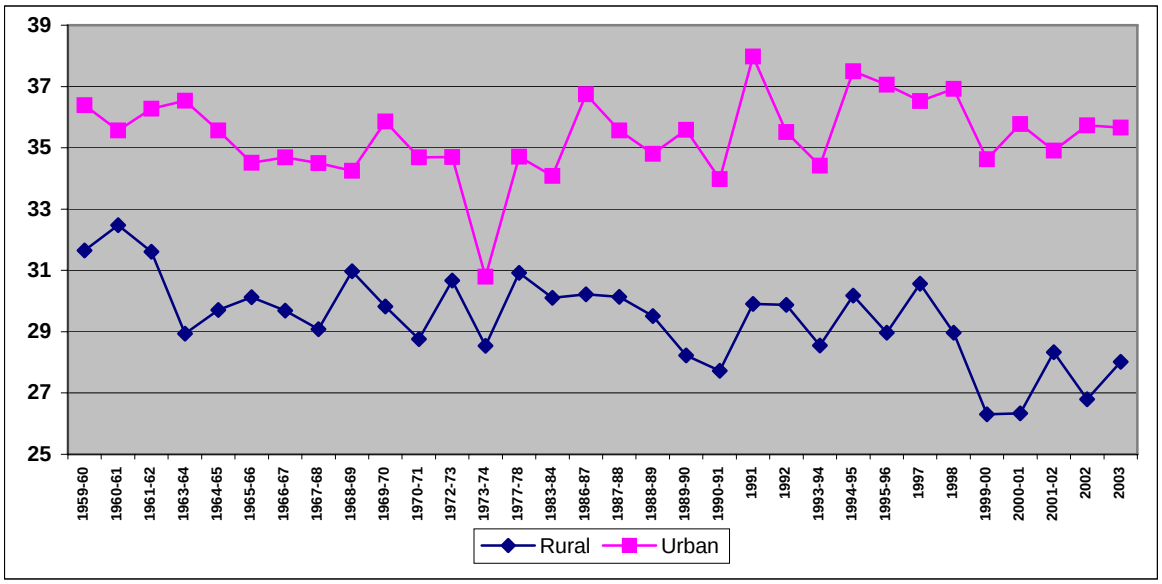


Figure 2.4: Gini coefficient in size distribution of per capita consumption expenditure

Table 2.14 indicates the growth rates in Gini coefficients and real mean consumption for rural and urban areas for major states. Mean consumption has grown in all states except for Assam where the rural growth is not significant. The pattern of poverty reduction noticed across states broadly follows the growth in mean consumption. Rural inequality has also fallen in most states, the exceptions being Kerala, Madhya Pradesh and Uttar Pradesh where changes are not significant. Consistent with national level result, urban

[16] The NSSO data are comparable since 1999-2000.

inequality does not show a significant change in any state considered here except for two sattes, Andhra Pradesh and West Bengal where there is a significant rise.

Table 2.14: Growth Rates of real MPCE and Gini Coefficients, 1970-2003

	Rural		Urban	
States	GINI	MEAN	GINI	MEAN
Andhra Pradesh	-0.31	1.53	0.29	1.08
Assam	-0.32	0.21*	-0.11*	0.95
Bihar	-0.88	0.47	-0.15*	1.03
Gujarat	-0.42	1.35	0.06*	1.6
Haryana	-0.44	0.86	-0.17*	1.31
Karnataka	-0.51	0.98	-0.07*	0.94
Kerala	-0.14*	2.24	-0.1*	2.01
Madhya Pradesh	0.02*	0.47	0.00*	0.48
Maharashtra	-0.58	1.25	-0.19*	0.72
Orissa	-0.25	0.46	-0.09*	0.95
Punjab	-0.44	0.86	-0.26*	1.27
Rajasthan	-0.98	0.82	-0.1*	0.76
Tamil Nadu	-0.21	1.39	0.14*	0.91
Uttar Pradesh	-0.18*	0.41	-0.08*	1.02
West Bengal	-0.35	0.79	0.15	0.71

* Not Significant; Source: Own estimates

2.10 Growing rural-urban disparity

There is, however, one aspect of distribution that needs to be stressed for policy purpose. Difference in rural-urban mean consumption at current prices has accentuated during post-reform period (Table 2.15). At the national level, urban mean was 67% higher than rural mean on an average in the 50^{th}-52^{nd} rounds of NSSO. This difference has moved up to 87% during 57^{th}-59^{th} rounds. It is seen across the board for all states except Bihar and Maharashtra where the urban-rural inequality virtually remains the same. Sen and Himanshu (2004) find that the urban-rural gap increased more sharply during 1990s when nominal average consumption levels are corrected for relative price rises. Cereal prices, which have a large weight in consumer price index of agricultural labourers, increased faster in early 1990s than during the 1980s.

Table 2.15: Urban-Rural Mean Consumption Ratio
(at current prices)

States	Average 50-52 Rounds	Average 57-59 Rounds
Andhra Pradesh	1.625	1.732
Assam	1.667	1.702
Bihar	1.610	1.606
Gujarat	1.414	1.763
Haryana	1.260	1.510
Karnataka	1.599	1.823
Kerala	1.186	1.413
Madhya Pradesh	1.475	1.909
Maharashtra	2.071	2.062
Orissa	1.824	2.236
Punjab	1.365	1.382
Rajasthan	1.394	1.480
Tamil Nadu	1.496	1.797
Uttar Pradesh	1.395	1.692
West Bengal	1.667	1.972
All-India	1.672	1.875

Inequality enhancing effects in the early phase of growth process postulated in some growth models does not generally seem to have operated in rural or urban India on a long-term basis. Direct policy measures aimed at social justice could have played a role in neutralizing the predictions of theoretical growth models. Such measures include large-scale adoption of direct poverty alleviation programmes and social sector expenditure, among others, discussed later. NSSO survey data admittedly do not adequately cover the very well to do sections and might have a tendency to under estimate the relative share of the rich. Even then, the democratic political process possibly does ensure that the poor do receive some benefit from the overall development process within rural or urban areas.

We end this chapter with an overall observation on the interactions of growth, poverty and inequality. We noted earlier that there was no trend decline in incidence of poverty in India till mid-1970s. Given the low per capita growth and the near invariance of distribution parameter for more than two decades, the poor did not gain much in absolute terms to make a long-term impact on poverty. The fall in poverty incidence was visible after mid-1970s when the economy moved up to a phase of higher economic growth of 5 per cent or above.

2.11 Conclusion

Poverty was widespread in India at the time of independence. The national government focused on a process of economic growth and poverty reduction through the initiation of the Five Year Plans in 1951. Incidence of poverty, however, did not show a visible downward trend for more than two decades. It started to fall from about 55 per cent in 1973-74 to 45 per cent in 1983 and further to 39 per cent in 1987-88. In recent years, official estimates based on large sample survey of households show a reduction in incidence of poverty from 36 per cent in 1993-94 to 26 per cent in 1999-2000. Data for four thin rounds available since 1999-2000 too indicate that about a quarter of India's population continue to live in absolute poverty.

Analysis of long-term data show that there has been significant reduction in poverty in all major states of India during 1970-2003. The depth and intensity of poverty have fallen at a faster rate than the head count ratio. In recent years, poverty seems to be getting concentrated in Eastern and Central parts of India and among the Scheduled Tribes and Scheduled Caste population. Mean consumption expenditure show significant rise in rural and urban areas of all major states except rural Assam. Inequality too has fallen in rural areas of most states, though urban inequality in most states has not changed significantly. The urban-rural disparity in mean consumption has accentuated since early 1990s.

Incidence of undernutrition and malnutrition in India is higher than incidence of income poverty. Micronutrient deficiency of one form or another seem to be common among a large section of the population. India lags behind in terms of human development indicators such as achievements in education and health fields in international comparison.

Chapter 3
Changes in Income and Employment[1]

3.1 GDP Growth

A long-term perspective on the post-independence growth process in the Indian economy could be obtained by looking at the national income growth rate since 1951. Table 3.1 presents average annual growth rates in national income for three broad sectors - agriculture, industry and service - for various periods spanning over 1951-2004. The Indian economy grew at an average rate of 3.5 per cent per annum for about 3 decades till 1980. With a population growth rate of about 2%, this meant a long trend growth rate of only about 1.5% in per capita terms. However, a break through occurred around 1980 and the trend growth rate improved to above 5 per cent after that[2]. A high GDP growth coupled with marginal slow down in the population growth rate has resulted in per capita income growth rate of above 3.5% per annum. An increase in average level of living of this order for about quarter of a century no doubt marks a break from the earlier trend.

The acceleration of the economy during 1980s caused by an expansionary fiscal policy was not sustainable and led to a balance of payments crisis in 1991. Post-reform GDP growth rate accelerated to above 7% during the triennium ending 1997-98 but has come down to about 6% later. The improvement in growth rate has been driven mostly by the service sector. The growth rate achieved in the post-reform period appears to be a sustainable one on a long-term basis. There is overall macroeconomic stability as indicated by factors such as low inflation, stable exchange rate, adequate foreign exchange reserves, low short-term external debt and sufficient foodgrains stocks. Areas that have been causing concern for growth and stability are fiscal imbalances and near stagnant investment rates.

The economy achieved an average GDP growth rate of about 6 per cent despite several shocks like the East Asian crisis, border tension, the Iraq war, oil price rise and a major drought in recent years. It seems to have acquired new strength compared to the fragile

[1] This chapter is written by Manoj Panda.

[2] Statistical tests by Virmani (2004) distinguish only two phases in Indian economic growth with 1980-81 as the dividing line.

situation in early 1990s when it broke down due to oil price rise in the wake of the Gulf war. India has been among the fastest growing economies during the last decade. While the achievement in the post-independence period is no doubt commendable in comparison with the colonial period, India lags behind several newly industrialized countries in Asia. Indian observers rightfully expect the economy to grow more rapidly over the coming years. The optimism about a higher growth potential gets reflected in the Planning Commission's growth target of 7-8 per cent per annum. It is being recognized in international circles that India is steadily progressing on the path to become a major economy in the world[3].

Table 3.1: GDP and Per Capita GDP Trend Growth Rates: India, 1950-2004

	1950-70	1970-80	1980-90	1990-2000	1992-2004
GDP growth by major sectors					
Agriculture	2.17	1.80	3.07	2.95	2.31
Industry	6.13	4.36	6.67	6.12	5.96
Services	4.61	4.53	6.65	7.72	7.90
GDP total	3.64	3.34	5.37	5.94	5.93
Per capita GDP growth by major sectors					
Agriculture	0.11*	-0.46	0.94	0.99	0.46
Industry	4.06	2.10	4.54	4.16	4.11
Services	2.55	2.28	4.51	5.76	6.04
Total	1.57	1.08	3.24	3.98	4.07

* Not significantly different from zero.

[3] See, for example, Wilson and Purushothaman (2003): "Dreaming With BRICs: The Path to 2050", Global Economics Paper No. 99, Goldman Sachs.

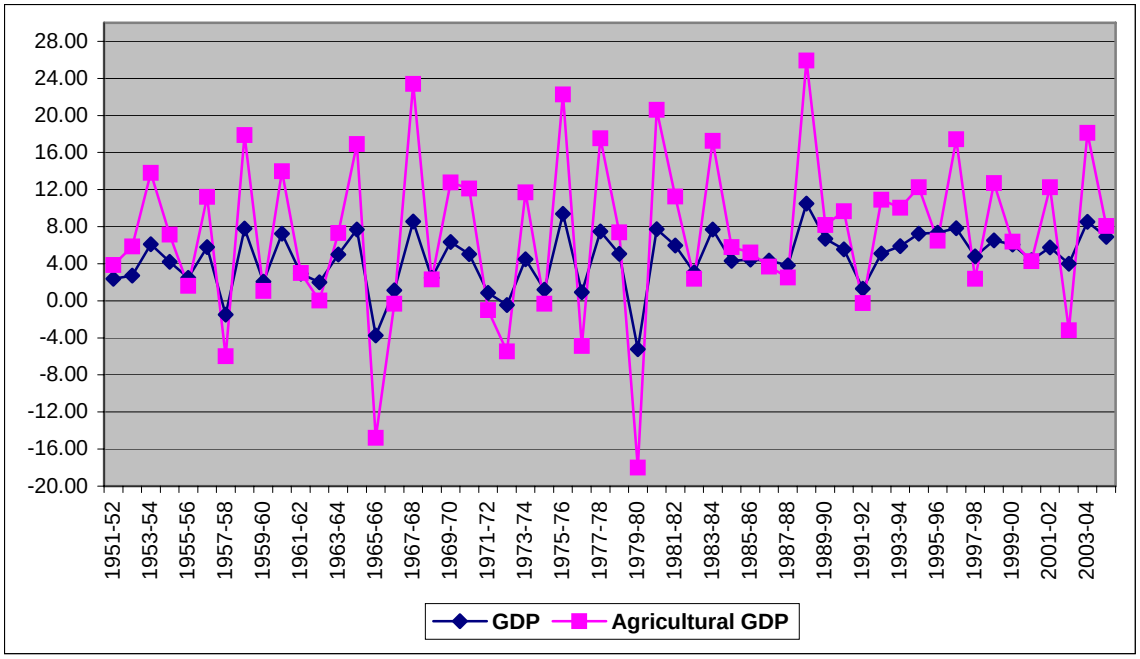


Figure 3.1: Annual Growth Rates in Real GDP and Agricultural GDP

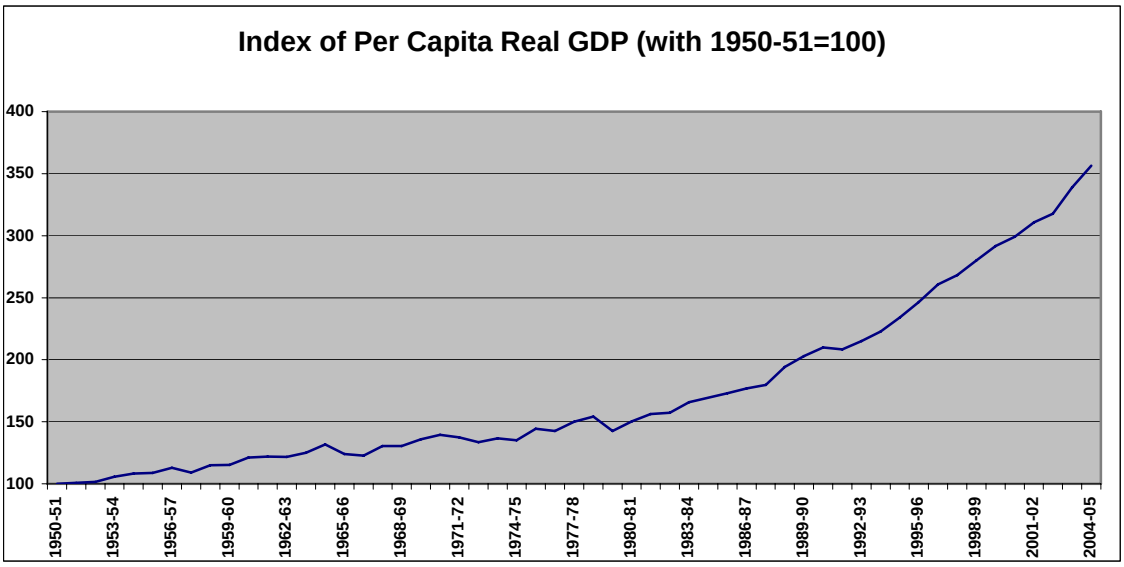


Figure 3.2: Index of Per Capita Real Income: 1950-51 to 2004-05

3.2 Composition of GDP

As a consequence of the above growth pattern, the structure of the Indian economy has undergone substantial changes with a steady fall in share of agriculture and rise in share of service sector. Agriculture accounted for about 55 per cent of GDP in 1950-51 and 39 per cent in 1980-81. Its share fell further during 1990s and accounted for only 21 per cent

of GDP in 2004-05. The share of industry (including construction), which was only about 14 per cent in early 1950s, rose to 24 per cent in 1980-81 reflecting the high emphasis put on the industrialization process during the sixties and seventies. Industry's share has stagnated just above a quarter of GDP since 1990 except for a few years during mid-1990s. The composition of GDP has been continuously moving in favour of services, which accounted for about 30 per cent of national income in 1950-51 and 41 per cent in 1990-91. Services currently account for 52 per cent of GDP in India. While the structural change away from agriculture is broadly consistent with international experience for countries at similar phase of development noted in the pioneering studies by Kuznets and Chenery, the composition within non-agriculture in India is somewhat different. It differs from the classical pattern in so far as growth of Indian economy is largely driven by service sector since 1990 and not by manufacturing.

Table 3.2: Composition of GDP by major sectors

Year	Agriculture	Industry	Services
1950-51	56.35	14.14	29.51
1960-61	46.50	19.36	34.13
1970-71	45.90	20.57	33.53
1980-81	38.86	24.49	36.64
1990-91	31.27	27.64	41.10
2000-01	24.62	26.60	48.78
2004-05	21.13	27.15	51.72

The falling share of agriculture has an important effect on reducing short-term fluctuations in the economy in recent decades. The Indian economy is described in the textbooks as a 'vagary of monsoons' in the past, annual fluctuations in GDP growth rate being mostly been driven by weather effect on the agricultural sector. For example, GDP used to fall in absolute amount leading to negative growth in drought years like 1965-67, 1972-73 or 1979-80 (Figure 3.2). The economy is no longer as much driven by agriculture and has been able to absorb shocks in rainfall more smoothly in recent years due to falling share of agriculture along with development of irrigation facilities. There has been no negative growth rate in total GDP since 1980-81 despite very low rainfall in years like 1987-88 or 2002-03, though agricultural output has fallen in these years. Indeed, real GDP has grown by 4 per cent or above in all the years during last two

decades except the crisis year of 1991-92. This new lower limit on annual growth rates is another feature of the dynamism and strength of the economy.

3.3 Developments within Agriculture

Soil and climatic conditions in India are generally suitable for growing foodgrains and the country has natural comparative advantage in its production of foodgrains. Yet, India was not self sufficient in foodgrains production to meet domestic demand till mid-1970s. It depended on imports which preempted scarce foreign exchange availability required for non-competitive imports like capital goods and raw materials to lay the foundations for industrialization. Moreover, large-scale imports of grains at times touching 10 million tonnes caused an upward pressure on world grain prices[4]. Hence, achieving self-sufficiency in foodgrains production became a major goal of development planning.

Prior to independence, there was no visible technological change in agriculture and production was on the whole stagnant over a long period except for a few export oriented commercial crops like jute and tea where the colonial interest was directly involved. The overall institutional set up was not conducive for long term investment and technological change. A large part of cultivated area did not belong to the tiller due to prevalence of intermediary systems like *zamindars* and *jagirdars.* Producers had little incentive for large investment on land because of lack of security of tenure. Hence, there was an emphasis on agrarian institutional changes such as land reform after independence[5]. Land reforms in India involved two main components: (a) abolition of intermediaries soon after independence so that land belongs to the tillers, (b) imposition of ceiling on land ownership and distribution of surplus land among the landless. As it turned out in practice, the first component was by and large successful and tillers, accounting for about 40 per cent of total cultivated area, became actual owners. But, the second component met with very limited success due to political dominance of large farmers as well as legal loopholes involving numerous exemptions to land ceiling. On the whole, less than 2 per cent of cultivated area could be acquired as surplus for distribution among the landless (Rao, 1992). There was, however, subdivision of landholdings over time due to

[4] International trade in rice is particularly thin. Quantum of public stocks of rice with the Indian government in recent years is more than volume of world trade.

[5] See, Rao (1992) for a review of agricultural policy after independence.

population growth and some of the large landholdings naturally came within the legal ceilings a decade or two after enactment of the law.

By mid-1960s, there was a general recognition of the need for shift in policy emphasis to technological up-gradation for meeting the food needs of the country. The 'green revolution' introduced in late 1960s and early 1970s involved adoption of high yielding varieties (HYV) seeds and chemical fertilisers along with large volume of public investment for expansion of irrigation capacity. Given the complementary nature of public and private investment in agriculture, there was a steep rise in total agricultural investment. Government procurement operations guaranteed minimum support price to farmers in parts of the country (Box 3.1). These policies led to an increase in net production of foodgrains from 67 million tones (MT) in 1959-60 to 96 MT in 1979-80 and further to 187 MT in 2003-04 (Table 3.3)[6]. Initiation of the green revolution in developed regions, where consumption needs of foodgrains were already nearly met, led to large expansion in marketed surplus and government stocks. The success of green revolution, particularly in North-West part of India, turned the country to a net exporter of foodgrains during most of the years since mid-1990s. As Table 3.3 shows government has all along being an active participant in procurement of marketed surplus from farmers and distribution to consumers through its own net work.

Table 3.4 reveals that total area under principal crops has increased marginally in recent decades, though area allocation within agriculture has changed from foodgrain crops in favour of non-foodgrain crops such as cotton, edible oils and sugar cane. Index number of agricultural production has more than doubled after 1970-71. This increase in output can be mostly attributed to rise in yield per hectare rather than expansion of area. In particular, the area under foodgrains has changed very little since 1980-81 and foodgrains output growth in recent decades is almost entirely due to increase in yield per hectare. Area under non-foodgrain crops has increased by about 30 percent in 2003-04 over 1970-71 while yield per hectare of these crops has increased by 60 percent during the same period.

[6] Gross production of foodgrains has crossed 200 million tones in recent years since 12.5 per cent allowance is made for seed, feed and waste in official figures.

Table 3.3: Net Production, Imports, Availability, Procurement and Public Distribution of Food Grains (Million Tonnes)

Year	Net Production	Net Imports	Net Availability	Per capita net availability per day (grams)	Procurement by government	Public Distribution
1960	67.5	5.1	71.2	449.6	1.3	4.9
1970	87.1	3.6	89.5	455.0	6.7	8.8
1980	96.0	-0.3	101.4	410.4	11.2	15.0
1990	149.7	1.3	144.8	476.4	24.0	16.0
1995	167.6	-2.6	166.7	495.4	22.6	15.3
2000	183.6	-1.4	168.3	454.4	35.6	13.0
2001	172.2	-2.9	157.0	416.2	42.6	13.2
2002	186.1	-6.7	189.5	494.1	40.3	18.1
2003	152.9	-5.5	170.1	437.6	34.5	22.5
2004 P	186.8	-6.5	183.6	463.3	41.1	N.A.

Notes: Production figure relate to agricultural year (July to June); 1960 figure relate to 1959-60 and so on. Net production has been taken as 87.5% of gross production, 12.5% being provided for seeds, feed requirement and waste. Net availability includes changes in stocks with traders, producers and consumers and so is not strictly representative of actual consumption. P: Provisional.
Source: Economic Survey, 2005-06

Table 3.4: Index Number of Agricultural Production, Area and Yield (1981-82 =100.0)

	1970-71	1980-81	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05
Agricultural Production								
Foodgrains	87.9	104.9	143.7	158.4	172.5	140.4	172.1	164.7
Non-foodgrains	82.6	97.1	156.3	178.2	189.5	167.2	196	203.7
All Commodities	85.9	102.1	148.4	165.7	178.8	150.4	181	179.2
Area Under Principal Crops								
Foodgrains	97.9	99.8	100.7	95.4	96.7	89.7	93.9	94.7
Non-foodgrains	91.1	99.4	120	127	127.6	115.6	119.9	130.8
All Commodities	96.3	99.7	105.2	102.7	103.9	95.7	99.9	103
Yield Of Principal Crops								
Foodgrains	93.2	105.1	137.8	152.8	164.1	143.2	168.3	160.8
Non-foodgrains	91.4	99.2	128	133.2	139.1	126.3	149	149.7
All Commodities	92.6	102.9	133.8	144.4	153.3	135.7	160	156

Source: Economic Survey, 2005-06.

Box 3.1: Government Intervention in Foodgrains Market

Government of India has been intervening in the foodgrains market for several decades. Since the poor spent bulk of their total expenditure on foodgrains, availability of grain at a cheap price was critical for protecting and improving their real level of living. Cheap 'wage good' was also considered important to realize surplus for industrialization. In the pre-green revolution period when excess demand prevailed in the foodgrains market, terms of trade was generally favourable to agriculture. Government intervention then was primarily aimed at procuring grains from farmers at lower than market price and distributing the same to urban consumers at a cheaper rate. As he excess demand situation vanished in the post-green revolution period, there was a need to ensure that prices did not fall below the normal cost of production and the producers received an adequate return. To reconcile the twin objectives of protecting the consumers as well as the producers, government intervened in the market the form of large-scale foodgrains procurement from the farmers in the surplus region at a minimum support price. The increased availability of grains from procurement operations helped to extend the distribution mechanism to rural areas and initiate the food for work programme that provided employment to the poor (discussed later). Foodgrain market intervention was thus one of the instruments that tried to ensure that the gains from the green revolution were shared by both producers and consumers.

The procured grains, mostly rice and wheat, by a public sector enterprise called Food Corporation of India are partly used to maintain a buffer stock and partly distributed through a wide net work of public distribution system (PDS) at fair prices. If market price of foodgrains rises beyond a 'desirable' limit in some years, the government releases grains to the market in a selective manner to control the price. The government incurs large amount of food subsidy due to such intervention. The public distribution system has recently been targeted towards the poor with differential prices for the poor and non-poor. The procurement operations have not been equally effective in all parts of the country. The minimum support price system has introduced distortions in crop area allocation in favour of rice and wheat in states like Punjab, which pioneered the Green Revolution but faced ground water constraints in later years.

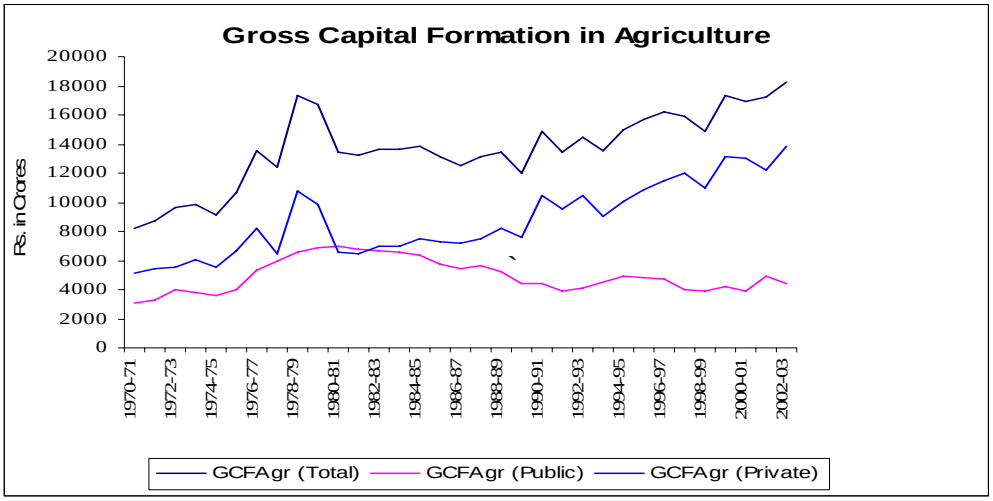
The change in cropping pattern is largely due to changing demand pattern, though farmers' allocation decisions have been partly distorted due to the bias in agricultural price support policy in favour of rice and wheat in the green revolution areas. Huge buffer stocks of cereals built up by the government reaching 60 million tonnes in some months in 2002 points towards limited future consumption growth potential for cereals and the need for further agricultural diversification. It is normally observed that household demand for foodgrains reaches a near plateau like situation after certain income level. Engel's Law propounded long ago states that, as income of a typical household rises, it demands less of foodgrains and more of other food items in proportionate terms. Total foodgrains demand in India will continue to grow slowly in future in response to population pressure and upward mobility of low-income groups.

Rao (1992) mentions several important implications of the green revolution and associated new technology. First, while the new agricultural technology has been land and labour saving, application of other inputs like irrigated water, fertilizers and pesticides has increased substantially. Second, use of HYV seeds and intensive fertilizer has led to an increase in response of output to water. This has led to a greater instability in output for a given variability in rainfall or moisture conditions. Third, the green revolution, which started in relatively less labour abundant areas such as Punjab and Haryana, induced mechanization and expected large labour absorption due to land-saving nature of the technology did not take place. Notwithstanding large out-migration of labour from less developed and highly populated area like Bihar to Punjab, there was on the whole a fall in elasticity of employment with respect to agricultural output.

Fall in public investment in agriculture during 1980s and subsequent near stagnation after the reforms has been a matter of concern (Figure 3.3). Chadha (2003) shows that public sector accounted for 54 per cent of agricultural total gross capital formation in 1980-81, but this share fell to about 30 per cent in 1990-91 and further to a quarter by end of 1990s. He points out that this has led to net irrigated area remaining stagnant around 53-55 million hectares since mid-1990s. Agricultural public investment in the NAS mostly covers expenditure on medium and major irrigation systems. Chand (2002) constructs a broad series of rural investment by extending it to include investment in rural roads,

markets, storage and rural electrification which are important for agricultural development. He finds that this broad series also indicate a declining trend. Figure 3.6 shows that total capital formation in agriculture has picked up in recent years primarily due to private investment component. Despite this investment increase, agricultural growth has stagnated which reflects rising capital intensity of agricultural production. One reason for the capital cost increase is the depletion in water table in areas dependent on ground water.

Figure 3.3: Gross Capital Formation in Agriculture
by Public and Private Sectors at 1993-94 Prices



Source: Based on National Account Statistics Back Series1950-51 to 1992-93 and National Account Statistics, 2005.

Consumption of fertilizers has increased steadily from 2.2 million tones in 1970-71 to 12.5 MT in 1990-91 and to 18.3 MT tones in 2004-05. Average fertilizers consumption was about 97 kg per hectare in 2004-05 with large variations among states 192 kg for Punjab and 37 kg in Rajasthan. Government provides large amount of fertilizer subsidy by way of meeting the difference between administered selling price and cost of production. It stood at about Rs.16000 crores in 2004-05 which translates to about 3 per cent of agricultural GDP. Public irrigation is also highly subsidized and irrigation charges are not able to recover even the operating cost. There is a realization that the fall in agricultural public investment noted above is partly caused by diversion of a growing

volume of resources to input subsidies. Overall, the agricultural sector would benefit by reallocating public expenditure from input subsidies to investment. In recent years, government has initiated measures to streamline and control the subsidies.

Indian farmers have traditionally tried to supplement their crop income with earnings from livestock produce, which also safeguards against large year-to-year fluctuations in crop income. India has become the largest producer of milk in the world in recent years. Accounting for about a quarter of GDP in agriculture and allied sector, livestock has recently emerged as the most important sub-sector within it. The income generated in this sector gets more equitably distributed since livestock ownership is skewed in favour of small farmers in India. Further, women account for a majority of the workforce in livestock.

Given the large variability in climate and soil conditions in the country, India is suitable to produce a wide range of high value, but employment intensive, horticulture crops including floriculture. Commercial horticulture targeting the exports markets with good profit opportunities could attract educated entrepreneurs to agriculture and change the nature of agricultural operations. It is necessary to develop modern infrastructure such as cold storage for preservation, refrigerated transportation, grading and quality control for these emerging sectors.

3.4 Industry

Industrial deregulation and trade reforms introduced changes in the overall environment and organisational structure in Indian industry which has witnessed considerable structural changes after reforms. Competition has also forced Indian firms to give priority attention to improvement in product quality, reliability and durability. Foreign technology purchase has expanded significantly in the form of equity linked technology collaboration route.

Industrial growth rate has remained sluggish for most of the years after the reforms except for the period 1994-97. Industrial growth was led by the capital goods sector during the 1980s, but not so after the 1991 reforms. The capital goods sector saw the highest tariff reduction and consequent import expansion led to its slowdown after the

reforms. The industrial growth process has been more evenly dispersed across consumer goods, capital goods and intermediates in the post-liberalization period (Figure 3.4).

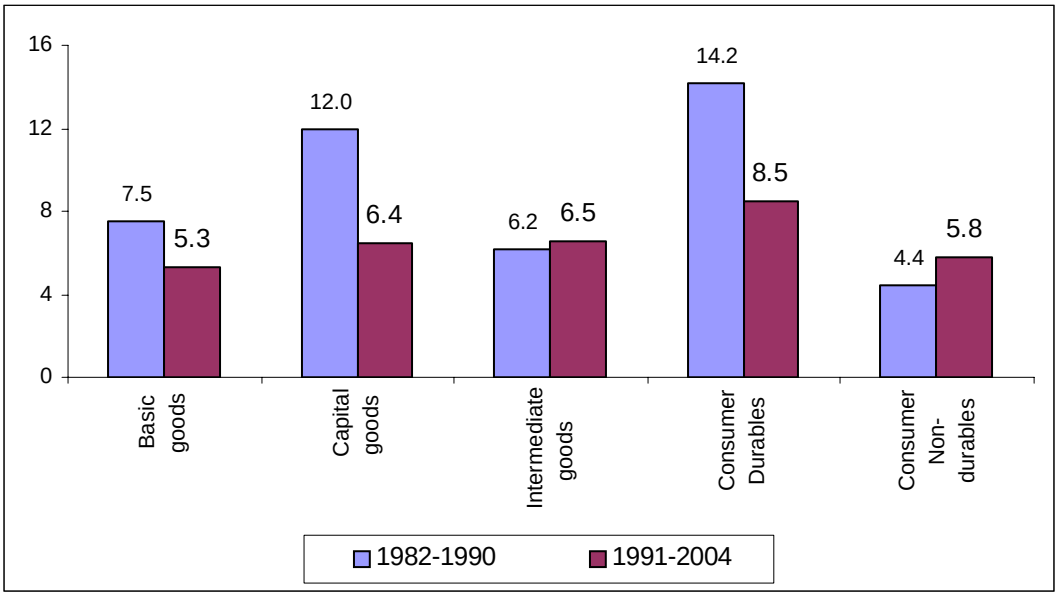


Figure 3.4: Average Annual Growth Rates in Index Number of Industrial Production by Used Based Sectors

Source: Own estimates.

There is a large unregistered sector employing less than 10 labourers (20 labourers without electricity) that is engaged in manufacturing activities in India. Labourers are normally informally employed in the unregistered sector. Its share has fluctuated in a narrow range of 32.5 and 35.5 per cent of total manufacturing GDP since 1993-94 (Figure 3.5). Thus, the earlier anticipation of large push in growth of unregistered sector after the reforms has not been evident from the national accounts data. The construction sector has grown faster since 1992 than during the earlier period. Improvement in road connectivity across major cities as well as within rural areas has received priority in public investment in recent years. Being a labour intensive sector, growth in construction sector has been a major factor behind expansion in demand for labour.

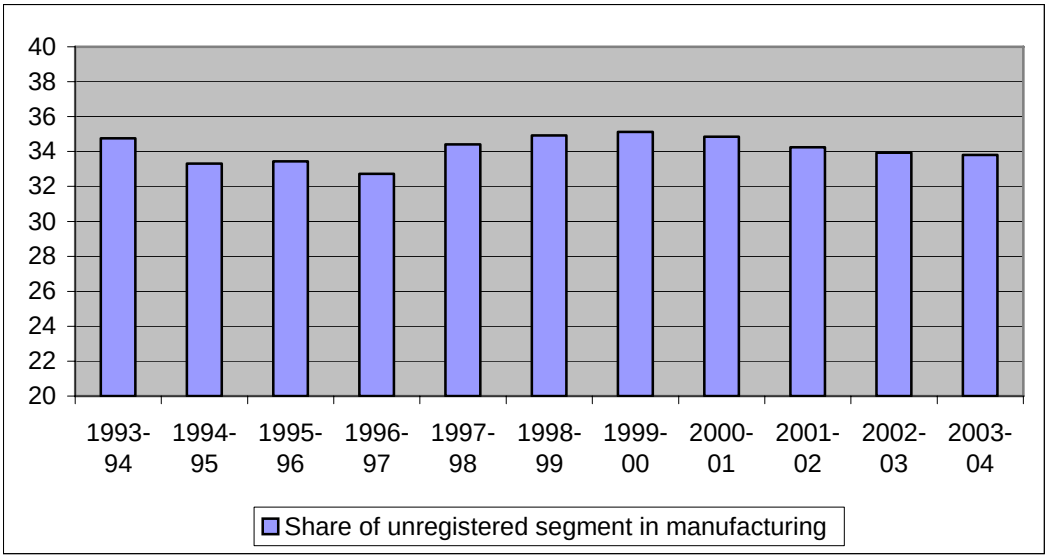


Figure 3.5: Percentage Share of Unregistered Sector
in Total Manufacturing Value Added
Source: Based on National Accounts Statistics.

3.5 Service

The service sector has been growing at a faster rate than agriculture or industry during recent decades. It now accounts for more than half of total GDP generated in the country. Figure 3.6 depicts the average growth rates for the various components of the service sector during 1980s and 1990s. Communication has been the fastest growing component within the service sector during the post-liberalisation phase. With an average growth rate of about 19 per cent per annum, its contribution to real GDP has increased from 1.2 per cent in 1993-94 to 4.3 per cent in 2003-04. Other service sectors that have recorded higher growth since 1992 than during the 1980s include trade, hotels and restaurants, transport (other than railways) and other services.

On the other hand, there was deceleration in growth of public sector dominated sectors like railways, and banking and insurance. The service growth during 1980s was led by banking and insurance sector which, despite the deceleration, continues to witness relatively high growth due to the entry of private players in the financial market during post-liberalization phase. Public administration and defense sector continues to grow after reforms at about the same rate as in 1980s. While government placed restrictions on expansion of new government jobs in the 1990s due to overstaffing, it had to spend more in real terms on existing employees due to salary hike.

Questions have been raised about the sustainability of service led growth in India. Virmani (2004) examines whether the share of services in Indian GDP is excessively high compared to other countries at similar stage of development. He undertakes a cross-country regression of the average share of service during 1992 to 2000 on the average per capita GDP at constant PPP and derives a normative value of the service share corresponding to different income levels. He finds India's actual share of service sector in GDP is almost normal in relation to the predicted value; it was just one percentage more during this period.

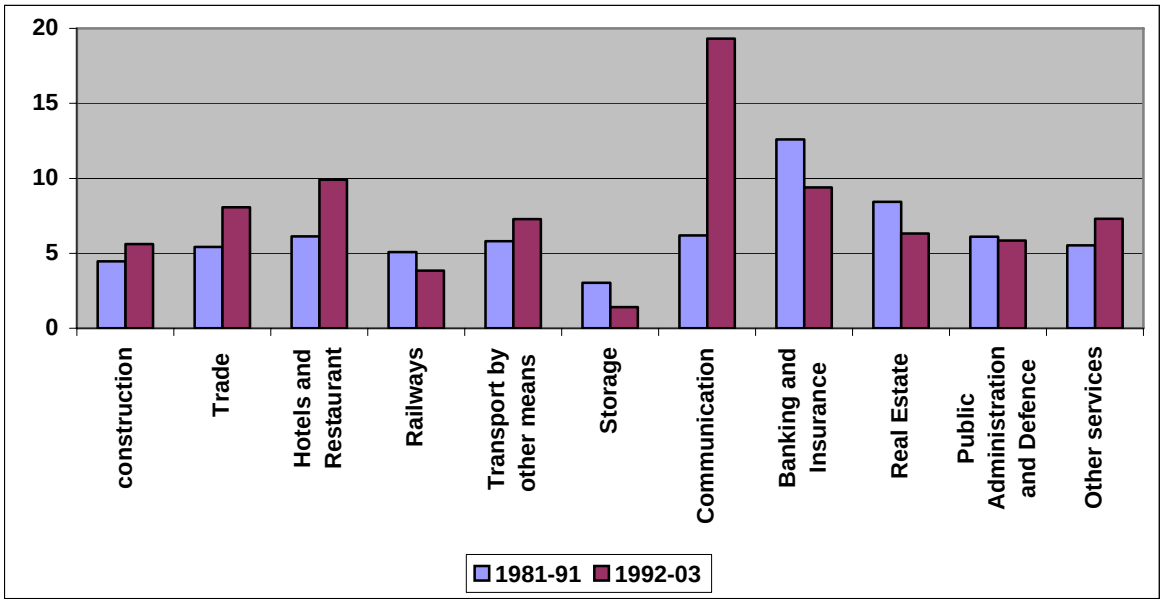


Figure 3.6: Annual average growth rates in construction and service sectors

While the service sector growth in India seems to be in line with current international experience, the divergence of income and employment pattern does pose a main problem for India. With majority of population still depending on agriculture, the need for higher growth of agriculture and agro-based industries cannot be denied for poverty reduction. It is pertinent here to draw attention to interdependence of sectors from a growth perspective. Analysing input-output coefficients during 1968-69 to 1993-94, Sastry et.al (2003) report that the dependence of agriculture on industry and service sectors as suppliers of raw material has gone up, but dependence of industry or service on agriculture has gone down. Thus, agriculture has stronger backward linkages with

industry and service sectors. They find that agricultural sector has a larger effect on overall growth because of stronger demand linkages with other sectors in the economy. Despite its larger share, service sector growth does not play a major role in inducing growth in other sectors.

3.6 Sources of Growth

Expansion in volume of production could take place either by increasing the quantum of inputs used in the production process or by increasing the productivity of the inputs used. Productivity growth is recognized as a major source of economic growth in various economies. Total output growth can be decomposed into contributions of changes in inputs and in total factor productivity. When contribution of changes in various inputs to change in output is accounted for, the residual is attributed to total factor productivity (TFP) change.

Several studies show that the agricultural sector in India has realised fairly large TFP growth. A study by Rosengrant and Evenson (1995) estimated that TFP accounted for as much as half of total agricultural growth (1.13 of 2.25 per cent) during the period 1957-86. The effect of TFP was larger during the green revolution period 1967-76. They found research and extension expenditure and irrigation expansion had positive and significant effect on TFP. Using data for 1950-51 to 1988-89, Dholakia and Dholakia (1992) have estimated that contributions of labour, capital and land to output growth have been 36.6, 17.8 and 5.2 percent respectively while TFP contributed the rest 40.4 per cent. For the organized manufacturing sector, on the other hand, Ahluwalia (1991) found that there was hardly any growth in TFP during 1959-1986. Her sub-period wise analysis of TFP growth revealed a turnaround in the positive direction in early 1980s.

Sivasubramonian (2004) estimates sources of economic growth in India using National Accounts Statistics data at constant prices for the period 1950-51 to 1999-2000 for agriculture and non-agriculture (excluding dwelling). For the entire period of the study, Sivasubramonian's estimates show that TFP contributes to 43 per cent of agricultural growth and 19 per cent of non-agricultural growth (Table 3.5). There was a slow down in utilization of labour input during 1990s compared to 1980s. This study indicates a rise in

TFP in both agriculture and non-agriculture during 1980s, but virtually no change between 1980s and 1990s, the pre- and post-reform decades. There has been a big fall in utilisation of labour input in both agriculture and non-agriculture during the 1990s. The negative TFP contribution during the 1970s in agriculture is due to weather effect.

Table 3.5: Relative Contribution of Inputs and TFP to GDP Growth
in Agriculture and Non-agriculture

	Agriculture				Non-agriculture			
	1950 to 1999	1970 to 1980	1980 to 1990	1990 to 1999	1950 to 1999	1970 to 1980	1980 to 1990	1990 to 1999
Labour Input	34.47	74.00	25.95	18.52	30.78	50.23	30.72	18.77
Capital Input	17.42	40.00	15.74	23.57	49.39	49.32	40.03	52.66
Land Input	5.30	9.33	3.21	1.35	0.35	0.23	0.00	0.00
Total Factor Productivity	42.80	-23.33	55.10	56.57	19.48	0.22	29.25	28.57

Notes: 1950 denotes financial year 1950-51 and so on.
Non-agriculture excludes income from dwelling units.
Source: Sivasubramonian (2004)

From poverty reduction point of view, TFP growth in agriculture assumes special importance. In the conventional growth accounting framework, the Solow "residual" approach is a 'catch all' measure of technological progress, missing inputs and their quality. Moreover, it does not distinguish technological progress (shift in production frontier) and technical efficiency (efficiency with which factors are used given the technical frontier). Kalirajan et. al (2000) advocate that it is important to distinguish the two and decompose output growth into technical efficiency change, technological progress and input growth. They found that input utilization was the dominant source of agricultural output growth during 1985-95 in all major states in India. While contribution of technical efficiency to output growth continued to range mostly between 20-35 per cent during 1985-90 and 1991-95, contribution of technical progress was small at about

12-15 per cent during 1985-90 and fell further to 5-9 per cent for most states during 1991-95. Among the major states, contribution of technical change to agricultural growth was the highest in Punjab in the range of 15 to 19 per cent. It was negative in some of the poorest states such as Bihar, Madhya Pradesh and Orissa. These results seem to support Bhalla's (1995) claim that Indian agriculture has lost the dynamism generated during the Green Revolution.

3.7 Inter-state Income Growth

Table 3.6 gives growth rates in GSDP for two periods: 1980-81 to 1992-93 and 1993-94 to 2003-04.[7] Some states like Bihar, Gujarat, Karnataka, Kerala, Madhya Pradesh and West Bengal have improved their growth performance in per capita terms while Punjab, Rajashthan and Uttar Pradesh are among the major losers. Andhra Pradesh, Haryana, Karnataka, and Rajasthan have achieved more than 5 per cent growth in both the periods. The case of Rajasthan is particularly noteworthy because it was among the poorest states in India till 1970s. In per capita terms, however, Rajasthan's growth performance has been moderate owing to disadvantage of higher population growth. The Southern states, on the other hand, do better in per capita terms because of demographic advantage.

It is now generally agreed that inter-state income disparity in growth performance of the states has increased after the reforms. EPW Research Foundation (2003) reports that the coefficient of variation (CV) in growth rates of GSDP rose from 30.52 per cent during 1980-81 to 1990-91 to 41.1 per cent during 1993-94 to 2000-01 and that of per capita GSDP from 50.20 to 68.04 during the same period. It also shows that Gini coefficient, a popular measure of inequality, has been rising over the years. Taking all the states together, it moved up slowly from 20.9 in 1980-81 to 22.8 in 1991-92, but has moved sharply thereafter to reach 29.2 in 2000-01. Krishna (2004) finds that all the major states improved their growth rates during 1980s compared to 1970s, but the change in growth rate during 1990s was not uniform leading to an increase in inter-state variability. He finds high volatility in growth rates in state income.

[7] The second period uses the new national accounts data series which starts with 1993-94 and broadly corresponds to post reform period. The methodology used for state income data are not strictly comparable with each other or with the national income estimates.

Table 3.6: Growth Rates in real GSDP and Per Capita GSDP for Major States

States	GSDP		Per Capita GSDP	
	1980-81 to 1992-93	1993-94 to 2003-04	1980-81 to 1992-93	1993-94 to 2003-04
Andhra Pradesh	5.54	5.48	3.41	4.30
Assam	3.57	2.68	1.15	1.08
Bihar	3.78	5.21	1.55	2.19
Gujarat	4.94	6.01	2.84	3.55
Haryana	6.00	5.79	3.71	3.25
Karnataka	5.39	6.86	3.42	5.57
Kerala	3.91	4.74	2.26	3.92
Madhya Pradesh	4.40	4.06	1.64	1.77
Maharashtra	6.09	4.81	3.81	2.73
Orissa	3.83	3.88	1.69	2.33
Punjab	5.04	4.05	3.19	2.29
Rajasthan	6.35	5.19	3.83	2.24
Tamil Nadu	5.27	4.96	3.84	3.61
Uttar Pradesh	4.65	3.70	2.34	0.89
West Bengal	4.73	6.79	2.43	5.42

Source: Own estimates. GSDP: Gross State Domestic Product.
Note: Computed using semi-log regression equations. All values are significant.

3.8 Implications on Poverty

What are the implications of the above pattern of GDP growth for poverty in rural and urban areas? A number of important implications may be pointed out. Foodgrain self-sufficiency achieved in mid-seventies has become a critical milestone for meeting the food needs of the people. The surplus produced in later years generated debate on whether the surplus was as a result of lack of purchasing power among lower income groups. The government has responded by expanding the subsidised public distribution system, which was largely urban centric till then, to rural area. The vocal group among the affluent sections of society became more sensitive to occurrence of starvation deaths even when huge government grainaries were overflowing with foodgrains. There have

been occasions when the Supreme Court acting on public interest litigations directed the government to rush food to pockets where media reported starvation deaths[8].

While direct impact of green revolution on labour absorption has not been large, its its indirect impact on agricultural labourers, who constitute bulk of the poor, has not been unimportant. Agricultural price policy was an important instrument used to protect the poor. As discussed earlier, the government has deliberately attempted to check the rise in prices of foodgrains, specially in drought years. Another important contribution of green revolution to the poor has been through the expansion of public works programmes made possible by increased foodgrain stocks held by government. Such programmes along with limited migration of labour from underdeveloped regions (e.g., Bihar) to developed region (e.g., Punjab) helped in narrowing down of the disparity in rural real wage rate across states.

A number of studies starting with Ahluwalia (1978) have found that an increase in agricultural output per head of rural population reduces poverty in rural areas. Economic growth in general has been found to have a poverty reducing effect. Phases of relatively high economic growth have generally been found to be phases of faster reduction in poverty. Ravallion and Datt (1996) examined the effects of sectoral composition of growth and reported that primary and tertiary sector growth reduced poverty in both rural and urban areas, but growth of secondary sector did not lead to significant poverty reduction.

The liberalisation measures were advocated on the grounds that they would lead to higher growth and faster removal of poverty. The justification for this could be traced to India's own experience since mid-1970s. Given the low per capita growth and the near invariance of distribution parameter till mid-1970s, there was no trend decline in incidence of poverty in India. The fall in poverty incidence was visible after mid-1970s when the economy moved up to a phase of higher economic growth of 5 per cent or above. This indicates the role of a critical minimum growth to make an impact on poverty[9].

[8] While right to food is not a fundamental right in the Indian constitution, courts have interpreted it liberally in recent years via right to life.

[9] Panda (1999) argues for a critical minimum growth for poverty reduction.

How does the poor benefit from the growth process? The poor households are generally landless labourers or farmers with marginal land holdings or village artisans with traditional crafts. Manual labour service is the major means of earning for them. They earn wages from hired out labour service or imputed wages from self employment. Agricultural growth, specially when brought about by area increase or multiple cropping, would typically expand the employment opportunities for the poor. A second channel is through the increase in real wage rate as demand for employment grows from various sectors of the economy. Employment expansion and wage rate rise are certainly the most direct channels through which the poor benefit. Once these two effects operate, other effects start flowing in. As opportunities for gainful earnings expand, they might acquire small productive assets or invest in skill formation and human capital. These effects could be substantial for the poor after a particular stage of improvement.

An analysis of household level data from NSSO 54th round reveals the importance of irrigation for income and livelihood of the poor (Table 3.7). It has been found to be a major factor in poverty reduction, measured by any of the three indicators, across all states. More importantly, irrigation makes considerable difference to incidence of poverty among STs and SCs as well. Increased focus is needed in rainfed areas for realizing future agricultural growth potential through new programmes like watershed development aiming at soil and water conservation[10]. Complementary policies such as development of input and credit supply markets and extension services backed by agricultural research to suit region specific needs play critical roles to enable farmers to adopt suitable crops and seed varieties. In this context, fall in public investment in agriculture since 1980s noted earlier has been a matter of concern. About 60 percent of crop area remains unirrigated and mostly falls under arid and semi-arid zones where poverty is highly concentrated at present. Public investment is needed for large-scale promotion of irrigation in several parts of the country.

[10] Hazell and Haggblade (1991) show that effects of agricultural growth on rural non-farm sector are higher in irrigated areas than in rain fed areas.

Table 3.7: Head Count Ratio among Households Possessing Irrigated and Non-irrigated Land: By States and Social Groups

State	Irrigated					Non-Irrigated				
	ST	SC	OBC	OTHERS	ALL	ST	SC	OBC	OTHERS	ALL
Andhra Pradesh	15.98	9.51	5.26	2.03	5.38	25.30	18.15	11.28	4.33	12.63
Assam	48.04	0.00	18.17	23.00	24.75	38.92	45.69	40.92	39.86	40.57
Bihar	49.44	43.61	31.17	15.73	28.59	63.03	61.70	51.16	37.87	53.13
Gujarat	19.78	2.88	9.98	3.20	7.72	30.68	17.93	11.71	5.96	15.01
Haryana	0.00	16.68	2.91	0.72	1.79	0.00	17.05	15.32	2.19	12.44
Karnataka	14.79	12.50	8.14	4.27	7.43	27.57	27.52	19.35	14.20	20.37
Kerala	15.62	0.00	5.35	0.00	2.82	26.99	16.25	11.45	5.76	10.15
Madhya Pradesh	41.97	28.80	20.47	8.78	22.08	61.10	46.38	42.43	15.00	46.42
Maharashtra	27.35	16.32	15.07	9.66	12.99	46.42	32.81	24.06	14.42	26.44
Orissa	42.35	28.31	23.95	15.84	25.24	76.04	56.22	43.27	26.27	52.36
Punjab	0.00	0.66	5.91	0.43	1.04	18.82	12.54	7.42	0.90	9.36
Rajasthan	18.51	18.97	10.48	5.90	12.26	34.94	19.79	9.91	6.13	14.65
Tamil Nadu	83.91	31.36	12.22	2.18	15.25	30.60	31.78	15.67	13.53	21.51
Uttar Pradesh	20.42	39.83	31.37	15.90	28.26	55.48	47.56	37.27	21.45	36.73
West Bengal	34.58	23.88	10.36	17.72	19.42	53.12	39.35	24.56	34.81	36.85
All-India	29.11	31.24	22.66	10.41	19.79	51.37	37.02	27.76	20.12	30.71

Source: Own estimates

Manufacturing growth has not improved after the reforms in 1991 except for a brief period. Within manufacturing, unregistered (informal) segment is a major source of income for the poor. Share of unregistered sector is nearly stagnant in total manufacturing and as such overall manufacturing growth does not seem to have become more pro-poor after economic reforms.

Higher growth of the construction sector in the post reform period is a welcome development for the poor as this sector has high employment elasticity[11]. Indeed, rural construction activity has been partly induced by wage employment programmes undertaken as part of poverty reduction strategy discussed later.

So far as service led growth pattern is concerned, elasticity of poverty with respect to service income is lower than agricultural income. Thus, impact of service sector on poverty reduction might be felt mostly through the volume effect. Moreover, demand for

[11] See, Table 3.11 below.

certain types of services like retail trade, road transport and personal services could potentially generate substantial income for low-income groups.

It is worth noting here the likely impact of the recently emerged and expanding information technology (IT) sector where India is seen to have comparative advantage in the world market. The poor may not derive much direct impact from this sector to the extent it leads to demand for skilled employees like computer programmers. The poor sections, however, could derive more benefit from information technology enabled services (ITES) like the call centres that employ large numbers of semi-skilled workers.

We have outlined here the potential implications for poverty. We return to some of these issues in a later chapter to examine the impact on poverty over time along with other macroeconomic factors.

3.9 Employment

Employment status and earning capacity of the labour force are important determinants of poverty. Besides, social stability gets affected when a large number of persons remain unemployed and do not have the feeling of doing some thing worthwhile. The labour force in India consisted of 363 million people, 270 million rural and the rest urban in 1999-2000 (Table 3.8). Agriculture continues to be the dominant source of employment in rural India. Bhalla and Hazell (2003) note that agriculture accounts for 73.9, 63.9 and 60.2 per cent of total employment in 1972-73, 1993-94 and 1999-2000 respectively. The share of agriculture in employment has been falling very slowly compared to its share in GDP (discussed in section 3.2). With 60 per cent of the workforce producing a quarter of GDP in 1999-2000, productivity of a typical worker in agriculture was one-fourth of his counterpart in non-agriculture.

Employment has been an important consideration among the economic policy makers in India, though it has not occupied a central place in the development plans. In the initial decades of development planning, unemployment was not visualized as a serious problem. Achievement of the target of maximum possible economic growth, with a special consideration for the labour intensive small sector sector, was generally expected to help in substantial reduction of unemployment. Growth of the small scale sector was encouraged by reserving production of certain products in this sector and providing fiscal

concessions. Except for this consideration, employment generation was effectively treated as a residual resulting from the growth target and production structure[12]. As it turned out, the targeted growth rates were not realized and labour force grew faster than expected. Both these factors contributed to rapid expansion of unemployment. Special employment generation programmes were introduced by the government with special focus on the low income groups. While the Seventh Five Year Plan (1985-90) and Ninth Five Year Plan (1997-2002) stated that productive employment generation as one of the major objectives of the plans, the overall approach adopted was again by and large residual with emphasis on growth of selected sectors. It is against this background that the recently adopted National Rural employment Guarantee Act (discussed later) turns out to be the most important policy initiative on the employment front.

According to NSSO data, incidence of open unemployment as measured by the usual status of labourers has gone up for both males and females in rural areas during 1993-99, though it has fallen in urban areas. In 1999-2000, open unemployment rate per thousand labour force was 21 for males and 15 for females in rural areas, but it was higher in urban areas at 48 for males and 71 for females (Table 3.9). In absolute terms, 19.5 and 7.1 million persons remained unemployed in rural and urban areas respectively in 1999-2000 (Table 3.8). The unemployment rate is much higher on a current daily status basis at more than 70 per thousand of the labour force and includes a part of the underemployed. According to the Vision-2020 report prepared by the Planning Commission, the size of the labour force was 375 million in 2002 and it is expected to grow at about 2 per cent per annum.

[12] See, Papola (2006).

Table 3.8: Employment and Unemployment Levels in India
(Current Daily Status (CDS) Basis) (Million Person years)

	1983	1993-94	1999-00
All – India			
Population	718.20	894.01	1003.97
Labour Force	261.33	335.97	363.33
Workforce	239.57	315.84	336.75
Unemployment rate (%)	8.30	5.99	7.32
No. of unemployed	21.76	20.13	26.58
Rural			
Population	546.61	658.83	727.50
Labour Force	204.18	255.38	270.39
Workforce	187.92	241.04	250.89
Unemployment rate (%)	7.96	5.61	7.21
No. of unemployed	16.26	14.34	19.50
Urban			
Population	171.59	234.98	276.47
Labour Force	57.15	80.60	92.95
Workforce	51.64	74.80	85.84
Unemployment rate (%)	9.64	7.19	7.65
No. of unemployed	5.51	5.80	7.11

Source: National Sample Survey Organisation

Table 3.9: Unemployment Rates in India (per thousand)

	Male			Female		
Year	US	CWS	CDS	US	CWS	CDS
Rural						
1999-	21	39	72	15	37	70
1993-	20	31	56	13	29	56
1987-	28	42	46	35	44	67
1983	21	37	75	14	43	90
Urban						
1999-	48	56	73	71	73	94
1993-	54	52	67	83	79	104
1987-	61	66	88	85	92	120
1983	59	67	92	69	75	110

Source: NSSO; Notes: US = Usual Status; CWS= Current Weekly Status;
CDS= Current Daily Status

Table 3.10: Distribution of Workforce by Sectors (%)

Sector	1983	1993-94	1999-2000
Rural			
Primary	81.5	78.2	75.1
Secondary	9.0	10.2	11.6
Tertiary	9.5	11.5	13.3
Total	100.0	100.0	100.0
Urban			
Primary	14.8	12.3	7.9
Secondary	33.9	32.2	32.3
Tertiary	51.3	55.5	59.8
Total	100.0	100.0	100.0

Radhakrishna and Rao (2006)

Radhakrishna and Rao (2006) find that share of the agricultural sector in the rural workforce has fallen from 83 per cent in 1977-78 to 76 per cent in 1999-2000. Diversification of rural employment from farm to non-farm sector reflects growing commercialization of the rural economy. The authors report that annual growth rate of workforce in non-agriculture has slowed down from 4.3 per cent during 1977-88 to 2 per cent during 1988-2000 leading to overall decline in rural employment.

According to Chadha and Sahu (2002), employment growth rates in both rural and urban segments of the economy has slowed down by 1 percentage point during 1993-94 to 1999-2000 compared to those witnessed during 1983-84 to 1993-94 (Table 3.11). The fall in employment growth during the 1990s has been mainly due to agriculture and allied sectors which witnessed not only fall in output growth but in labour absorption per unit output as well. Employment volume has fallen in absolute terms in mining and quarrying and public utilities that are mostly in the public sector and associated with over-employment. In contrast, there was acceleration in employment growth in construction, transport, financial services and real estate business – sectors which also had high income growth.

Table 3.11: Growth of Employment (Usual Status)(% per annum)

	Rural		Urban	
	1983-93	1993-2000	1983-93	1993-2000
Agriculture and allied	1.38	0.18	1.54	-3.4
Mining & Quarrying	3.84	-2.28	4.15	-3.71
Manufacturing	2.14	1.78	2.21	1.83
Electricity, Gas and Water Supply	4.7	-5.65	4.46	-4.19
Construction	5.18	6.43	6.2	6.26
Trade, Hotels and Restaurants	3.72	1.18	3.94	5.54
Transport, Storage & Communication	4.58	7.29	2.9	3.91
Finance, Insurance, Real estate	5.99	2.51	5.63	7.05
Public administration, community and personal services	3.13	0.32	4.16	0.13
Total Non-agriculture	3.23	2.31	3.54	2.96
All sectors	1.75	0.66	3.27	2.27

Source: Chadha and Sahu, 2002

Table 3.12: Elasticity of Employment with respect to Income

	1983-1993	**1993-1999**
Agriculture	0.48	0.01
Mining & Quarrying	0.61	-0.49
Manufacturing	0.32	0.20
Electricity, Gas and Water Supply	0.48	-0.52
Construction	1.27	1.00
Trade, Hotels and Restaurants	0.67	0.38
Transport, Storage & Communication	0.55	0.56
Finance, Insurance, Real estate	0.49	0.68
Public Administration, community services	0.63	0.02
All Sectors	0.36	0.13

Source: Chadha and Sahu, 2002

From poverty reduction policy point of view, one worrisome factor is that elasticity of employment with respect to income growth has fallen sharply in recent years (Table 3.12). Given the low employment-income elasticities, very high income growth of about 9% per annum would be needed for solving the unemployment problem within a reasonable time horizon according to Vision-2020 document prepared by the government. Bhalla and Hazell (2003) suggest that agricultural growth in rainfed areas could help considerably to promote employment generation. The primary sector would

continue to employ most of the work force for some time. There is large scope for employment generation in crop diversification and afforestation. The Vision-2020 document lays emphasis on growth of vegetables, horticulture, agro processing, garment, small-scale industry, afforestation, trade, tourism and construction sectors for employment growth. But, a proper strategy of non-farm employment growth must be devised to shift work force from agriculture and to reduce the gap in labour productivity between agricultural and non-agricultural sectors.

There is a trend rise in the share of casual workers in total employment according to the NSSO data (Table 3.13). The casual workers are among the most vulnerable sections of the society. Most of them are finding refuge in the unorganized sector which scores low in respect of earnings and working conditions. Even in the organized sector, the trend has been towards increasing 'casualization, contractualization and informalization'. Producers in some cases prefer subcontracting to restrict regular employment to evade labour market legislations.

Table 3.13: Distribution of Workers (Usual Status) by Category of Employment (per cent)

Year	Category of employment		
	Self Employment	Regular Salaried	Casual
1977-78	59.9	13.9	27.2
1983	57.4	13.9	28.7
1987-88	56.0	14.4	29.6
1993-94	54.8	13.2	32.0
1999-00	52.9	13.9	33.2

Source: Sharma (2004)

Table 3.14: Growth of Average Daily Wage Earnings (at 1993-94 Prices) in Rural India

	Rural Males		Rural Females	
	1987-88 to 1993-94	1993-94 to 1999-00	1987-88 to 1993-94	1993-94 to 1999-00
Public Works	1.55	3.83	1.90	5.04
Casual Labour in Agriculture	1.36	2.80	2.34	2.94
Casual Labour in Non-Agriculture	1.33	3.70	1.32	5.07
Casual Labour in all Activities	0.77	3.59	1.95	3.19

Source: Sharma (2004)

While analyzing the National Council of Applied Economic Research survey results, Shariff (1999) reports that labourers in rural India get 160 days of wage employment on an average in a year. He notes: "Public policy should aim at improving entitlement through creation of a larger number of employment days …Implementation of minimum wages alone will not benefit wage workers" (P. 81). In this context, one positive feature for the poor noted by Sharma (2004) and others is that real wage rate in various categories of employment has risen considerably faster during 1993-99 than during 1987-93 (Table 3.14). Radhakrishna and Rao (2006), too, provide evidence of acceleration in real wage rate during the same period on the basis of NSSO data and note that the loss in employment might have been compensated by rise in wages from the point of view of total earnings by labourers. Based on information available in Agricultural Wages in India, Deaton and Dreze (2002), however, report a deceleration in real wage rate from about 5% per annum during 1980s to 2.5% during 1990s[13]. As examined in a later chapter, a change in real wage rate has a strong influence on poverty.

Rise in real wage is the combined effect of several factors: agricultural productivity growth, cropping intensity increase due to irrigation, expansion of non-farm activities and large scale employment creation in public works programmes. Public works programmes are supposed to adhere to minimum wage rates prescribed by the state governments and are no longer negligible players in rural labour market. Evaluation studies do not always find adherence to the minimum wages due to payment of piece wage, the explicit or implicit wages in public works are closer to the prescribed minimum than agricultural wages in the lean season[14]. The size of the public works programmes has grown to a large extent over time and naturally put an upward pressure on agricultural wages. This brings us to public provision of employment through direct programmes aimed at poverty reduction.

[13] So far as its impact on level of living of the poor is concerned, they note: "… even the reduced growth rate of agricultural wages in the nineties, at 2.5 per cent per year, points to significant growth in per capita expenditure among the poorer sections of the population".

[14] The legislation on minimum wage also applies to agriculture too, though its implementation becomes difficult in practice. Real wages are, however, not fixed in formal or informal sector due to changes in consumer prices. Revision of minimum wage takes place with lag of several years. Overall, however, real wage flexibility is limited to play a market-clearing role.

3.10 Public Employment Programmes

Government of India has undertaken two types of programmes to directly enhance income earning opportunities for the poor during the last three decades. These are: (a) wage employment programmes, and (b) self-employment programmes. There have been several programmes under each category targeted at specific groups[15].

The Food for Work Programme started in mid-1970s to provide public works to the poor by making use of a portion of the large stocks of foodgrains available with the government due to its market intervention operations (discussed earlier in Box 3.1). A good part of the wage was paid in kind in terms of foodgrains and hence the name 'food for work'. Various other wage employment programmes like the National Rural Employment Programme, the Jawahar Rozgar Yojana, have been undertaken in later years to provide the rural unemployed or underemployed poor with supplementary wage employment particularly during the lean agricultural season through public works like village roads, ponds, irrigation wells and school buildings in or around their village. Part of the wages continue to be often paid in kind. The distinction of one programme from the other could be in terms of coverage, mode of financing, sharing of responsibility between the Central and state governments. Given the large overlapping nature of several programmes, attempts have been made in recent years to merge them for administrative and monitoring conveniences. The Sampoorna Grameen Rozgar Yojana (SGRY) and the National Food for Work Programme are currently in operation and both are open to all rural poor who are in need of wage employment and willing to carry out manual unskilled work. The programmes normally target to cover a specified proportion of beneficiaries from the scheduled tribe (ST) and scheduled caste (SC) groups as well as from women. The size of these programmes has expanded substantially over the years. SGRY-I & SGRY-II (two variants) together provided 748 and 764 million mandays of

[15] Some of these programmes are named after one political leader or another.

employment during 2002-03 and 2003-04 in rural areas. Yet, the size greatly falls short of the need. Financial resources required to cover all the needy could be significantly larger than those currently available. A new law has come into force in 2005 to guarantee 100 days of employment to every rural household (see, Box 3.2).

Box 3.2: National Rural employment Guarantee Act, 2005

Unlike many developed countries, India does not have an effective social security system to fall back on when employment opportunities do not exist for all through normal market forces. The Indian Parliament has enacted a law in 2005 that makes it mandatory for the government to provide at least 100 days of wage employment in a financial year to every household whose adult members are willing to undertake unskilled manual work at minimum wage rates enacted for agricultural labourers. The new scheme would subsume the current programmes like Sampoorna Grameen Rozgar Yojana and National Food for Work Programme. The state governments would be in charge of implementing the programme, though Central government would make the needed resources available to them. If an applicant were not provided work within 15 days by the state government, he/she would be entitled to a daily unemployment allowance of about a third of the wage rate. This amount would be paid by the state government itself and cannot be charged to the Centre. It is envisaged that Standing Committees set up by the local governments would supervise and monitor the scheme with State and Central advisory councils. India witnessed a heated debate on the desirability of such a scheme. Opponents mainly pointed to the huge cost (might involve one or two per cent of GDP) and large leakages in such programmes. Despite these problems, the new act would no doubt go a long way in providing the poor with minimum employment support and thereby reducing poverty.

One of the main merits of wage employment programme lies in its 'self-selection' character - those who need manual work at minimum wage would demand it. As manual unskilled work would not normally attract the non-poor, by and large the poor would benefit from such schemes. Hence, it is believed that wage employment programmes are more effective in reaching the poor. Self-targeting nature means that the administrative burden of selection is avoided. Another advantage presumably is 'self-liquidation' in the sense that demand for such programmes would face a natural death when all those willing to work are gainfully employed in the natural growth process of the economy. The self-liquidation feature would be effective only if the wage rate in public works programme is not higher than the minimum paid in other economic activities. But, normal functioning of the economy might not lead to full employment even when growth rate is fairly high. While advocating an employment strategy, Minsky (1986) says creation of an 'infinitely elastic demand' for labour could be possible only by government at a floor or minimum wage and operating at 'a base level during good times and expanding during recession'.

Among the self-employed programmes, one programme that attracted the attention of many observers of the poverty scene was the Integrated Rural Development Programmes (IRDP) started in 1980 to enable poor households to cross over the poverty line through self-employment. The government played a role in the direct provision of productive assets and inputs or financial assistance for their procurement with a major subsidy component. The activities under IRDP were initially mostly in the primary sector like irrigation or animal husbandry, but extended later to several areas like weaving, food processing, trade and other services.

IRDP has been redesigned and renamed as Swarnajayanti Gram Swarojagar Yojana (SGSY). It encourages the poor potential beneficiaries to be organized as micro enterprises called Self Help Groups (SHGs)[16] who receive group bank credit and government subsidy. The SHGs in turn lend to individual members or undertake some group activities. Peer group pressure works for repayment of loan even in the absence of collaterals. During 2002-03 and 2003-04, about one million beneficiaries have received assistance under SGSY per year.

Targeting in poverty reduction programmes is not perfect and many non-poor households get selected. Even after allowing for leakages, these schemes have significantly contributed to the upliftment of rural poor households. Proper identification of viable projects could contribute to the success of poverty reduction through self-employment. Marketing support for their produce is another area where the poor need help from agencies in nearby urban centres. Local governments in both rural and urban areas are in positions to take into consideration the local needs and local resource availability. Involvement of local government in the design and monitoring of projects have generally been found to be more fruitful. Public-private partnership through involvement of the non-government organizations (NGOs) with good track record has also contributed to viability of self-employment programmes.

In urban areas too, there are special schemes for the poor for wage employment and self-employment in micro enterprises. Training and skill creation for the unemployed persons to enable them for self-employment has been another major component of urban poverty reduction schemes. Similarly, some programmes aim at facilitating construction of

[16] Many non-governmental organizations have also been active participants in the SHG initiatives.

dwelling units for rural and urban poor and improvement of sanitation and environment. There are also area development programmes in operation for deserts and drought prone areas meant to help the naturally disadvantaged areas. Although the focus in some of these programmes is not directly the poor as such, their target groups comprise bulk of the poor.

3.11 Impact of Privatisation[17]

Restructuring of public enterprises, including privatization, has been an important component of the economic reform process in India. Over the years, 242 Central Public Enterprises (CPEs) and 1068 State Level Public Enterprises (SLPEs) have involved an investment of about Rs 7,10,000 crore. They provide employment to about 4 million people. The accumulated losses of these enterprises are approximately Rs 97,000 crore. The net worth of the CPEs has been estimated to be Rs 2,41,846 crore and that of SLPEs Rs 44,631 crore.

The impact of privatization on incidence of poverty is not a straight forward one. Private firms are basically motivated by profit maximization. Privatization could reduce poverty if it contributes to economic growth without major adverse effect on distribution. But, as Bayliss (2002) notes the positive impact of privatization on growth has not yet been empirically established. Low income groups, either as consumers or producers, may also benefit from privatization or restructuring process if services provided by the public sector utilities are made available in a reliable manner and at affordable rates. Entry of private players in Indian telecom sector has increased access to its services, offered a variety of products, registered sharp decline in tariff charged to consumers, and improved customer relationship. On the other hand, power sector reforms in India have not led to perceptible increase in competition and consumers have not benefited from service.

Privatization has attracted opposition mainly due to the fear that it would lead to reduction in employment through large scale retrenchment of workers[18]. Table 3.15 reveals that the aggregate employment declined by as much as 48 per cent in the SLPEs.

[17] This section is based on the background paper "Privatisation Policy" by R.K. Mishra.

[18] Another criticism of the privatization process is that public assets are being sold for a song in some instances.

Andhra Pradesh, Delhi, Haryana, Gujarat, Karnataka, Orissa, Punjab and Rajasthan contributed a major share to this decline. The labour force in these states comprised not only permanent labour but also ad hoc and muster roll labour. Most states did not follow the concept of manpower planning and therefore the actual labour force exceeded the 'sanctioned strength'.

Table 3.15: Aggregate Employment Trends in State Public Enterprises

States	97-98	98-99	1999-00	2000-01	2001-02	2002-03	2003-04
Andhra Pradesh	351928	350465	345938	332551		303806	287276
Assam	57024	55933	55297	-	-	-	-
Delhi	-	-	-	-	58550	50070	45347
Gujarat		142399	139685	138675	137860		
Haryana					53762	51995	42678
Karnataka	172309	162710	168256	156255			
Kerala		120687	125814	128021	124661		
Maharashtra	296331				241040	243561	
Orissa				40878		20460	
Punjab				118624	104519		100478
Rajasthan			92255	85109		69976	67783
Tamil Nadu	169000	16900	167646	167576	247708		
Total	1046592	849094	1094891	1167689	1000101	739868	543562

Source: CAG Reports and BPE Reports of the concerned states.

Reduction in employment in case of CPEs has not been as large as in that in SLPEs, as Table 3.16 reveals. Employment in disinvested CPEs as a proportion of total CPE employment has remained nearly constant after the reforms. Thus, employment reduction has taken place even in enterprises that were not subject to disinvestments. But, the growth in employment in CPEs noticed prior to the reforms has been halted after the reforms.

Table 3.16: Employment in Disinvested and Non Disinvested CPEs

Year	Employment in all 240 CPEs	Employment in CPEs that were Disinvested in 1991 and later	Employment in CPEs where disinvestment did not occur until 2001	Employment in Disinvested CPEs as percent of total CPE employment
1981-82	1940000	501258	1438742	25.84
1982-83	2020000	525569	1494431	26.02
1983-84	2070000	540738	1529262	26.12
1984-85	2110000	554359	1555641	26.27
1985-86	2150000	565804	1584198	26.32
1986-87	2210000	582571	1627429	26.35
1987-88	2210000	583006	1626994	26.38
1988-89	2210000	588385	1621615	26.62
1989-90	2240000	588797	1651203	26.29
1990-91	2220000	590595	1629405	26.60
1991-92	2180000	588830	1591170	27.01
1992-93	2150000	586313	1563687	27.27
1993-94	2070000	572158	1498742	27.64
1994-95	2060000	561989	1498011	27.28
1995-96	2050000	552611	1497389	26.96
1996-97	2010000	541825	1468175	26.96
1997-98	1960000	530373	1429627	27.06
1998-99	1900000	519668	1380332	27.35
1999-00	1850000	496651	1353349	26.85

Source: Department of Public Enterprises, Government of India, New Delhi, Public Enterprise Survey: Vol. 1,1981-82 to 2000-01

In order to minimize the adverse employment impact of privatisation, the government has formulated a social safety net programme (SSNP). The SSNP includes retrenchment or voluntary retirement benefits, and a rehabilitation component that aims at helping the affected employees to acquire necessary skills to start new vocations. The employees are provided with psychological counseling, if needed, to absorb the trauma of loss of assured livelihood and to face the new challenges. The training agencies and the concerned public enterprises also sponsor the applications of the affected employees seeking financial assistance to commercial banks. State governments have often faced problems in providing SSNP with adequate funding. A portion of disinvestments proceeds may be allocated to a national rehabilitation fund to ensure adequate safety net mechanism so that workers losing jobs do not fall back into poverty.

3.12 Conclusion

National income growth in India was low at about 3.5 per cent per year for about three decades till late 1970s. Economic growth picked up to above 5 per cent in 1980s following an expansionary fiscal policy and a moderate dose of liberalisation. The market friendly trade and industrial reforms started since 1991 helped the growth rate to pick up further to about 6 per cent per annum.

Structure of GDP has changed substantially towards industry and services over the decades. Agriculture has lost its dominant position and accounted for about a fifth of GDP in 2005. Yet, as much as 60 per cent of the work force still depends on agriculture as a major source of earning. Consequently, labour productivity in agriculture is about a forth of that in non-agriculture. The success of the green revolution in parts of the country helped not only in achieving self sufficiency in food grain production but also in building up of huge stocks in government warehouses. The industrial growth process has been more evenly dispersed across use-based sectors after liberalisation. But, contrary to earlier expectations, a big jump in share of unregistered manufacturing has not been evident after the reforms. The recent growth in India has been mostly driven by the service sector which now accounts for 52 per cent of GDP.

Stagnation in agricultural growth in recent years has been a major cause of concern from the point of view poverty reduction. A higher agricultural growth would be needed for faster poverty reduction. While Indian economy did benefit from total factor productivity growth in earlier periods, evidence of its occurrence after the reform is at best mixed.

Income elasticity of employment has fallen during the 1990s and proportion of casual labour has increased. The social safety net programme may be strengthened to ensure that workers losing jobs do not fall back to poverty. Rise in real wages has been a positive feature of the labour market. Government has undertaken several wage employment and self employment programmes to supplement the income earning opportunities for the poor. The new act guaranteeing 100 days of wage employment to every rural household in a year is a welcome move and, when implemented fully, could significantly contribute to poverty reduction.

Chapter 4

Fiscal Developments[19]

4.1 Introduction

Fiscal policy is a major instrument of government intervention for poverty reduction. Successive governments in independent India have regarded improvement in the living condition of the poor as one of the major objectives of their fiscal policy. Governments have recognized their direct responsibility in provision of basic needs of life like nutrition, health, sanitation and education along with provision of employment for livelihood of the poor as discussed in the last chapter. These interventions are not undertaken simply as a means to achieve other social objectives, but have been viewed as ends in themselves. The logic of intervention thus goes beyond the externality argument of fiscal intervention for poverty reduction. Sensitivity to the conditions of the poor obviously matters in a democratic setup of government where every citizen has one vote. Yet, governments in a developing country like India face many problems - some of which are their own making while others are external - in reorienting government expenditure leading to a wide gap between promises and practice. Overall, India has been successful in avoiding famines involving large-scale deaths but not persistent under-nutrition, moderate hunger and even starvation deaths in some regions.

4.2 Trends in Major Budgetary Parameters

Table 4.1 shows the trends in major fiscal parameters of the central government since 1990-91. The total expenditure of the central government as a proportion of GDP fell by 2 percentage points in the post-reform years indicating lower level of government activity. The 1991 reform package undertaken by India envisaged reduction in fiscal deficit to sustainable level for ensuring macroeconomic stability and fiscal correction measures received overriding priority over other considerations. Thus, the fall in government total expenditure relative to GDP was in line with the stabilisation objective. But, concern had been expressed in several quarters on the composition of expenditure. Capital expenditure of government dropped after 1991 and remained lower by about 2%

[19] This chapter is written by Manoj Panda and Seeta Prabhu.

of GDP for about a decade. It has partially recovered since 2001. Share of public sector in total capital formation in the economy dropped from about 45% prior to reforms to less than 25% in 2002-03 (Figure 4.1). There is a need for a rethinking on this trend particularly in view of the infrastructure development needs in backward regions in East and Central India that now contain most of poor. Public sector investment in infrastructure and social services plays a critical complementary role to attracting private investment apart from inducing private investment through demand generating multiplier process.

Table 4.1: Receipts and Expenditure of Central Government
(As percent of GDP)

	1990-91	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05[1]
Revenue receipts (net)	9.7	9.4	9.2	8.9	9.4	9.6	9.8
Tax revenue (Net of State Shares)	7.6	6.6	6.5	5.9	6.5	6.8	7.2
Non-tax revenue	2.1	2.7	2.7	3.0	2.9	2.8	2.6
Revenue expenditure	12.9	12.9	13.3	13.3	13.8	13.1	12.3
Revenue deficit	3.3	3.5	4.1	4.4	4.4	3.6	2.5
Capital receipts	5.6	6.0	6.4	7.1	7.4	7.5	6.2
Capital expenditure	4.4	2.5	2.3	2.7	3.0	4.0	3.6
Total expenditure	17.3	15.4	15.6	15.9	16.8	17.1	16.0
Fiscal deficit	6.6	5.4	5.7	6.2	5.9	4.5	4.1
Primary deficit	2.8	0.7	0.9	1.5	1.1	0.0	0.0
Sources of Tax Revenue							
Direct	1.9	3.0	3.3	3.0	3.4	3.8	4.2
Personal income tax	0.9	1.3	1.5	1.4	1.5	1.5	1.5
Corporation tax	0.9	1.6	1.7	1.6	1.9	2.3	2.7
Indirect	7.9	5.8	5.7	5.1	5.3	5.3	5.5
Customs	3.6	2.5	2.3	1.8	1.8	1.8	1.8
Excise	4.3	3.2	3.3	3.2	3.3	3.3	3.2
Service tax	0.0	0.1	0.1	0.1	0.2	0.3	0.5
Total	10.1	8.9	9.0	8.2	8.8	9.2	9.8

Note: [1] Provisional
Source: *Economic Survey 2005-2006*, Government of India

Central government total expenditure has picked up in recent years and has remained in the range of 16-17% of GDP. Revenue expenditure has increased faster than GDP partly due to substantial increase in salary and pension for government servants since mid-1990s. The consequent rise in revenue deficit implied that the government borrowed for

meeting its current expenditure and not for productive investment that could generate capacity to repay the loan. According to Acharya (2001), effects of the Fifth Pay Commission for government employees constituted 'the single largest adverse shock' to public finance in the 1990s and led to an up-turn in fiscal deficit in 1996-97. His estimates indicate that compensation to employees (including pension) by Central and State governments accounted for about half of the fiscal deficit increase of 3 percentage points of GDP during 1996-1999.

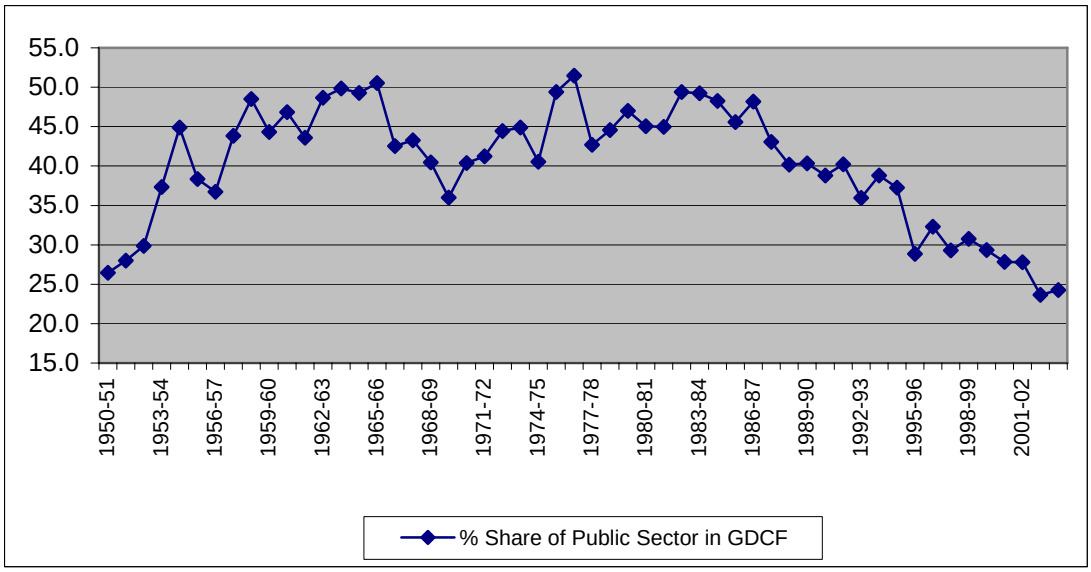


Figure 4.1: Share of Public sector in Gross Domestic Capital Formation

Interest payments, which stood at 4.1 per cent of GDP in 2004-05, continue to be the largest single item of Central government expenditure because of high debt burden of the past. Fiscal deficit level dropped after 1991, but picked up during mid-1990s. Fiscal deficit of Center and State governments together stood close to 10 per cent of GDP in 2003-04 and constitutes a major slippage of the reform process. The Central government has succeeded in eliminating primary deficit since 2003-04. Primary deficit is calculated as fiscal deficit net of interest payments and reflects government's efforts in managing relatively non-committed expenditure compared to its revenue. While several measures were undertaken over the years to improve the fiscal health of the economy, a lot yet remains to be done. A noteworthy recent development has been the passage of the Fiscal Responsibility and Budget Management (FRBM) Act 2003, which stipulates that fiscal

deficit and revenue deficit must be corrected as per laid down rules. This is expected to reduce the interest burden to moderate level in future.

Total tax revenue as a proportion of GDP fell during 1990s but has displayed an upward trend in recent years. The fall in tax revenue seems to be an inevitable medium run cost of customs duty reduction and rationalization of customs and excise as part of the reform process. Tax burden on the manufacturing sector was disproportionately large compared to its share in GDP. Agriculture is in the state list and is virtually exempted from income tax. The service sector was not in the tax network till 1993-94, though it was fast growing and its contribution to the national income growth was maximum. Attempts have been made to widen the tax base with the introduction of the service tax and to extend its coverage gradually. An important development on the revenue side has been that direct taxes currently contribute to about 45% of Central tax revenue as against 20% in 1990-91. This compositional change in tax structure is certainly in the right direction as direct taxes are generally regarded as progressive and less distortionary in their impact than indirect taxes.

In several respects, state governments in India together play as important role as the Central government. Their total expenditure currently amounts to 19 per cent of GDP (Table 4.2). Capital expenditure of state governments dropped during the reform period. Ability of the state governments to intervene on poverty related programmes gets dictated by their fiscal health. Pay revision in late-1990s created more fiscal stress for state governments as revealed by rise in revenue deficit from 0.9 per cent of GDP in 1990-91 to 2.5 per cent in 2000-01. The extent of the stress on state budgets could be judged from the fact that salary and pensions take away 80-90 per cent of revenue receipts by most of the states since mid-1990s. They are not in a position to pay their matching shares of 10-30 per cent in several centrally sponsored development schemes (see, Box 4.1). A major development at the state level is the adoption of value added tax (VAT) by most states from 2005-06. A two-tier VAT has been adopted for almost all goods: 4% for basic necessities and 12.5% for others except for a few goods. The Central sales tax would also be phased out. The VAT would help to remove cascading tax burden. Tax revenue is expected to rise as compliance improves under VAT.

Table 4.2: Receipts and Disbursements of State Governments
(As percent of GDP)

	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05[1]
Total receipts	16.0	16.6	16.4	17.4	19.1	18.9
Revenue receipts	11.7	11.3	11.2	11.4	11.5	12.3
Tax receipts (including share in Central pool)	7.8	8.0	7.9	8.1	8.2	8.6
State's own tax revenue	5.3	5.6	5.6	5.8	5.8	6.0
Non-tax receipts	3.8	3.3	3.3	3.3	3.2	3.7
Total disbursements	16.0	16.5	16.5	17.2	19.1	19.0
-Revenue	12.6	13.8	13.8	13.7	13.7	13.7
-Capital	2.4	2.1	2.2	2.9	4.4	4.6
Revenue deficit	0.9	2.5	2.6	2.2	2.2	1.4
Gross fiscal deficit	3.3	4.2	4.2	4.2	4.5	4.0

Source: Economic Survey 2005-06, Govt. of India.
[1] Revised estimate (RE)

The states receive about 30 per cent of total tax collection by the Centre from the shareable common pool. The Central government decides allocation of fiscal transfers to State governments mostly on the basis of recommendations of the Finance Commission set up at intervals of five years and the Planning Commission, a permanent body. Fiscal transfers are in principle guided by equity considerations along with other factors and states with larger proportion of poor population generally receive higher per capita transfers within comparable categories[20]. Such transfers in totality add to general resources of the states and portions received on poverty considerations are neither separately shown nor earmarked for poverty reduction programmes. Thus, while fiscal transfers help to raise the overall resource position of poorer states to spend more on poverty reduction programmes, it does not ensure that intra-state allocation of resources is in favour of poorer regions or poorer population. Intra-state allocation is at the discretion of state government and not based on clearly defined principles.

[20] Some border states enjoy special category status and receive larger transfers.

Box 4.1: Federal System of Government and Poverty Related Programmes in India

India has adopted a three-tier federal system of government:

- Central Government with jurisdiction over the entire country
- State Governments with jurisdiction over the respective states
- Local Governments at the district, sub-district, municipality and village level (often referred to as Panchayat Raj Institutions or PRIs).

Division of power and responsibilities among the Centre and the States has been spelt out by the constitution in what is known as the central list, the state list, and the concurrent list where both the Centre and the States are responsible). In case of any conflict in legislative measures related to concurrent list by the Union Parliament and a State Legislative Assembly, the former overrides the latter.

So far as poverty related programmes are concerned, the Central government sets up national priority, designs strategies and formulates programmes for poverty reduction and social sector development. The Centre meets full costs of Central schemes. It also sponsors several schemes to State governments who are normally in charge of their implementation. The Centre does not meet the full cost of Centrally Sponsored Schemes (CSS). States may have to match 10-50 per cent of the cost depending upon the scheme and status of the state. Even when Centre meets the full cost, the states may have to bear the administrative and incidental costs (e.g., transport of foodgrains). The ability of a state to take advantage of CCS may be constrained by its fiscal position and schemes with relatively high matching contribution might turn out to be regressive in nature if poorer states are not in a position to pay the matching share.

State governments have major direct responsibility for budgetary allocation as well as administration in major social sectors like education, health, water supply and sanitation. Agricultural development too is mostly responsibility of the state. In areas of direct poverty reduction programmes, a State government may, in addition to CSS, design its own scheme for poverty alleviation depending on state specific need; e.g. the Employment Guarantee Scheme started in Maharashtra and the mid-day meal scheme started by Tamil Nadu. In administering the CCS, the State government decides district-wise allocation of resources within the state, monitoring the progress and also coordinates with PRIs and non-governmental organizations (NGOs) where required. Some Central Schemes are directly handled by district level agencies like the District Rural Development Agencies.

State governments mostly determined responsibilities of local level governments till early 1990s, when the Constitution was amended to make PRIs more effective. PRIs are increasingly getting involved for identification of poor households and execution of local level poverty reduction schemes so that local needs, preferences and resources could be taken into consideration.

The combined budgetary position of Central and state governments is given in Table 4.3 after taking into account inter-governmental transfers. Total government disbursement of funds was 29 per cent of GDP in 2004-05. Total tax revenue by Centre and states was 15.8 per cent of GDP and non-tax revenue another 4.2 per cent. Revenue deficit and gross fiscal deficit stood at 4.1 and 8.4 per cent of GDP in 2004-05.

Table 4.3: Combined Budget of Central and State Governments
(As percent of GDP)

	1990-91	2000-01	2001-02	2002-03	2003-04	2004-05[1]
Total disbursements	28.7	28.1	28.3	28.8	28.9	29.0
Total receipts	26.7	28.2	28.2	28.9	29.0	28.1
Revenue receipts	18.6	18.0	17.5	18.5	18.8	20.0
Tax receipts	15.4	14.5	13.8	14.6	15.0	15.8
Revenue deficit	4.2	6.6	7.0	6.7	5.8	4.1
Gross fiscal deficit	9.4	9.5	9.9	9.6	8.5	8.4

Source: *Economic Survey 2005-2006*, Government of India.
1. Revised estimate (RE)

4.3 Fiscal Policy and the Poor

Fiscal policy affects the poor through several channels. Fiscal stability is an important component of overall macroeconomic stability. Large fiscal deficit might spill over into balance of payments deficit and precipitate the risk of an external crisis, as it is believed in some quarters to have happened during the 1980s. The poor are hard hit by the stabilization programmes when a crisis occurs. The current fiscal deficit level in India is almost similar to the level that prevailed during the 1991 crisis, yet it has not got precipitated in an external crisis. Ahluwalia (2002) explains that this is due to a neutralizing shrinkage in demand effect from the private sector, which witnessed only a marginal rise in investment-GDP ratio while savings of the private sector rose substantially by 4-5 percentage points of GDP during 1990s.

Government allocates a good proportion of its budgetary resources for traditional public services like security, law and order, justice, general administration that are in principle

available to all citizens at the time of need either free of cost or at nominal charge[21]. The poor, however, may not be able to make use of many of these services to the same extent as the rich since access to public services involve private costs[22] like traveling to nearby town and foregoing earnings which the poor cannot afford easily. Moreover, there is also an issue of sensitizing the bureaucracy to provide the haves and the have-nots with equal attention. The latter might have to pay several visits for services that the former can avail in one or two visits, at times with payment of quick or convenience money. If private access costs for government services could be made affordable to the poor, they could benefit more from various government services.

Next, fiscal policy influences overall growth that in turn affects all sections of the population including the poor. Restructuring of government expenditure in favour of physical and social infrastructure is critical for long-term growth, while Keynesian demand generation could help short-term growth if there is excess capacity. Public provision of infrastructure could increase the prospects for attracting private investment and play a crowding in role. Large volume of committed expenditure such as interest and pension payments often constraints the ability of the government to support growth. Volume of the rest of expenditure, classified in budget as primary expenditure, does not necessarily indicate capability of the government to support growth. State governments in India currently spend as much as 80-90 per cent of their plan expenditure to meet salary bill and are left with very limited flexibility to undertake new programmes on their own. In this sense government salary bill is also a quasi-committed expenditure, though some of the employees could be redeployed to new activities.

Fiscal restructuring is needed to expand efficient provision of infrastructure services for higher growth. The effectiveness of the growth channel on poverty reduction would be largely determined by distributional factors including demand for unskilled or semi-skilled employment. As discussed in the previous chapter, India's recent track record on employment front has not been particularly encouraging. From poverty reduction point of view, regional distribution of infrastructure investment has emerged as an important

[21] Budgetary allocation in the year 2003-04 for administrative service was of the order of Rs. 446 billion and another Rs. 55 billion under the head organs of the state. Together they accounted for 1.8 per cent of GDP. Defence services accounted for another 2.3 per cent of GDP.

[22] See, Srivastava et. al, 2004.

dimension in India with concentration of poor in Eastern and Central India in recent years. The Centre needs to intervene more directly for infrastructure development of this region.

4.4 Social Sector Expenditure

One area of budgetary allocation that plays a crucial role for welfare of the poor is the so-called social sector expenditure that enhances opportunities for human development and helps poverty alleviation in the long run. Based on budgetary classification of government expenditure, it is a normal practice to consider social sector expenditure as sum of expenditure under heads Social Services and Rural Development; the former includes health, education, family welfare, water supply, nutrition and sanitation and the latter includes directly targeted poverty reduction programmes like employment generation programmes discussed in the previous chapter. While Central government is involved in designing and making financial provision for Centrally Sponsored Schemes (CSS), the states play the important role in execution apart from having their own programmes (see, Box 4.1).

Table 4.4 gives expenditure on social sectors by Centre and State governments. Social sector expenditure accounts for 6-7 per cent of GDP and about a quarter of total government expenditure. As a percentage of GDP, social sector expenditure fell during the post reform period. It was the highest in 1989-90 at 7.2 per cent which has not been recovered till 2003-04, though 2002-03 value was very close to that in 1989-90. As a proportion of total government expenditure, social sector expenditure fell during first half of 1990s, recovered during second half but has fallen again since 2000-01. Social sector expenditure in real per capita terms fell for three years after the reforms, but has been on a rising trend since mid-1990s. On this count at least, government has not been insensitive to social sector issues, although social sector expenditure has not always been keeping pace with changes in GDP or total government expenditure.

Expenditure on rural development component, which includes poverty reduction programmes, is close to 1 per cent of GDP. Efficacy of these programmes has varied depending on types of programmes and regions. Leakage of the benefits in case of targeted poverty reduction programmes to the non-target group is a major problem.

Overall, income benefits to the poor seem to be more in employment programmes relative to other programmes. Mid-day meal schemes in schools as well as special nutrition programmes for women and children (Anganwadi) have been found to be successful in many parts of the country. Sen (1996) makes a very persuasive argument to include government development expenditure variable in equations determining poverty over time. He finds per capita real development expenditure to have a significant poverty reducing effect.

Table 4.4: Social Sector Expenditure by Central and State Governments

Year	As % of GDP	As % of total govt. expenditure	Per capita expenditure (in Rs) in 1993-94 prices
1987-88	7.26	25.29	564
1988-89	6.95	25.22	585
1989-90	7.17	25.19	635
1990-91	6.78	24.85	623
1991-92	6.58	24.28	599
1992-93	6.38	24.06	594
1993-94	6.46	24.58	622
1994-95	6.39	25.01	632
1995-96	6.40	25.95	674
1996-97	6.30	26.46	716
1997-98	6.41	26.18	763
1998-99	6.80	26.54	856
1999-2000	6.93	25.96	923
2000-01	6.56	24.83	790
2001-02	6.30	23.42	859
2002-03	7.11	24.78	995
2003-04	6.82	24.36	998

Note: Social sector includes Social Services and Rural Development on both revenue and capital accounts.
Source: Dev and Mooij (2005) till 1997-98. Data from 1998-99 based on Indian Public Finance Statistics, Ministry of Finance, GOI, 2004

Srivatsava et. al (2004) draw attention to several drawbacks of the Centrally Sponsored Schemes like absence of consultation with states while formulating them, arbitrary allocation across states and inability of states with financial problems to pay matching contribution. They find that pattern of grant for Central and Centrally Sponsored Schemes does not have any bearing on either poverty or per capita income of the states. In per capita terms on an average during 1999-00 and 2000-01, it was as low as Rs. 46

and Rs. 57 for poor states like Uttar Pradesh and Bihar respectively compared to Rs.151 for Goa, which is the richest state and Rs. 136 for Karnataka in the middle rung. Rajashthan, which is emerging out of poverty, was among the highest recipients of the grant through out 1990s.

4.5 Subsidies

Central and State governments undertake large scale subsidization of several goods and services in India, the stated objective often being extending a helping hand to the poor and other vulnerable groups in the society. Explicit government budgetary subsidy like those on food, fertilisers and petroleum products is only a small portion of total subsidy. Several subsidies get hidden in the production of intermediate goods and services and quantum of subsidy at the stage of final consumption of goods or service is not clearly known. This creates difficulties in identification of income status of beneficiaries. As Srivastava et. al (2004) maintains extent of benefits derived by different income groups from such subsidies is likely to be broadly in proportion to the final expenditure made on the subsidized items and as such the poor might derive a proportionately small benefit from non-targeted subsidies.

According to 'Economic Survey 2004-05', explicit and implicit subsidies by Central government are of the order of about Rs. 116,000 crores in 2003-04 or 4.2 per cent of GDP. About 42 per cent of this falls in the merit category and the rest in non-merit category. There is general agreement on the need to be revised upwards to reduce subsidies, specially of the non-merit type. However, the division of merit and non-merit goods is not always based on objectivity. For example, classification of higher education into non-merit good could attract criticism on the grounds that abolition or near abolition of subsidy from higher education could result in the rich having exclusive access to higher education, which would not only accentuate future income distribution but could compromise long run efficiency too as the potentially best might be left out of higher education.

Volume of food subsidy jumped from Rs. 2450 crores in 1990-91 to Rs. 25800 crores in 2004-05 (as a percentage of GDP, food subsidy rose from 0.4 in 1990-91 to 0.8 in 2004-05), partly due to enhanced food security measures with higher subsidy rate for the poor.

But, part of the subsidy volume rise is due to high minimum support price for foodgrain procurement and inefficient operationd of Food Corporation of India. It indicates scope for subsidy reduction without hurting the poor. Government has taken some measures recently to make food subsidy more target group oriented by overhauling the public distribution system and introducing differential prices for destitute, poor and non-poor groups.

Several studies have attempted to make a comprehensive estimate of implicit and explicit subsidies by Central and state governments and the estimated figures are much higher at about 12-13.5 per cent of GDP[23] during late 1980s and 1990s (e.g., Mundle and Rao, 1992 and NIPFP, 1997). Sustenance of such high subsidies is not feasible particularly when fiscal deficit levels are high. Some types of subsidies, are of course, justified on grounds of equity among present generation as well as of inter-generational equity (if they help future growth through physical and social capital formation). One problem noted by Srivastava et. al (2004) is that incidence of subsidy cannot be controlled for most of the subsidies when these are input based like those in irrigation, power, manufacturing and transport. In case of subsidized final goods like food subsidy, targeting is possible but poorly administered. Following the dismantling of Administrative Price Mechanism in petroleum products, petroleum subsidies are directly borne by the budget since 2002-03. These have been regarded as non-transparent and regressive in impact.

4.6 State Finance and Social Sector Expenditure

The period of economic reforms has imposed considerable strain on the resources of State governments (Table 4.5 and 4.6). The State governments incur bulk of the spending on social sectors and hence their fiscal health has a direct bearing on the spending on social sectors. While attempting to correct its own fiscal deficit, Central government reduced its grants to the states particularly during the second half of 1990s when Centre's contribution in total revenue receipts of the states fell to 14-16% from 18-20% during early 1990s. Tax revenue of states as a proportion of their revenue receipts, an indicator

[23] Figures taken from Srivastava et. al (2004) based on revised GDP series and might differ from original estimates in the studies.

of tax efforts of States, moved up slightly from 66-69 per cent in pre 1991 years to 69-73 per cent between 1998-98 to 2003-04 due to a rise in the States' own tax revenue. Tax revenue of the states as a proportion of GDP has moved between 8 and 9 per cent without showing any improvement. State governments had to face the burden of salary and pension revision with much difficulty and it has got reflected in plan and development expenditure. Resort to market borrowing contributed to rising interest payments.

Local bodies are expected to carry out several important functions. While the institutions to ensure transfer of resources from the Centre to the States are well established, a similar institutional set-up to ensure transfer of resources from the State government to the local bodies is yet to gather strength. Decentralisation contributes to deepening of democracy by enabling people to participate in the democratic process. In India, the impetus that decentralization received through the 73rd and 74th Constitutional amendments, particularly the one-third representation given to women has been widely commended (UNDP, 2002).

Real per capita expenditures on social services as well as on items of social priority such as elementary education, rural health, public health water supply, sanitation and nutrition have been shown in Table 4.7. At the level of 15 major States level there has been an increase of around 36 per cent between 1988-89 to 1990-91 (period 1) and 1999-00 to 2001-02 (period 2). When rural development expenditures are included, the increase is somewhat lower at 31 per cent. As is to be expected, there are large variations across States. The three low income low human development States of Bihar, Madhya Pradesh and Uttar Pradesh have experienced a decline in real per capita expenditures ranging between 14 and 24 per cent for social services expenditure and between 17 and 24 per cent for social priority expenditure. In the case of social services and rural development taken together, the decline was of a slightly higher magnitude ranging between 17 and 26 per cent.

The highest increase in per capita expenditure was experienced by Gujarat for social services including for the combined expenditure on rural development. Maharashtra recorded the highest increase of about 75 per cent in terms of social priority expenditures which was higher than the 61 per cent increase in expenditure on social services indicating a reorientation towards primary level services. Karnataka and West Bengal

among the middle income states fare relatively better in terms of social services recording increases of over 70 per cent in real per capita terms, whereas in social priority, Karnataka and Andhra Pradesh recorded increases of a similar magnitude. Karnataka and West Bengal also fared better in terms of the combined social services and rural development expenditure recording over 60 per cent increase between the two time periods. Among the low income States, the performance of Orissa and Rajasthan was relatively better with respect to all three categories of expenditure with increases ranging between 39 to 55 per cent over the period under consideration.

The social allocation ratio (SAR), which expresses expenditure on social services as a proportion of total expenditure, indicates a decline of about 5 per cent for 15 major states (Table 4.8). As many as 9 states recorded a decline in the SAR and included low income low human development states such as Uttar Pradesh and Bihar as well as high income states such as Punjab and Haryana and middle income states like Andhra Pradesh and West Bengal. Maharashtra recorded the highest increase in the SAR over the two time periods.

Social priority ratio (SPR), which is the ratio of expenditure on social priority items (listed above) in total social services expenditure, indicates the reorientation towards social priority concerns has also been limited with the ratio remaining virtually stagnant at the level of 15 major States. Seven states recorded decline in the ratio ranging between 5 and 18 per cent. Haryana recorded the highest increase, though the state had a decline in the SAR of about 7 per cent. A similar situation is observed with respect to Andhra Pradesh.

As a result, the human expenditure ratio (HER), which is the ratio of social priority expenditures to GSDP, recorded a marginal decline at the level of 15 major States and sharp declines with respect to many States. Declines were particularly sharp in Goa, Punjab, Tamil Nadu and West Bengal. Haryana, Orissa, Maharahstra, Andhra Pradesh and Rajasthan recorded substantial increases in HER ranging between 15 to 21 per cent.

Even when rural development expenditures are included with social services and expressed as a proportion of GSDP, the situation is not very different. As many as ten States recorded declines in the ratio with Gujarat, Madhya Pradesh and Orissa recording increases ranging between 9 and 19 per cent.

Our focus is on human development for two reasons. The first is that the status of human development needs substantial improvement if the goals of Education for All (adopted in the National Policy on Education in 1986 and reiterated in the revised policy in 1992), and the goal of Health for All (adopted in the National Health Policy of 1983 and reiterated in the revised policy in 2001) and which were to be achieved by 1990 continue to be elusive. The second is that the process of economic reforms adopted by several State governments in the recent past could release resources as the State withdraws from sectors in which it is no longer required to be present and begin to focus on social sectors which are now considered a greater priority for State intervention. This provides an opportunity to adopt innovative strategies for financing of social sectors now than in the past.

Table 4.5: Pattern of Revenue Receipts of State Governments: 1988-89 to 2003-04 (in per cent)

Years	Tax rev/ Revenue receipts	States own tax/ revenue receipts	States own non tax/ revenue receipts	Share in central tax/ revenue receipts	Grants from center / revenue receipts	Total tax revenue/ GDP	Loans from centre/ capital receipts
1988-89	65.72	44.44	15.12	21.29	19.16	8.76	58.27
1989-90	69.15	46.25	15.81	23.17	14.78	8.92	55.98
1990-91	67.08	45.65	13.9	21.43	18.68	8.73	56.24
1991-92	65.32	42.95	14.52	20.92	18.91	8.93	44.04
1992-93	66.36	43.77	14.14	22.66	19.48	8.98	43.55
1993-94	65.02	45.88	14.81	21.33	20.18	8.74	50.11
1994-95	65.53	44.84	17.92	20.69	16.55	8.6	43.39
1995-96	67.51	45.91	16.97	21.6	15.52	8.46	45.81
1996-97	69.05	54.43	16.84	29.01	17.74	8.33	54.58
1997-98	71.15	46.94	14.55	24.22	22.38	8.54	62.43
1998-99	72.53	49.72	13.88	22.81	13.59	7.76	46.12
1999-00	70.60	48.86	14.53	21.74	14.87	8.02	17.13
2000-01	70.90	49.58	13.22	21.32	15.88	8.87	17.00
2001-02	70.52	50.10	12.63	20.42	16.85	8.66	20.86
2002-03	70.91	50.70	12.79	20.21	16.30	8.82	18.80
2003-04	69.14	49.35	12.41	19.79	18.45	9.05	15.10

Source: Reserve Bank of India, State finances A Study of State Finances, Various Issues

Table 4.6: Revenue and Capital Expenditure of State Governments:
1988-89 to 2003-04 (in per cent)

Years	Total aggre-gate disburse ments/ GDP (PER)*	Plan exp./ aggre-gate disburse ments	Revenue expendit ure/ aggre-gate disburse ments	Developm ent revenue expendi ture / revenue receipts	States own tax revenue/ revenue expendit ure	Interest payments / revenue expenditu re	Interest payment / revenue receipts	Pension/ revenue expendit ure
1988-89	16.53	35.39	76.27	73.33	46.96	13.29	12.58	5.01
1989-90	17.53	30.29	78.43	72.13	43.43	12.68	13.50	4.87
1990-91	17.83	30.12	78.80	73.50	42.28	12.85	13.88	4.20
1991-92	18.41	28.67	79.49	72.65	40.13	13.32	14.25	5.20
1992-93	17.73	27.98	80.62	69.67	41.44	13.23	13.97	6.18
1993-94	17.13	27.04	81.34	67.14	44.25	15.20	15.76	5.98
1994-95	17.35	27.22	79.81	64.58	42.48	16.01	16.90	9.39
1995-96	15.99	26.39	81.64	65.69	44.07	16.41	17.10	15.82
1996-97	16.02	26.62	84.79	70.75	48.34	15.92	17.92	8.00
1997-98	16.11	27.19	82.31	67.15	42.48	16.95	18.72	11.86
1998-99	16.18	23.99	83.10	75.11	39.54	17.09	21.49	8.02
1999-00	17.24	22.10	83.62	73.43	38.51	17.78	22.56	9.69
2000-01	18.24	22.14	83.96	70.82	40.47	17.74	21.73	8.73
2001-02	18.13	20.62	83.45	67.87	40.68	19.85	24.45	8.96
2002-03	18.65	20.38	79.78	64.42	42.37	20.91	25.02	9.24
2003-04	21.99	21.12	72.57	66.88	40.49	20.88	25.45	8.77

Source: Reserve Bank of India, State finances A Study of State Finances, Various Issues

Table 4.7: Per Capita Real Expenditure on Social Sectors

	Social Services			Per capita Social Priority Expenditures			Per capita Human Developmental Expenditure (including Rural development)		
	Averages			Averages			Averages		
	1988-89 to 1990-91	1999-00 to 2001-02	% Change	1988-89 to 1990-91	1999-00 to 2001-02	% Change	1988-89 to 1990-91	1999-00 to 2001-02	% Change
Major States	455	618	35.8	202	275	35.9	522	684	31.1
Andhra Pradesh	487	672	37.9	167	284	69.7	580	777	34.0
Bihar	329	251	-23.5	178	149	-16.5	407	308	-24.4
Goa	1791	1999	11.6	644	811	25.9	1856	2052	10.6
Gujarat	583	1085	86.0	271	415	53.3	664	1161	74.7
Haryana	618	741	19.8	215	325	51.0	678	773	14.0
Karnataka	477	822	72.2	192	333	74.0	539	879	63.2
Kerala	584	705	20.7	259	269	3.6	631	835	32.3
Madhya Pradesh	388	335	-13.7	182	151	-16.7	454	379	-16.5
Maharashtra	545	879	61.2	217	379	75.0	582	914	57.1
Orissa	396	577	45.5	186	265	42.4	470	651	38.6
Punjab	726	751	3.4	224	232	3.8	752	766	1.9
Rajasthan	487	753	54.5	271	409	50.8	562	805	43.3
Tamil Nadu	599	843	40.8	274	367	34.3	661	908	37.3
Uttar Pradesh	334	254	-24.1	166	127	-23.7	410	305	-25.7
West Bengal	374	641	71.3	120	182	51.1	432	702	62.6

Social Services includes health, education, family welfare, water supply, sanitation and nutrition. Social Priority items include elementary education, rural health, public health, water supply, sanitation and nutrition

Table 4.8: Social Sector Expenditure Ratios

	Social Allocation Ratio			Social Priority Ratio			Social Priority Expenditure as Percent of GSDP		
	Averages			Averages			Averages		
	1988-89 to 1990-91	1999-00 to 2001-02	% change	1988-89 to 1990-91	1999-00 to 2001-02	% change	1988-89 to 1990-91	1999-00 to 2001-02	% change
Major States	34.37	32.68	-4.90	44.48	44.52	0.10	2.74	2.70	-1.13
Andhra Pradesh	35.79	32.51	-9.17	34.32	42.25	23.11	2.26	2.59	14.75
Bihar	35.21	31.78	-9.76	54.30	59.26	9.13	3.84	4.28	11.60
Goa	40.64	25.69	-36.78	35.94	40.56	12.85	3.96	2.67	-32.51
Gujarat	32.73	34.02	3.96	46.46	38.29	-17.60	2.64	2.75	4.21
Haryana	31.30	29.13	-6.92	34.87	43.93	26.01	1.77	2.14	20.57
Karnataka	33.71	34.22	1.49	40.16	40.58	1.05	2.59	2.60	0.22
Kerala	42.27	34.06	-19.41	44.40	38.13	-14.13	3.57	2.39	-33.05
Madhya Pradesh	35.48	34.84	-1.79	46.83	45.15	-3.57	2.71	2.43	-10.34
Maharashtra	30.90	34.01	10.05	39.75	43.16	8.59	2.00	2.35	17.52
Orissa	33.07	34.37	3.92	46.93	45.92	-2.14	3.42	4.12	20.30
Punjab	32.20	23.03	-28.47	30.81	30.94	0.40	1.74	1.41	-19.15
Rajasthan	37.77	39.43	4.39	55.69	54.34	-2.42	3.81	4.36	14.37
Tamil Nadu	40.14	36.39	-9.36	45.69	43.57	-4.64	3.28	2.69	-18.01
Uttar Pradesh	31.58	27.19	-13.90	49.79	50.03	0.48	2.84	2.61	-8.06
West Bengal	40.21	34.56	-14.06	32.08	28.31	-11.76	1.85	1.72	-7.11

Social allocation ratio (SAR) = Expenditure on social services / Total expenditure
Social priority ratio (SPR) = Expenditure on social priority items / Total social services expenditure

4.7 Conclusions

Both the central and the state governments in the Indian federal setup have recognised the need for fiscal intervention to reduce poverty. The ability of the governments to make such interventions depends on their fiscal health. Moreover, when the system goes out of gear and urgent fiscal corrections are needed, the poor is often hard hit. Thus, social sector expenditure as a proportion of GDP fell during the fiscal crisis in early 1990s and remained below 1989-90 level for several years. Similarly, fall in capital expenditure of the government by about two per cent of GDP during 1990s imposed strains on infrastructure investment so urgently needed for agricultural developments in the poorer parts of the country.

Expenditure on poverty reduction programmes undertaken by the governments has been about one per cent of GDP in recent years. While such programmes have received mixed ratings in evaluation studies, some of them such as the integrated child health programme and the employment generation programme have been more effective than others in providing direct benefit to the poor.

The poor are likely to derive proportionately small benefit from the large volume of non-targeted input subsidies like fertilizer, irrigation, oil and power. It is relatively easy to target subsidy on final consumption items. Food subsidy has recently been targeted primarily towards the poor. Non-governmental organisations could join government officials in more effective administration of such targeted schemes.

State governments in India are mainly responsible for expenditure on social sectors like education, health, water supply and nutrition. Central government transfers to the states as a proportion of its revenue receipts declined during the second half of 1990s. The burden of this fell disproportionately on the poor living in economically backward states such as Uttar Pradesh, Madhya Pradesh and Bihar since they could not compensate the decline in central transfers using their own revenue. Recommendations by the Finance Commission in principle are based on consideration of equity besides other factors. But, poverty status of a state does not seem to influence grants given to states for centrally sponsored schemes. In fact, poorer states face problem in raising matching grants. Such a principle for programmes targeted at the poor could potentially discriminate against the poor living in backward states.

Chapter 5
Foreign Trade and Exchange Rate Policy[1]

5.1 Introduction

The external sector was at the centre stage of reforms in 1991 when India virtually faced a situation of imminent default on foreign payments. To avoid the crisis, a new government that came to power in May 1991 quickly negotiated with the International Monetary Fund (IMF) for a structural adjustment loan and initiated a wide-ranging reform process. The reform package included exchange rate devaluation, introduction of market based exchange rate system in a phased manner, substantial reduction of tariff and non-tariff trade barriers, and encouragement of direct and portfolio foreign investment. Requirements of World Trade Organization agreements have influenced the trade policies in later years. For example, abolition of all quantity quotas in imports or exports by end of 2004 is an example that falls in the latter category. With the external sector reforms gradually[2] taking shape during the 1990s, a virtually closed economy slowly became a outward-oriented one.

Table 5.1: Major Foreign Trade Parameters (As per cent of GDP)

	1990-91	1995-96	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Export	5.8	9.7	8.4	9.9	9.4	10.6	10.8	11.7
Import	8.8	13.1	12.4	12.7	11.8	12.7	13.3	17.2
Trade Deficit	3.0	3.4	4.0	2.8	2.4	2.1	2.5	5.5
Current Receipts	8.0	14.9	15.1	17	17	18.7	19.5	22.8
Current Account Balance	-3.1	-1.7	-1.1	-0.6	0.7	1.2	1.7	-0.9
Net Invisibles	-0.1	1.6	3	2.2	3.1	3.3	4.3	4.6
Foreign Investment	0.03	1.4	1.1	1.5	1.7	1.2	2.7	2.1
Debt-GDP Ratio	28.7	28.3	22.2	22.6	21.2	20.3	17.8	17.4
Debt Reserve Ratio	35.3	24.3	16.2	16.6	13.4	16.4	16.3	6.2

[1] This chapter is written by Manoj Panda.

[2] The gradual process could be judged from the fact that India continues to have one of the highest tariff rates compared to other developing countries. The import weighted average basic tariff rates turn out to be 18% for all commodities in the year 2004-05 according to Mathur and Sachadeva (2005). The weighted average basic import duty rates are 29%, 5%, 50%, 19% and 18% for agriculture, mining, consumer goods, intermediates and capital goods respectively in 2004-05.

Table 5.2: India's Exports of Principal Commodities ($ million)

Commodity Group	1990-91	1996-97	2000-01	2003-04	2004-05[p]
1. Primary Products	4,322	8,035	7,126	9,902	12,197
1.1 Agricultural and allied pruducts	3,354	6,863	5,973	7,533	8,004
1.2 Ores and minerals	967	1,172	1,153	2369	4193
2. Manufactured Goods	12,991	24,613	34,335	48492	58168
2.1 Leather and manufactures	1,449	1,580	1,944	2163	2289
2.2 Chemicals and related products	1,307	3,913	5,886	9446	11873
2.3 Engineering goods	2,250	4,891	6,819	12405	16441
2.4 Textiles and clothings	3,776	8,026	10,657	12791	12614
2.5 Gems and jewellery	2,924	4,753	7,384	10573	13705
2.6 Handicrafts	3437	476	662	500	343
3. Petroleum, crude and	523	482	1,892	3568	6792
4. Others	307	339	1,206	1880	2089
Total Exports	18,143	33,470	44,560	63843	79247
Percentage Composition					
Commodity Group	1990-91	1996-97	2000-01	2003-04	2004-05[p]
1. Primary Products	23.8	24.0	16.0	15.5	15.4
1.1 Agricultural and allied pruducts	18.5	20.5	13.4	11.8	10.1
1.2 Ores and minerals	5.3	3.5	2.6	3.7	5.3
2. Manufactured Goods	71.6	73.5	77.1	76.0	73.4
2.1 Leather and manufactures	8.0	4.7	4.4	3.4	2.9
2.2 Chemicals and related products	7.2	11.7	13.2	14.8	15.0
2.3 Engineering goods	12.4	14.6	15.3	19.4	20.7
2.4 Textiles and clothings	20.8	24.0	23.9	19.0	15.1
2.5 Gems and jewellery	16.1	14.2	16.6	16.6	17.3
2.6 Handicrafts	18.9	1.4	1.5	0.8	0.4
3. Petroleum, crude and	2.9	1.4	4.2	5.6	8.6
4. Others	1.7	1.0	2.7	2.9	2.6
Total Exports	100.0	100.0	100.0	100.0	100.0

[p] Provisional

Source: RBI, Annual Reports (various issues)

Table 5.3: India's Imports of Principal Commodities ($ million)

Commodity Group	1990-91	1996-97	2000-01	2003-04	2004-05[P]
Bulk Imports	10,971	16,365	20,816	29461	41880
A. Petroleum, Petroleum Products and Related Material	6,028	10,036	15,650	20569	29844
B. Bulk Consumption Goods	557	1,214	1,443	3073	3014
C. Other Bulk Items	4,386	5,115	3,722	5819	9022
NonBulk Imports	13,102	22,767	29,721	48688	65186
A. Capital Goods	5,836	9,922	8,941	18279	22567
B. Mainly Export Related Items	3,680	6,138	8,059	12717	16649
C. Others	3,586	6,707	12,721	17692	25970
Total Imports	27,073	39,132	50,536	78149	107066
Percentage Composition					
Bulk Imports	45.6	41.8	41.2	37.7	39.1
A. Petroleum, Petroleum Products and Related Material	25.0	25.6	31.0	26.3	27.9
B. Bulk Consumption Goods	2.3	3.1	2.9	3.9	2.8
C. Other Bulk Items	18.2	13.1	7.4	7.4	8.4
Non Bulk Imports	54.4	58.2	58.8	62.3	60.9
A. Capital Goods	24.2	25.4	17.7	23.4	21.1
B. Mainly Export Related Items	15.3	15.7	15.9	16.3	15.6
C. Others	14.9	17.1	25.2	22.6	24.3
Total Imports	100.0	100.0	100.0	100.0	100.0

[P] Provisional
Source: RBI, Annual Reports (various issues)

The outward orientation of the economy since 1991 is best reflected in the share of exports and imports in GDP. Merchandise exports as a proportion of GDP have doubled from 5.8% in 1990-91 to 11.7% in 2004-05 (Table 5.1). Merchandise imports, too, have exhibited similar upward movements from 8.8% to 17.2% of GDP in 2004-05 during the same period. The Indian economy is increasingly becoming more integrated with the global economy with foreign trade (exports and imports together) accounting for 29 per cent of GDP in 2004-05. Correspondingly, merchandise exports from India have grown from about US$18 billion in 1990-91 to US$79 billion in 2004-05 implying an impressive trend growth rate of 11% per annum after the reforms. Imports rose by about the same rate from US$23 billion to US$107 billion during the same period.

Among the major exports items, agriculture accounted for 10 per cent of total export earnings, textiles and products 15 per cent, gems and jewellery 17 per cent and chemicals and related products 15 per cent in 2004-05 (Table 5.2). The major groups on the imports side are petroleum and petroleum products, capital goods and export related items (e.g. pearls, precious stones, chemicals, textile yarns) respectively accounting for 28, 21 and 16 per cent of total import bill (Table 5.3)

India's share in world exports has increased from 0.5% in 1991 to 0.8% by 2002. The current account balance turned surplus during 2001-02 to 2003-04[3] after about three decades and thus enabling current external receipts to pay for current external liabilities. This was achieved primarily due to large expansion in invisible earnings on account of remittances from abroad and software service exports together amounting to about 6 per cent of GDP. In absolute terms, net inflows on account of transfers from abroad were of the order of about US$21 billion and software service exports were close to US$17 billion in 2004-05.

Foreign direct investment (FDI) and portfolio investment in India has, however, been modest at about US$ 4-5 billion in recent years. FDI flows have been less than 1 per cent of GDP in India, while they account for 3-5 per cent of GDP in the East Asian economies. While a larger quantum of FDI would enhance quantity as well as quality of investment in India, its growth might remain modest in the near future. FDI has the potential to play a critical role in manufacturing exports promotions through emerging international value chain, technology transfer and productivity increase. India needs to exploit this opportunity with an efficient strategy.

Continued overall surge in capital inflows has helped to build up foreign exchange reserves that stand at US$130 billion by mid-2005, good enough to finance 14 months' imports. A Committee set up by the RBI on Capital Account Convertibility (Tarapore Committee) had suggested broadening the conventional criteria of judging adequacy of

[3] Large rise in imports payments arising from oil price rise and domestic investment demand turned current account balance negative again in 2004-05.

foreign exchange reserves. Apart from import cover reserve adequacy ratio, it had suggested consideration of other parameters like external debt servicing, and size, composition and risk profile of capital flows. Given that the current level of foreign exchange reserves are more than adequate to meet normal risks from volatility in international flows, there is a need to examine continuation of the policy of accumulation of the reserves. Reserve built up beyond an optimal level could be costly for the economy.[4]

5.2 Foreign Exchange Rate

An integral component of trade liberalisation in India was the move to a market determined foreign exchange rate. This move again was carried out in a phased manner to permit industry and trade to adjust and allow policy makers to monitor the system. The system in operation at present might be described as 'managed float' that permits a market determined competitive exchange rate while containing day-to-day market volatility. The RBI manages the float by direct intervention in the exchange market as well as by selective monetary and credit policy. The real effective exchange rate in recent years has been nearly stable, though nominal effective rate has changed considerably (Table 5.4). The range of variation in real effective exchange rate has been within 8% on an annual average basis since early1990s.

[4] See Lal et. al (2003), Sen (2004) and Singh and Srinivasan (2004) for a debate on this issue.

Table 5.4: Trends in Nominal and Real Effective Exchange Rate
(Base 2000=100)

	Nominal Effective Exchange Rate (NEER)		Real Effective Exchange Rate (REER)	
	5-country Index	10-country Index	5-country Index	10-country Index
1991-92	180.4	170.1	103.72	100.44
1992-93	148.29	139.61	95.58	98.91
1993-94	136.74	131.57	92.11	90.64
1994-95	132.59	127.02	95.78	94.06
1995-96	121.25	115.4	95.17	92.44
1996-97	118.43	112.37	97.6	94.4
1997-98	118.49	114.54	102.26	100.41
1998-99	104.87	101.43	98.25	96.34
1999-00	100.99	99.05	96.94	96.25
2000-01	99.54	99.68	96.17	97.16
2001-02	98.47	98.54	99.36	99.8
2002-03	93.13	91.76	96.89	95.53
2003-04	92.07	88.7	101.21	97.33

Source: Economic Survey 2004-05

5.3 Growth and Poverty Effects

Many countries have adopted trade reforms in recent decades in some form or the other. Yet, there is very little unambiguous and general result in theory or empirics on the net effect of trade liberalisation on poverty at the international level[5]. Trade liberalisation does not automatically reduce poverty. But it could make an impact on poverty through sustained economic growth. The international evidence on effect of trade liberalisation on growth is mixed except for the general acceptance that closed regime has not helped a country to maintain high growth on a sustained basis for several decades. Growth and poverty impact of opening up of an economy has been very much circumstance specific. Moreover, even when beneficial effect of trade liberalisation is seen at the aggregate level due to more efficient allocation of resources, this by no means implies that all sections of the society derive the benefit. Some economic agents gain in the process while others

[5] See, for example, Dollar and Kraay (2002), Sachs and Warner (1995), Rodriguez and Rodrik (2001) and the review article by Winters et. al (2004).

lose[6]. If the losers happen to be poor, there might be need for a complementary compensation mechanism to protect their welfare.

Did trade liberalisation process initiated in 1991 help poverty reduction in India? Our detailed discussion earlier indicated that incidence of poverty deteriorated during the early years of post-liberalization phase, but evidence of a fall in poverty was visible by 1999, though the extent of fall has been a matter of debate. The observed effects are obviously the net result of a combination of several reforms and other developments.

Several authors have attempted to disentangle these effects by simulating the behaviour of the economy with the help of different types of computable general equilibrium (CGE) models. These economy wide models consider optimal behavior of economic agents like consumers and producers and their interactions with autonomous agents like government and are built around the database in a Social Accounting Matrix that takes into account inter-sectoral flows. A flow diagram given in Figure 5.1 describes the effect of international trade liberalisation on poverty. Trade liberalisation directly changes imports and exports prices of tradable goods and in turn affects domestic prices. Prices in the protected sectors are higher than world market prices before trade liberalization and such prices fall when tariff or non-tariff barrier is reduced. Consumers benefit and producers would lose in the process in the home country. On the other hand, if some sectors were disprotected due to government export restrictions and their prices were lower than world prices, consumers would lose and producers would gain because of higher prices in a post-liberalised scenario. Trade liberalisation leads to reallocation of resources across sectors in response to changes in domestic and external demand and supply conditions. Employment, wages and profit levels corresponding to new equilibrium lead to changes in national income and its distribution across income groups. Finally, both growth and distribution factors determine poverty.

Exchange rate distortions could have major effects on the poor when their income originates from tradable sectors. An overvalued currency would mean that producers supplying their produce to the exports market do not receive competitive prices in domestic currency which in turn depresses domestic prices too since domestic price

[6] See, Winters (2004) who note Lloyd (2000) result that trade shock could benefit at least one household and hurt at least another household.

would be linked to world price for tradable. Imports on the other hand would be cheaper across the board which disproportionately benefits producers with high import intensity. Indeed, one reason for high import tariff prior to reforms was overvaluation of the rupee. The effects of the depreciation of the exchange rate on imports prices in early 1990s were offset, partly or fully, by simultaneous reduction of tariffs on many goods.

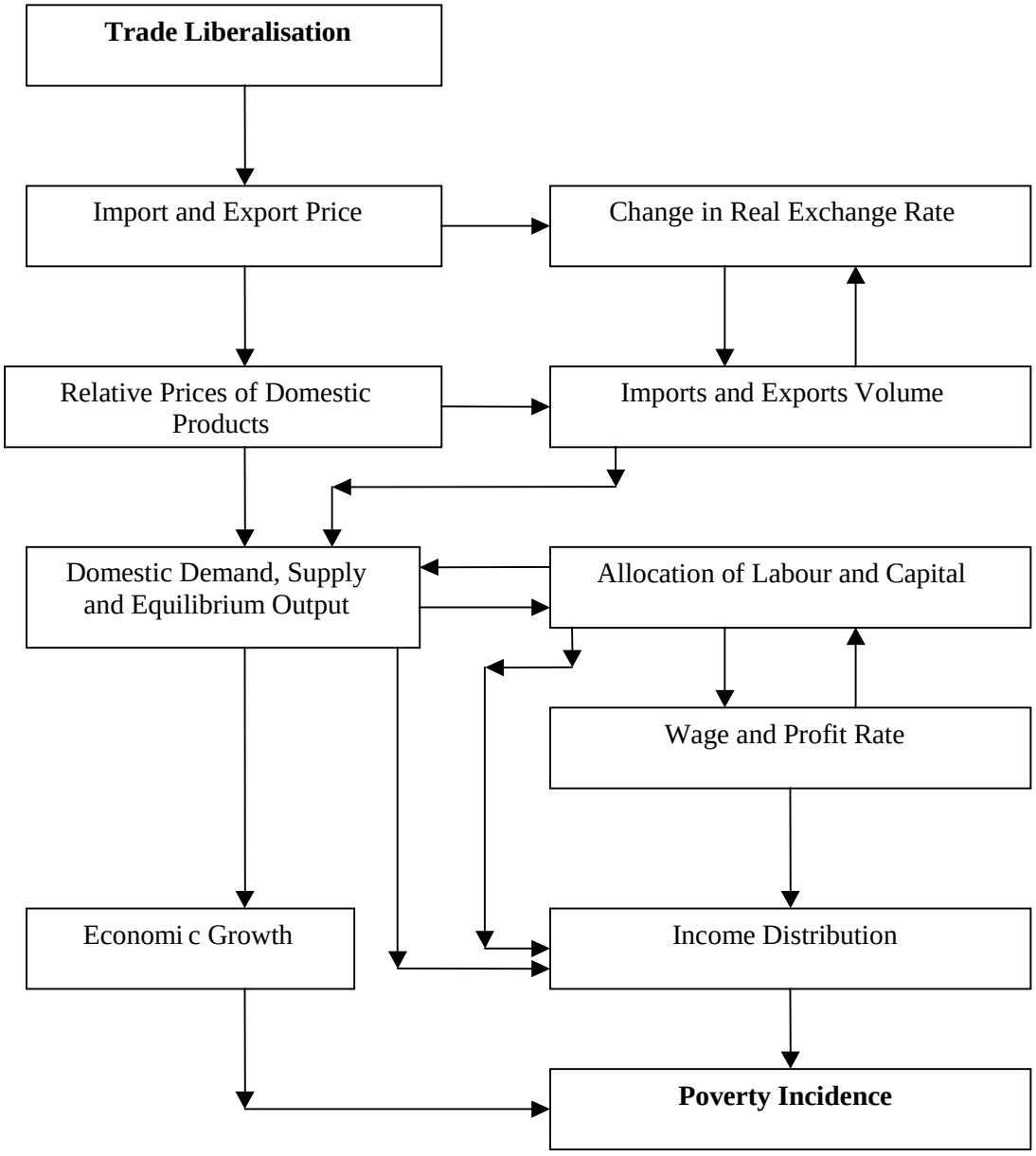


Figure 5.1: Flow Diagram Indicating Effects of Trade Liberalization on Poverty

One CGE model by Panda and Quizon (2001) uses the Armington assumption that domestic output and import (or export) in a sector are close, but not perfect, substitutes. A distinctive feature of this model lies in its consideration of distribution of income by rural and urban quartile groups**,** which helps in direct examination of changes in income of the poor and the rich. Their simulation results over a base run that reproduces a social accounting matrix for 1990-91 (the year just preceding initiation of liberalisation) indicate that trade liberalization of the order observed during 1990s in manufacturing has the following effects: (a) relative price of intermediate and capital goods become lower by 7-9 per cent; (b) real exchange rate depreciates by about 8 per cent; (c) real investment rises by 3.6 per cent primarily due to cheaper investment goods; (d) nonagricultural GDP rises by about 0.3 per cent, while agricultural GDP rise is less than 0.1 per cent; (e) rural households gain due to improvement in agricultural terms of trade and linkage with nonagricultural sectors (rural areas receive about one third of nonagricultural income in India); and (f) inequality in income distribution rises. Higher income groups gain more, by 0.5 –1.1 per cent compared to 0.2-0.5 for lower income groups. Note that these results are obtained from a stand-alone model for India and thus trade liberalisation impact corresponds to that of a unilateral liberalisation process.

Their results show that effects of agricultural trade liberalization are dissimilar in some respects to those of manufacturing in the Indian conditions. The effects arising from removal of all trade barriers in agriculture are:

- Relative prices of foodgrains rise by 3-6 per cent. Terms of trade move in favour of agriculture in case of either manufacturing or agriculture trade liberalization due to the fact that manufacturing sector was typically protected and agriculture was typically disprotected prior to the liberalization in India.

- Agricultural GDP expands by 0.8 per cent, but nonagriculture contracts marginally by 0.1 per cent. The overall effect on real GDP is to raise it to about 0.3 per cent.

- The rural rich benefit the most by more than 2 per cent. Rural poor too gain, though by less than 1 per cent. But the urban poor lose marginally due to rise in foodgrain price and adverse manufacturing growth.

- A major factor that determines welfare effects of agricultural trade liberalisation on the poor is whether the poor are net purchasers of cereals or not. Most of the poor in rural India, being landless agricultural labourers or marginal farmers, are net purchasers of cereals for whole or part of the year[7]. As such, a rise in price of cereals hurts the poor[8]. Those poor farmers who are net sellers of cereals, on the other hand, benefit from the price rise.

Parikh et. al (1997) use a sequential dynamic model for India to study impact of trade liberalisation. Policy changes are introduced from 1993 and the impact examined over the period 1993-2000. The authors find that real GDP rises by 4.5 per cent over the reference run in the year 2000 implying an annual average GDP growth rate of 0.65 per cent per annum during 1993-2000. An interesting result they report is that full agricultural trade liberalisation leads to an immediate fall in agricultural output by about 1.7 per cent due to short run disruption in agricultural production. Apart from allocative efficiency effect under manufacturing trade liberalisation, they find that fall in relative price of investment goods is a strong factor contributing to favorable GDP effect. As investment goods become relatively cheaper, the same nominal investment rate can generate more real investment. They report that consumer price index moves more favorably for the lower income brackets leading to gain in their equivalent income[9]. Yet, calorie intake falls marginally due to changes in consumption pattern. Another interesting argument made by them is that India should be counted as a 'large' country in world rice market and unrestricted rice exports could depress the world market price of rice leading to adverse domestic welfare effects.

[7] Some marginal and small farmers may also be 'net purchasers' of cereals because either they do not produce enough to meet their needs, or they are forced to sell cereals soon after harvesting to meet other expenditures and buy back cereals for own consumption during lean season.
[8] This is in contrast to the experience in China where agricultural price rise benefited the poor (see, the China case study in this series, Bouche et. al, 2004).
[9] Equivalent income refers to minimum income needed at base prices to achieve the same utility that a consumer enjoys currently.

Chadha et. al (2003) estimate the impact of Uruguay Round (UR) and Doha Round (DR) agreement in a multilateral framework. They find India's welfare gain measured by equivalent variation is 0.68 per cent in UR scenarios involving phase-out of Multifibre Agreement and manufacturing tariff reduction implied by UR. They obtain an additional gain of 1.67 per cent due to DR scenarios developed as 33 per cent reduction in post-UR tariff in agriculture, manufacturing and services. The output effect turns out to be 0.4-0.5 percent on an average. In the UR scenarios, the largest increase in employment takes place in textiles, wearing apparel, trade and transport, mining, leather products and footwear while employment loss occurs in all industrial sectors (led by machinery sector) and in construction, private and public services. They also repeat their experiments assuming unilateral liberalisation by India and find 1.4 per cent welfare gain.

So far as poverty effects of exchange rate movement are concerned, the structuralist CGE models with cost based price equations capture the chain reaction arising from the cost side[10]. Depreciation of domestic currency leads to price rise in tradable sectors affecting exports and imports. If exports volumes are inelastic, domestic output might be adversely affected due to depressed demand consequent upon inflation. On the other hand, if exports and imports volumes were elastic, demand generation would expand domestic output and contribute to growth. Poverty effects would operate mostly through the growth effects.

In Parikh et. al (1997) real exchange rate (RER) is measured as the ratio of price of tradables to that of nontradables. Agricultural trade liberalisation increases RER by 2 per cent while trade liberalisation in all sectors increases it by 18 per cent. Resources would naturally move in favour of tradables due to a rise in RER. But, they note that since some tradable sectors were protected and some were disprotected prior to liberalisation, the implication of an increase in RER is not straightforward on resource allocation. They find long run price and resource reallocation effect is more in favour of agricultural sectors that were disprotected earlier. Winters (2000) assumes that the non-traded sector is 'informal intensive' in India and suggests real exchange rate depreciation would expand formal and shrink informal manufacturing employment.

[10] See, for example, Sarkar and Panda (1991) for the Indian context.

Theory predicts that free trade would shift resource allocation towards those tradable sectors which intensively use labour[11], the relatively abundant factor in developing countries. It is not clear, however, whether the theoretical prediction of substantial resource reallocation towards labour intensive sectors has taken place in India. The composition of export basket (Table 5.2) does not seem to support such prediction for India. Composition of exports has moved away from labour intensive sectors like agriculture, leather products, textiles and handicrafts.

Results from various CGE models indicate that trade liberalization could increase GDP by 0.3-0.7 per cent with mostly favourable growth effects on poverty. These results are produced by comparative static simulations and need to be interpreted carefully. While these models are widely used[12] and provide the links and causal mechanisms among various variables very clearly, several critical parameters are not econometrically estimated but obtained by calibration. The numerical simulation results thus represent broad *ex-ante* predictions of effects of trade policy changes. The static efficiency gains noted above are essentially due to relative price changes and movements from one point on the production possibility frontier to another. The effects obviously depend on magnitude of the shock or the extent of removal of trade barrier in the experiment. While one might view them as a one-point gain, in practice the liberalisation process is carried out in stages spread over several years and as such gains too might be spread thinly over several years. Moreover, the experiments in stand alone country models often involve a given international environment. One reason why the expected gains from agricultural liberalisation have not been realized by India is that the experiments were carried out in a situation where the world market prices of foodgrains were higher than the domestic prices. The fall in world market prices of foodgrains subsequently reduced the level of the distortion.

While the growth effects of trade liberalisation *per se* are relatively small one-time gains, we should also take into account other related effects often accompanying trade liberalisation like foreign investment flows and productivity increase. Foreign investment

[11] This follows from the well-known Stolper-Samuelson theorem in a two-sector two-factor world with fixed factor supplies and flexible wages.

[12] These are empirical counterparts of economy wide general equilibrium models in the Arrow-Debrue tradition and virtually the only tool for predicting impact of new policy regimes.

supplements domestically available savings to raise total investment in an economy, but it might partly crowd out domestic investment particularly when it takes the mergers and acquisitions route. Extent of crowding out is normally less for FDI than for other forms of capital inflows (Brooks and Hill, 2004). The net effect of foreign investment flow is likely to be investment and growth enhancing[13]. Overall net foreign investment flows in India during the last decade have been only about one per cent of GDP, though it has increased substantially during 2004 and 2005. Given the prevailing incremental capital output ratio, the direct GDP effects would roughly be about a quarter percent of GDP.

Trade liberalisation and foreign investment inflows could be expected to lead to productivity gains and bring in indirect benefit. Simulations carried out by Panda and Quizon (2001) show that productivity gains of moderate order of 3 per cent per annum could have considerable effect on growth by another half-a-percent. Productivity gains could be realized from several sources: more competitive environment, access to advanced technology from foreign collaboration, economies of scale due to expanded market on external front. Again, CGE experiments carried out by Ganesh-Kumar et. al (2005) indicate that comprehensive domestic reforms relating to investment are critical for achieving higher growth.

Another related emerging issue in this context is trade facilitation, which refer to expedition of the movement, release and clearance of goods including those in transit, greater transparency and procedural uniformity of cross-border transportation of goods.[14] Model experiments reported in Ronald-Holst et. al (2005) again indicate a growth effect of about 10% for India over 20 years, e.g. less than 0.5% per annum.

Contribution of each of the several trade related components to growth is individually small. But, taken together effects of trade and trade related policy package would not be small and could push the growth rate of the economy by 1-2 percentage points. While the effects of tariffs and quota reforms might have been mostly realised by now in India, other effects are yet to be realised fully. These have the potential to place the Indian economy on a growth path of 7-7.5 per cent per annum which is fairly good rate by international comparison.

[13] Using monthly data during December 1994 and March 1999, Das (2003) finds that actual flows of FDI have a positive effect on industrial production with a lag of 5 months.

[14] See, Sengupta and Bhagabati (2005) for a discussion on this in the Indian context.

Will the poor gain from possible higher growth through this process? The answer would largely depend on whether trade reforms contribute to an increase in inequality. The evidence reviewed in chapter 2 point towards possibility of an adverse distributional effect during the 1990s, though whether such a trend could be attributed to trade liberalization is an open question. Some might argue that this could basically be attributed to external sector policies and the move towards integration with the globalization process. Adverse distribution effect might have partly neutralized the potential gains from growth to the poor that could have accrued under invariant distribution effect.

But, then both higher growth and higher inequality could be joint consequences of the opening up policy. Pay packages in transnational companies are substantially higher than those for comparable jobs in domestic companies leading to widening differential in wage rates. The skill-biased technical progress of the 1990s in information and communication sectors and consequent large demand for skilled and semi-skilled labour has contributed to a rise in relative gap in wages between skilled and unskilled labour. The recent growth of outsourcing has not led to large demand for labour that could be classified as 'unskilled' by local standard. Thus, the most intensively used factor in these newly emerged industries directly linked to world market is not likely to be the labour that remains below the poverty line (official or $1 a day). The indirect benefits for illiterate and poor labour class, of course, need not be insignificant as demand for consumer goods by skilled labour expands through the multiplier process.

On the whole, however, if we consider elasticity of poverty with respect to per capita real GDP, it has not changed after the reforms in both rural and urban areas[15]. In their review of trade liberalization and poverty linkages, Winters et. al. (2004) conclude: "Despite the methodological challenges to recent literature, there is no evidence to overturn the traditional conclusion that growth, on an average, benefits the poor, nor to suggest that growth generated by greater openness is any worse than other growth in this respect (and

[15] Regression analysis of per capita real GDP on head count ratio in double log form with intercept and slope dummies for the post reform period does not indicate any significant change in the elasticity which remains round -1.0 for rural areas and -0.8 for urban areas. However, on a point-to-point basis, compared to 1983-87, the elasticity did fall considerably during the period 1987-1993 but recovered largely there after.

may even be better)" (P.81). If we consider the entire post-reform period, the Indian experience seems to confirm this assertion.

Yet, the indication of a rise in inequality must attract policy attention to keep the possible rise in inequality within moderate limits so that the adverse effect on poverty is not strong enough to reduce the income elasticity of poverty and partly neutralize the positive growth effect. Distributional conflict management has received more attention recently. The National Employment Guarantee Act discussed earlier is a major move in this respect[16].

Another likely effect of opening up of an economy is an increase in volatility in prices. It has been argued that India remained relatively insulated from the East Asian crisis because of continued restrictions on its capital account convertibility. If world market prices happen to be volatile as they do for several primary products, such volatility gets transmitted to domestic market with all its consequences since domestic product market prices for tradable goods are determined by world market prices. In the face of agricultural subsidy regime maintained by developed countries, this could lead to serious livelihood problem for poor farmers in India and other developing countries (see, Box 5.1). Monopoly purchase by a public agency might attempt to insulate farmers from world price fluctuations, as was the case for cotton in India. While such a scheme protects farmers from price volatility and provides stability, monopoly or monopsony market structure might hinder integration with the world market and give rise to monopsonistic profits.

The poor as such are less equipped to cope with adverse shocks than the non-poor. As Box 5.1 shows trade liberalisation might aggravate it in the absence of complementary domestic and international policies, which are important to enable the poor to benefit fully from the new opportunities that opening up of the economy presents. There are other types of complementary policies, particularly relevant for a large and diversified country like India. We have noted the concentration of the poor in some parts country. The low connectivity of these areas leads to high unit transaction costs and could turn an otherwise tradable good to a virtually nontradable one. Government expenditure on

[16] As Rodrik (1999) points out conflict management requires new and better institutions in developing countries.

physical and social infrastructure development then has a crucial role for integrating them into mainstream of economic activities. India's experience in this regard has been mixed. There are areas where local market has been well connected with the world market despite remoteness from a port, but there are vast areas in the countries which have as yet remained isolated.

Box 5.1: World Price Volatility and Indian Cotton Growers

In a liberalized trade regime, world market price volatility gets transmitted to domestic market with all its consequences. Consider, for example, the case of cotton in the state of Maharashtra where the state government used to have a monopoly cotton procurement scheme (MCPS) that had a built in mechanism to pay cotton growers an assured price that was higher than the Minimum Support Price (MSP) of the central government taking into account higher costs conditions in the state and prevailing prices in the neighbouring states. Such a scheme provided insulation to farmers from world price volatility. The MCPS was abandoned in 2003 due to fiscal constraints by the state government. With trade liberalisation and privatisation of domestic trade, the cotton producers in India were seriously affected by world price fall in 2004. But, farmers in developed country were able to absorb the price shock due to the massive subsidy regime maintained in one form or another. The fall in cotton price and consequent erosion of profit was one of the factors that contributed to large number of farmers committing suicide in Maharshtra in an environment where cotton farmers are heavily indebted (Mishra, 2005). Cotton farmers do not have much option to shift to other crops in semi-arid Central India where poverty incidence continues to be high. Price volatility is a matter of life and death for such farmers.

Murphy, Lilliston and Lake (2005) note that cotton exports from US were sold at an average price that was 47 per cent lower than the cost of production in 2003. The important policy questions to ponder about in this context are: Would world prices have been more stable had there been no large agricultural subsidy in the developed world? Should not India be justified to raise tariff on cotton so that its domestic price is nearer to the 'free' market price that would have prevailed in the absence of the subsidies?

5.4 Conclusion

To conclude, trade liberalisation in India has led to major changes in the macroeconomic environment in India. The share of the tradable sectors in GDP has witnessed a large increase and distortions in relative prices have been reduced sbstantially. Trade liberalisation could affect poverty through both growth and distribution channels. Observed incidence of poverty rose in India immediately after the beginning of the reforms but fell subsequently. To what extent the observed happenings could be attributed to trade liberalisation is a matter of debate. The rise in *ex-post* trend growth rate by about 0.5 per cent per annum is similar in magnitude to the *ex-ante* model prediction of trade liberalisation effects for India. The Indian evidence of the 1990s does not suggest that the composition of the export basket has shifted considerably towards labour intensive sectors. Part of the potential benefits of growth on poverty could have been neutralized by the likely adverse effect of the opening up of the economy on wage structure and income distribution. The recent growth of the outsourcing centres is not likely to directly benefit the unskilled labour.

There is no firm evidence that the poor have benefited more from expansion of the tradable sectors than the non-poor. The evidence discussed in earlier chapters suggest an increase in urban-rural disparity in the post-liberalisation period, while inequality within rural or urban areas might not have undergone any significant change. While the share of the poor in national income might have remained the same or even fallen a bit since early 1990s, the poor have benefited largely from the volume effect. On the whole, Indian evidence so far indicates that trade induced growth could benefit the poor nearly as much as other forms of growth.

Trade liberalisation could lead to price and income volatility as it has happened for cotton farmers in India. Also, tribal people who reside in remote parts of the country might not be in a position to take advantage of the opportunities created by trade liberalisation. Hence, one might reiterate the role of complementary policies for safety net and infrastructure development.

Chapter 6
Monetary Policy and Financial Sector Liberalisation[1]

6.1 Evolution of Monetary Policy in India: Broad Phases

The post-independence history of monetary and credit policy in India has witnessed gradual transformation, keeping in pace with broader five-year plan and other macro-economic goals and the tasks envisaged therein for the financial system. The most dominant part of its role has been in building and nurturing institutions in the financial system with a view to facilitating improvements in savings mobilisation and in productive deployment of financial resources. The phases through which the conduct of monetary policy has evolved, have coincided with the phases of institutional changes by and large responding to the changing aspirations of the society. These phases could be broadly classified into following periods:

A conventional phase in terms of monetary policy combined with a period of banking consolidation and strengthening of banking regulations (1950-1967);

Credit initiatives, social control over banking and institutional build-up (1955-1967);

Bank nationalisation, vast branch expansion and significant structural changes in credit distribution concurrently with an interventionist and structuralist stance of monetary and credit policy (1969 to 1985);

A system of 'monetary targeting with feedback' achieved through the money-multiplier process, with focus on the objective of price stability (1985-1991);

Formalisation of the transparent use of indirect instruments of monetary control combined with financial sector liberalisation (1991-2002); and

The adoption of a 'multiple indicators approach' to monetary policy formulation (1998 onwards) followed by special emphasis on accelerating the flow of bank credit in favour of agriculture, small and medium enterprises and micro-credit users (2002 onwards).

The interactions between instruments and outcomes are very complex. These complex interactions assume pro-poor character essentially through sectoral credit strategies (agriculture, rural areas and informal enterprises), but they are reinforced at the margin if

[1] This chapter is an abridged version of the background paper written by S.L. Shetty.

supported by special credit schemes for the poor and targeted groups as well as institution of micro-credit programmes.

6.2 Supply-leading approach to institutional credit structure

Envisaging of such a complex sectoral credit strategy required a more wholesome approach to institutional development in banking and finance area. The policy of bank nationalisation and the associated public policies on banking and financial sector development were predicated on the strong assumption of the need for promoting financial intermediation by building institutions, expanding their geographical spread, mobilising savings, and inducing better regional, sectoral and functional as well as small-borrower reach of institutional credit in India. It was perceived that such a system of supply-based and egalitarian institutional development could not be left to market forces or to the initiative of private entrepreneurship. Also, the broad objectives embedded in them, as set out above, were intertwined, for one could not be achieved without the other; functional reach of credit, for instance, could not be attained without geographical spread of banks as well as mobilisation of local savings.

A major aspect of banking development after the nationalisation of banks in July 1969 had been the rapid growth and territorial spread of branch network all over the country, particularly in rural areas as well as in underdeveloped regions. The number of bank branches increased from 1443 in December 1969 to 35,134 in March 1991 (Table 6.1). What is more, the share of rural areas in the total number of bank branches improved from 18 to 57 per cent during the same period. The shares of rural deposits and rural credit in aggregate deposits and credit had also increased substantially. The Credit – Deposit (C – D) ratio had increased significantly in rural and semi-urban areas (Tables 6.2 and 6.3). More significantly, the credit deposit ratio of rural branches exceeded the prescribed target of 60 per cent by the mid-1980s.

The reform process of the 1990s has halted the process of institutional build-up embedded in the supply-leading approach. Their branch expansion programme monitored by the Reserve Bank of India (RBI) was disbanded, on March 31, 1995 and the subject of bank expansion has been left to the commercial judgements of banks. Consequently, the spread of branch network, particularly in rural and semi-urban areas as

well as in underdeveloped regions, has slowed down (Table 6.1). The credit deposit ratio has declined in rural and semi-urban areas. However, due to new policy initiatives, the situation has improved during 2000-2004 (Table 6.3).

The neglect of branch expansion after the 1990's has occurred on a distinct scale in big size states of Bihar, Uttar Pradesh and Madhya Pradesh which account for half of the poor (Table 6.4). These three states (including their satellite ones separated from them) together accounted for 37.6 per cent of the country's total population in 2001, while the share of these states in total bank branches was 29.0 per cent in March 1992 and 27.7 per cent in March 2003. What is more, even though the proportion of bank deposits mobilised in these states has not declined after the 1990s, the proportion of bank credit obtained by these states has declined, and as a result, there has occurred a distinct decline in their credit-deposit ratios.

Table 6.1: Spread of Bank Branch Network in India
(Scheduled Commercial Banks including RRBs)

Period-end	Rural		Semi-Urban		Total	
	Number of Bank Branches	Per cent to Total	Number of Bank Branches	Per cent to Total	Number of Bank Branches	Per cent to Total
December 1969	1,443	17.6	3,337	40.8	8,187	100.0
March 1991	35,134	56.9	11,566	18.7	61,724	100.0
March 1995	33,017	51.7	13,502	21.2	63,817	100.0
March 1996	32,981	51.2	13,731	21.3	64,456	100.0
March 2002	32,443	47.8	14,910	21.9	67,897	100.0
March 2003	32,283	47.4	15,042	22.1	68,078	100.0
March 2004	32,107	46.8	15,252	22.2	68,645	100.0

Notes: Decline in March 1996 is partly due to reclassification of centres based on the 1991 Census.
Source: Reserve Bank of India: *Basic Statistical Returns*, various issues. (All tabulated data presented in this chapter are from this source unless otherwise stated).

Table 6.2: Population Group-wise Credit-Deposit (C-D) ratio as per sanction and utilization

Year/ Population Group	June 1980	March 1990		March 2000		March 2004	
	Sanction	Sanction	Utilisation	Sanction	Utilisation	Sanction	Utilisation
Rural	54.5	61.2	97.1	40.4	49.3	43.6	56.3
Semi-Urban	47.2	49.1	48.5	34.7	40.0	37.3	42.8
Urban	60.0	55.6	52.9	41.9	42.1	45.5	51.5
Metropolitan	87.0	69.9	58.0	78.9	73.2	75.9	67.7
All-India	67.2	60.7	60.7	56.0	56.0	58.2	58.2

Note: The phenomenon of migration of credit from the place of sanction to utilization elsewhere is responsible for the differences in C-D ratios as between sanction and utilization.

Table 6.3: Incremental Credit-Deposit Ratios By Population Groups: Credit Data Based on *Utilization*

(Amount in rupees, crore) [C-D ratios are in percentages]

A. C-D Ratios as per outstandings of credit and deposit								
Year/ Population Group	March 2003		March 2000		March 1990		December 1980	
	Credit Outstanding	C-D Ratio	Credit Outstanding	C-D Ratio	Credit Outstanding	C-D Ratio	Credit Outstanding	C-D Ratio
Rural	106,479	60.3	59,426	49.3	25,468	97.1	2,557	55.1
Semi-urban	104,149	43.1	64,790	40.0	17,597	48.3	4,090	47.9
Urban	142,874	49.2	79,590	42.1	22,428	52.9	5,242	56.5
Metro	402,465	70.9	256,274	73.2	38,820	58.0	11,785	81.1
All-India	755,969	59.2	460,081	56.0	104,313	60.7	23,674	64.0

B. C-D Ratios as per incremental credit and deposits						
Years/ Population Group	March 2000 to March 2003		March 1990 to March 2000		Dec. 1980 to March 1990	
	Increase in Credit	C-D Ratio	Increase in Credit	C-D Ratio	Increase in Credit	C-D Ratio
Rural	47,053	84.1	33,958	36.0	22,911	106.1
Semi-urban	39,359	49.3	47,193	37.6	13,507	48.5
Urban	63,284	62.3	57,162	39.0	17,186	51.9
Metro	146,191	67.2	217,454	76.8	27,035	51.6
All-India	295,888	65.1	355,768	54.8	80,639	59.8

Table 6.4: Proportions of Bank Deposits, Credit and

Credit-Deposit Ratios - Selected States

Region	March 2004		March 2002		March 1996		March 1992		December 1982		December 1972	
	San-Ction	Utili-Sation	San-Ction	Utili-Sation	San-ction	Utili-Sation	San-ction	Utili-sation	San-ction	Utili-sation	San-ction	Utili-sation
Rajas than	55.7	62.8	48.4	55.4	45.4	45.3	55.6	59.3	70.1	74.1	48.6	54.5
Bihar	24.9	26.9	21.3	21.9	30.1	31.1	36.9	38.5	42.8	50.7	28.1	53.0
West-Bengal	49.5	53.8	45.8	49.2	55.2	53.3	52.8	51.0	59.3	54.1	76.0	65.5
Madhya Pradesh	46.9	50.1	46.6	50.3	56.2	60.6	61.0	63.2	58.2	61.2	46.6	51.8
Uttar Pradesh	33.1	38.0	29.9	34.3	33.8	35.0	42.5	45.3	44.7	47.3	36.9	42.2
Gujarat	42.2	54.8	44.1	54.7	52.9	56.9	52.4	57.3	52.0	53.9	56.4	64.6
Maharashtra	81.8	66.5	92.3	77.5	79.6	77.3	60.7	57.1	83.7	81.7	83.8	74.8
Tamil Nadu	93.1	96.1	85.4	88.5	94.9	94.4	89.0	89.1	94.6	94.5	109.5	110.0
All-India	58.2	58.2	58.4	58.4	59.8	59.8	57.7	57.7	67.1	67.1	66.4	66.4

A large number of districts particularly in the backward states began to experience in the 1990s reductions in credit delivery in relation to deposits that they generated. The number of districts which had C-D ratios of less than 20 per cent about 20-28 districts (out of 401-478) was in March 1990, has increased to 105 districts (out of 565) in March 2000.

It may be argued that credit absorptive capacities of backward states and regions may have eroded during the decade of the 1990s, but as is shown in a subsequent section, this is only partially true; the supply of credit has been found to have fallen behind the demand for it. And the resurgence of demand for correcting growing regional imbalances has been responded to by the authorities in recent years by again pursuing an interventionist credit delivery policy, particularly for agriculture, small and medium enterprises and micro-credit users.

6.3. Special policy initiatives to promote larger credit absorption in backward states/regions

To mitigate the deteriorating credit deposit ratio in backward regions, special policy initiatives were considered and put in place. Two special policy initiatives set out to show larger credit absorption in backward regions have been: (i) bank investments in securities and bonds of state governments and state-associated bodies; and (ii) resources placed by banks with (NABARD) in rural infrastructure development fund (RIDF) which are utilized for funding National Bank for Agriculture and Rural Development state governments for rural infrastructure projects including irrigation projects; 2,16,099

projects for Rs 42,948.51 crore have been sanctioned under the RIDF up to the end of March 2005.

Though inter-regional disparity remains, the north-eastern, eastern and central regions show significant improvements in (credit utilization + investments + RIDF) to deposit ratios. As shown in Table 6.5, with appropriate definitions, the number of states with C-D ratios of 50 per cent and above have steadily increased, from 7 under C^S-D ratio to 15 under C^U-D ratio, to 21 under (C^U+I) to D ratio and to 24 under (C^U+I+RIDF) to D ratio, as of March 2003. But, to add a caveat, C-D ratio based on utilisation plus investment improves the position of underdeveloped regions, but it does so even for the advanced southern region (Table 6.6). Further inclusion of RIDF benefits improves the C-D ratios across all regions – developed as well as underdeveloped (Table 6.7).

Table 6.5: Number of States and UTs in Different Ranges of C-D Ratio – March 2003

Range of CDR	**C^S DR**	**C^U DR**	**C^U+I/D Ratio**	**C^U+I+RIDF/D**
<30	17	8	2	2
30-50	11	12	14	9
50-60	1	7	4	8
>60	6	8	15	16
Total	35	35	35	35

Note: C^S/D: Credit as per Sanction to Deposit Ratio; C^U/D Ratio: Credit as per Utilisation to Deposit Ratio; C^U+I/D: Credit as per Utilization *plus* Investment to Deposit Ratio
C^U+I+RIDF/D: Credit as per Utilization *plus* Investment *plus* RIDF to Deposit Ratio

Table 6.6: Region-wise CDR (as per sanction) and C+I/D ratio (as per credit utilization) of scheduled commercial banks

Region/ Year	**March 1995**		**March 2000**		**March 2003**	
	C^S/D	C^U+I/D	C^S/D	C^U+I/D	C^S/D	C^U+I/D
Northern	48.6	53.4	51.1	54.8	56.0	60.5
North-Eastern	35.6	68.8	28.1	48.9	27.4	67.0
Eastern	47.1	62.7	37.0	48.3	39.6	54.3
Central	39.0	57.3	33.9	48.5	33.3	49.9
Western	63.2	67.2	75.4	78.6	81.0	74.9
Southern	69.4	80.9	66.2	75.5	66.3	79.2
All-India	**55.6**	**65.3**	**56.0**	**63.6**	**59.2**	**66.4**

C^S/D : Credit (as per sanction) + Investment to Deposit ratio
C^U+I/D: Credit (as per utilisation) + Investment to Deposit ratio

Table 6.7: Region-wise Credit plus Investment plus RIDF to Deposit Ratio

Region/Year	**March 2000**		**March 2003**	
	C^S/DR	$C^U+I+RIDF/D$	C^S/DR	$C^U+I+RIDF/D$
Northern	51.1	55.2	56.0	61.4
North-Eastern	28.1	50.2	27.4	69.4
Eastern	37.0	48.9	39.6	55.2
Central	33.9	49.6	33.3	51.3
Western	75.4	79.1	81.0	75.5
Southern	66.2	76.3	66.3	80.5
All-India	**56.0**	**64.3**	**59.2**	**67.4**

C^S/D : Credit (as per sanction) + Investment to Deposit ratio
$C^U+I+RIDF/D$: Credit (as per utilisation) + Investment + Rural Infrastructure Development Fund (RIDF) to Deposit ratio

6.4 Flow of Credit to agriculture and small-scale industries

Since agricultural growth and decentralized industrialization have a crucial role to play in the process of poverty reduction, special efforts were made to facilitate credit flow to these sectors. Credit targets were combined with a series of other measures such as the intensification of branch banking, the setting up of Regional Rural Banks (RRBs), and the promotion of rapid expansion of bank credit for agriculture, small-scale industries and other small and informal sectors based on the operation of 'priority sector' and other sectoral targets. These measures yielded positive results in the pre-reform period. C-D ratios of rural branches had improved and so also sectoral distribution of credit.

Agriculture

A major achievement of the banking industry in the 1970s and 1980s was thus a decisive shift in credit deployment in favour of the agricultural sector in particular. From a puny level at the time of bank nationalisation, the credit share of the sector had moved to near 11 per cent in the mid-1970s and to a peak of about 18 per cent (the official target[2]) at the end of the 1980s. But, thereafter its share of agriculture in total bank credit (both direct and indirect) has declined to a low 10.9 per cent by March 2004 (Table 6.8). The number of agricultural loan accounts which had reached a peak of 27.74 million in March 1992, persistently declined thereafter and touched 20.35 million by March 2002 there has occurred a fractional increase thereafter to 21.30 million by March 2004 (Table 6.8)

[2] Earlier, there was a target of 18 per cent of net bank credit to agriculture in the form of direct advance, but subsequently, such target was allowed to be achieved by including not more than 25 per cent also in the form of indirect credit. Besides, a number of other provisions like the contribution permitted for the NABARD's rural infrastructure development fund (RIDF) to the extent of 1.5 per cent of net bank credit, have contributed to the reduction in the effective share of agricultural credit. In 1993, the RBI had asked the banks to prepare special agricultural credit plans and increase their credit disbursals to agriculture by 20 per cent annually so that the effective target of 18 per cent of net bank credit could be met.

Table 6.8: Outstanding Credit of Scheduled Commercial Banks against Agriculture and Small-scale Industries

	Agriculture				Other Small Scale Industries			
	No. of	Per cent		Per cent	No. of	Per cent		Per cent
Year	Accounts	to All India	Amount	to All India	Accounts	to All India	Amount	to All India
Dec-72	1371975	31.6	50091	9.0	172685	4.0	65926	11.9
Dec-75	3042170	41.3	107058	10.7	262301	3.6	117796	11.8
Dec-78	7059556	47.2	234233	13.2	498914	3.3	207973	11.7
Dec-81	11231727	50.5	486330	17.1	765431	3.4	353315	12.4
Dec-84	15844321	50.2	807286	17.5	1714985	5.4	622602	13.5
Dec-87	21907916	47.4	1211236	17.7	2868501	6.2	880023	12.9
June -89	23571891	45.2	1526580	17.3	3364221	6.5	1182063	13.4
Mar-90	24520595	45.5	1662607	15.9	1606146	3.0	1198563	11.5
Mar-93	26216787	42.2	2206022	13.6	2070868	3.3	1826393	11.2
Mar-96	24188573	42.7	2880896	11.3	1752054	3.1	2582270	10.1
Mar-99	19788385	37.8	4088926	10.7	2029920	3.9	3142843	8.2
Mar-00	20532891	37.8	4563827	9.9	2126150	3.9	3506987	7.6
Mar-01	19843289	37.9	5173035	9.6	1742544	3.3	3690487	6.9
Mar-02	20351184	36.1	6400855	9.8	1572798	2.8	3197030	4.9
Mar-03	20840434	35.0	7593522	10.0	1431421	2.4	3794034	5.0
Mar-04	21304168	32.1	9624504	10.9	718056*	1.1	3843255	4.4

Source: RBI's Basic Statistical Returns, various issues.

* This does not appear to be correct; the error is in the source.

The commercial banks have a relatively low credit to GDP ratio[3] for agriculture as compared with other sectors (Table 6.9). Though the other sectors have been traditionally absorbing larger credit per output, there are a few important considerations which call for an expanded credit base for agriculture in the current phase. First, the proportions of paid-out costs in terms of modern inputs have considerably increased in agriculture over the years. Second, vast diversifications are taking place in agriculture away from crop husbandry and in favour of horticultural and livestock products, which require higher amounts of short-term and investment credit from the institutional sector. Finally, the proportion of work force dependent on agriculture remains at near 60 per cent. Likewise a supply-leading role for the financial system also envisages the seeking of potential bankable schemes in relatively poorer regions. Interestingly, it is found that

[3] Though credit outstanding is a stock concept and GDP a flow concept, the trends in the credit to GDP ratio are still valid because the bank credit use is of a revolving type and the whole of it goes to support the production process of a given period. The same should be true of credit to SDP ratios.

underdeveloped regions have hardly lagged behind the advanced regions in generating bank deposit growth. On the other hand, bank credit to SDP ratios have remained unduly low in respect of underdeveloped regions and states as compared with those in the advanced regions. It must be again mentioned in parenthesis that in regard to both agriculture and underdeveloped regions, there have been improvements in the recent period in the application of commercial bank credit per unit of output.

Table 6.9: Trends in Bank Credit to GDP Ratios: By Sectors

Sectoral Groups	Credit to GDP Ratio (Per Cent)	Credit to GDP Ratio (Per Cent)	Credit to GDP Ratio (Per Cent)
	2003-04	2000-01	1995-96
Agriculture and Allied Activities	15.0	10.4	8.9
Industry	48.4	44.5	36.2
Others	32.1	24.3	20.6
Total GDP	32.5	26.2	21.7
	1990-91	1985-86	1980-81
Agriculture and Allied Activities	11.0	12.8	15.2
Industry	38.9	45.3	62.3
Others	19.9	24.7	41.3
Total GDP	22.4	26.4	36.9

Government has been intervening in the recent years and putting pressure on banks to expand farm credit. This has yielded desirable results. According to recent NABARD data on total credit flow for agriculture including that from cooperatives, during the five-year period 1999-2000 to 2003-04, crop loans[4] (production credit) have expanded at the rate of 17.3 per cent per annum, while term loans have grown at the rate of 15.4 per cent per annum (Table 6.10). With the introduction of special agricultural credit plans, the

[4] Crop loans have generally constituted 66 per cent of the total farm credit. While cooperatives give just about 20 per cent of total term credit, commercial banks and RRBs provide over 80 per cent.

share of commercial banks and RRBs in total agricultural credit has increased from 60 per cent in 1999-2000 to 69 per cent in 2003-04, while that of cooperatives has slipped from 40 per cent to 31 per cent (Table 6.12). Doubling of agricultural credit in three years, 2004-05 to 2006-07, has been a major step envisaged by the government. NABARD has already reported a 40 per cent increase in farm credit during 2004-05, bringing 7.9 million new farmers under the institutional fold.

Table 6.10: Flow of Total Agricultural Credit from All Institutional Agencies
(Rs. Crore)

Year	Short term	Growth rate (%)	Term credit	Growth rate (%)	Total	Growth rate (%)
1995-96	14525 (65.9)	-	7507 (34.1)	-	22032 (100)	-
1996-97	16998 (64.4)	17.0	9413 (35.6)	25.4	26411 (100)	19.9
1997-98	20640 (64.6)	21.4	11316 (35.4)	20.4	31956 (100)	21.0
1998-99	23903 (63.9)	15.8	12957 (36.1)	14.5	35860 (100)	12.2
1999-00	28965 (65.3)	21.1	17303 (37.4)	33.5	46238 (100)	28.9
2000-01	33314 (63.9)	15.0	19513 (36.1)	12.8	52827 (100)	14.3
2001-02	40509 (65.3)	21.6	21536 (34.7)	10.4	62045 (100)	17.4
2002-03	45586 (65.5)	19.1	23974 (34.5)	11.3	69560 (100)	12.1
2003-04	54977 (63.2)	20.6	32004 (36.8)	33.5	86981 (100)	25.0
CAGR 1995-96 to 2003-04		18.1		18.7		18.4

Issuance of Kisan Credit Cards (KCCs) has been yet another step in the direction of expanding farm credit. An average of about 90 lakh KCCs have been issued during the past five years 2000-01 to 2004-05, taking the aggregate to 511 lakh. Hitherto, KCCs were only for crop loans but in 2004-05, their scope was expanded to cover term loans. Hence, commercial banks have replaced cooperatives as the maximum issuers of KCCs.

Table 6.11: Agency-wise break-up of term credit for agriculture (Rs.Crore)

Year	Coops	Growth rate (%)	Comm. Banks	Growth Rate (%)	RRBs	Growth rate (%)
1995-96	2148 (29)		4827 (64)		532 (7)	
1996-97	2616 (28)	21	6234 (66)	29	563 (6)	6
1997-98	3190 (28)	22	7482 (66)	20	644 (6)	14
1998-99	3386 (26)	6	8821 (68)	18	750 (6)	16
1999-00	3518 (20)	4	13036 (75)	48	749 (4)	-
2000-01	4218 (22)	20	14321 (73)	9	974 (5)	30
2001-02	4776 (22)	13	15683 (73)	9	1077 (5)	11
2002-03	3956 (17)	-17	18724 (78)	19	1294 (5)	20
CAGR		10.2		21.6		13.6

Small-Scale Industries

Next to agriculture, the small-scale industrial (SSI) sector occupies a pivotal position in terms of employment and output share in the economy. Apart from sectoral dispersal and wider promotion of entrepreneurship, the small-scale industries have a regional dimension in that the SSI units are scattered all over in the nooks and corners of the country. Immediately after the introduction of social control and subsequent bank nationalisation, banks found the small-scale industries as lucrative target for lending. Hence, the share of SSI units in total bank credit shot up from 6.9 per cent in June 1968 to 12.0 per cent in June 1973. Thereafter, it was sustained in the range of 11 to 13.5 per cent until the early 1990s. However, there has occurred a steady and drastic fall in the share of bank credit in favour of small-scale industries from 13.4 per cent in March 1989 to as low as 5.0 per cent in March 2003 and that of artisans and village industries from 0.9 per cent to 0.7 per cent. The number of bank loan accounts in respect of the SSI sector has dropped from a peak of 33.64 lakh in June 1989 to 14.31 lakh in March 2003 - a loss of near 20 lakh.

Overall, the momentum of better credit delivery for agriculture and small-scale industries, as also the underdeveloped states, noticed in the 1980s, has not been sustained in the 1990s and thereafter. While a few other factors may have played a role in adversely affecting the momentum of growth to agriculture and small scale industries and regions

since the beginning of the 1990s, the loss of momentum in the task of credit delivery for them by scheduled commercial banks may appear to have had a part in it.

6.5. Flow of Credit to Small borrowers and other vulnerable groups

Between December 1972 and June 1983, there were 21.2 million additional bank loan accounts in the aggregate added and nursed by the scheduled commercial banks, of which 19.8 million (93.1 per cent) were accounts with Rs 10,000 or less of credit limits. This trend continued for another decade up to March 1992 (despite the loan waiver scheme effective March 15, 1990). But the momentum was lost in the 1990s. There has been an absolute decline of about 13.5 million in the aggregate bank loan accounts between March 1992 and March 2001 and a much larger decline of 25.3 million in the redefined small borrowal accounts with credit limits of Rs 25,000 and less. On the other hand, borrowal accounts with higher credit limits of above Rs 25,000 have shown an unusually large increase of 11.8 million as compared with only 2.1 million increase in them during the preceding decade (December 1983 to March 1992). Even in the recent period between March 2001 and March 2004, while there has been an addition of 14.3 million in total loan accounts, small borrowal accounts have experienced an absolute fall of 0.5 million (Table 6.12).

Table 6.12: Trends in the Number of Small Borrowal vis-à-vis other Bank Loan Accounts

Period-End	Total Bank Borrowal Accounts (In Lakh)		Small Borrowal Accounts of Rs,25,000 or less (In Lakh)		Other Bigger Accounts (In Lakh)	
	Number	Increase over the previous period	Number	Increase over the previous period	Number	Increase over the previous period
Dec-1983	277.48	-	265.21	-	12.27	-
March 1992	658.61	381.12	625.48	360.27	33.12	20.85
March 2001	523.65	(-) 134.95	372.52	(-) 252.96	151.13	118.01
March 2004	663.90	140.25	367.66	(-) 4.86	296.24	145.11

6.6. Impact of credit contraction on poor households

First, nearly 80 per cent of small borrowal accounts have been in rural and semi-urban areas and hence their contraction is sure to hurt the borrowers in such areas. Second,

about 22 per cent of the number of small accounts and 18.1 per cent of the amount outstanding of such accounts have been in respect of women borrowers; over the years this proportion has edged up implying that women borrowers have increased their share of bank borrowings. Such is not the case with the borrowers amongst scheduled castes and scheduled tribes; their share has remained generally static between 1993 and 1997; the shares of women in these groups are also broadly the same. Even within this small borrower category, smaller loans up to Rs 7,500 had accounted for 80.5 per cent of the number of accounts and 50 per cent of the loan amount outstanding in March 1993, which slipped to 64 per cent and 32 per cent, respectively by March 1997. The bulk of the small borrowal accounts have been for agricultural and allied activities. Finally, about 50 per cent of the small borrowal accounts have been granted under special asset-creating employment programmes like the IRDP, SEEUY, SEPUP, DRI and others. Regional rural banks (RRBs) stand out as the banks serving the small borrowal accounts; it is more so in rural areas. Many of these phenomena are getting further reinforced in the more recent period. Small borrowal accounts have about two-thirds of credit outstanding as standard assets, which is somewhat lower than that for the public sector banking system as a whole at 88 per cent (RBI 2001:59). Standard assets of small borrowal accounts have risen with the size of loans but have been higher for agricultural activities than for industry, trade and transport except for personal and professional loans; the latter categories thus have weaker assets.

6.7 Micro Credit Movement in India

The micro-credit system in India has by now received substantial official support. The RBI has set up a special cell in order to liaise with NABARD and micro-credit institutions for augmenting the flow of credit to this sector. Defining micro credit as “provision of thrift, credit and other financial services and products of very small amount to the poor in rural, semi-urban areas for enabling them to raise their income levels and improve living standards”, the RBI has issued a number of guidelines to be observed by banks in rendering microcredit assistance.

Progress made in the NABARD's SHG-bank linkage programme

Presenting the progress made in the SHG-bank linkage programme (NABARD 2005), NABARD has stated that cumulatively, 16.18 lakh SHGs obtaining bank loans aggregating Rs 6,898.46 crore with refinance support of Rs 3,086 crore (Table 6.13(A)) covered near 200 lakh poor households. These numbers are rapidly increasing now. SHGs comprising only women members have constituted 90 per cent; with timely loan repayment (95 per cent). There has been substantial regional concentration of SHGs, with the southern states accounting for 67 per cent of the total SHGs credit linked and 81 per cent of the total amount of bank loan disbursed. Andhra Pradesh has alone accounted for 36 per cent of the SHGs credit linked as at the end of March 2004. This situation is, however, claimed to be undergoing a change as may be seen in the latest data provided by NABARD. However, it is important to note that for the BIMARU states, the proportion of SHGs in the all-India total has remained at about 15-17 per cent. (Table 6.13(B)).

Table 6.13(A): NABARD: Bank-SHG Credit Linkage Programme
Cumulative Progress up to 2004-05

Year-End (April-March)	No. of SHGs linked	SHGs Refinanced (Number)	Bank Loans (Rs. Crore)	Refinance by NABARD (Rs. Crore)
2000-01	263,825	213,213	480.87	400.74
2001-02	461,478	340,131	1026.34	796.47
2002-03	717,360	493,634	2048.67	1418.80
2003-04	1,079,091	611,043	3904.20	2124.24
2004-05	1,618,476	824,888	6898.46	3085.91

* In the 2000-01 report, SHGs are excluding those not covered under refinance

Source: NABARD's Annual Report 2004-05 and Various Issues

Table 6.13(B): Cumulative Growth in SHG-Linkage in Priority Status

(Number of SHGs as on March 31st)

State	2002	2003	2004	2005
Assam	1024	3477	10706	31234
Bihar	3957	8161	16246	28015
Chhattisgarh	3763	6763	9796	18569
Gujarat	9496	13875	15974	24712
Himachal Pradesh	5069	8875	13228	17798
Jharkhand	4198	7765	12647	21531
Maharashtra	19619	28065	38535	71146
Madhya Pradesh	7981	15271	27095	45105
Orissa	20553	42272	77588	123256
Rajasthan	12564	22742	33846	60006
Uttar Pradesh	33114	53696	79210	119648
Uttaranchal	3323	5853	10908	14043
West Bengal	17143	32647	51685	92698
Total for 13 states	141804 (30.7)	249462 (34.7)	397464 (36.8)	667761 (41.2)
BIMARU States	57616 (12.5)	99870 (13.9)	156397 (14.5)	252774 (15.6)
All-India Total	461,478	717,360	1079,091	1618,476

Note: Figures in brackets represent percentages to All-India totals
Source: *NABARD, Annual Report 2004-05. p.41*

Table 6.14: Progress Under SIDBI Foundation for Micro Credit (SFMC)

(Amount in Rs crore)

Year	Amount Sanctioned	Amount Disbursed	Number of SHG's Involved	Outstanding Loan Portfolio of SIDBI (Amount)	Cumulative sanctions of assistance (Amount)	Cumulative Total number of poor persons benefited (lakh)
1999-2000	21.90	14.03	-	-	52.61	3.14
2000-01	28.28	19.45	20530	33.24 (1.50)	81.05	4.42
2001-02	41.70	21.79	28436	43.45 (1.51)	122.75	7.28
2002-03	38.51	31.04	-	-	161.26	8.62
2003-04	70.84	66.31	-	91.21	232.08	10.41
2004-05	189.73	145.06	-	199.21	421.81	15.10

Figures in brackets represent NPAs of the total portfolio
Source: SIDBI Annual Reports, various issues.

SIDBI Foundation for Micro Credit (SFMC), launched effective from January 1999, has sanctioned financial assistance of Rs 189.73 crore during 2004-05 as compared with Rs 70.84 crore in 2003-04 (Table 6.14). The cumulative assistance since inception aggregated Rs 421.81 crore extended through 209 MFIs said to be benefiting over 15.10 lakh poor people, mostly women.

The micro finance movement in India has shown significant potential, and with intensive official support, the coverage has significantly expanded – which, as the institutional visions portray, is likely to be further intensified. The RBI has also expanded the scope by giving freedom to institutions to charge interest rates at their own discretion and more importantly, to cover not only consumption and production loans but also credit needs of housing and shelter improvements. Self-Help groups involve thrift as well as credit arrangements. NABARD and SIDBI have provided for SHGs and SHG members scope for capacity building through training and other inputs by NGOs. Peer monitoring helps better credit recovery. Finally, the SHG movement so far has shown that the outcomes have gone beyond thrift, credit and economic well-being; it has served as an instrument of social change essentially out of the empowerment of women. Improvement in literary levels and children's education particularly in awareness of girls' education, housing facilities, abolition of child labour, decline in family violence, and banning of illicit distilleries in the villages - have all been reported in different studies. Women have acquired better communication skills and self-confidence; they have also acquired better status within families.

6.8. Attempts at regaining the momentum of credit delivery for small and informal sector borrowers

Apart from more intensified flow of bank credit for agriculture, small and medium enterprises and micro-credit groups, a number of initiatives have been taken by the authorities in the recent period to correct the loss of momentum suffered in the 1990s in terms of halting the growth of branch network in rural areas and reduced flow of credit for small and informal sector borrowers.

First, the system of agency banking has been proposed whereby two models, namely, business facilitator model and business correspondent model, have been recommended to the banking industry. Under the business facilitator model, it has been envisaged that banks could use a wide array of civil society organizations (CSOs) and others for supporting them by undertaking non-financial services. The facilitators that would provide support services for effective delivery of financial services, are NGOs, farmers clubs, rural multi-purpose kiosks/village knowledge centres, and many others. Likewise,

under the business correspondent model, institutional agents/other external entities may support the banks for extending financial services. The business correspondents would function as “pass through” agencies to provide credit-related services such as, disbursal of small value credit, recovery of principal/collection of interest and sale of micro insurance/mutual fund products/pension products (RBI 2005, p.19).

Second, with the widening of the scope of RRBs’ functioning, they have been permitted to set up ATMs, issue debit/credit cards and also to handle pension/Government business as sub-agents of banks authorised to conduct government business.

Third, the Reserve Bank has advised scheduled commercial banks and RRBs with the support of detailed guidelines to introduce a general credit card (GCC) scheme for their customers in rural and semi-urban areas. The GCC will operate like the kisan credit card (KCC) but there will be no linkage to purpose or end-use of funds or security. The GCC can also be used for withdrawing cash against the limit sanctioned. Women will be given preferential treatment under the GCC Scheme. Banks have been asked to utilise the services of local post offices, schools, primary health centres, local government functionaries, farmers' associations/clubs, etc., for sourcing of borrowers for issuance of GCC.

Finally, with a view to giving small borrowers an opportunity to settle their non-performing accounts with banks and become eligible for fresh finance, all scheduled commercial banks (including RRBs and Local Area Banks) have been advised to provide a simple mechanism for one-time settlement (OTS) of loans for the principal amount up to Rs. 25,000 which have become doubtful or loss assets as on September 30, 2005. State-Level Bankers Committees have also been asked to evolve state-specific guidelines for loans granted under Government- sponsored schemes. This scheme will not cover cases of frauds and malfeasance.

Chapter 7
Inter State Contrasts in Poverty Reduction: A Synthesis of Selected States[5]

7.1 Introduction

State level analysis can capture diverse experiences of the states in poverty reduction as well as complement the macro analysis. Poverty at the state level is likely to be affected by the macroeconomic policies as well as state specific policies. The state reports provide comprehensive picture of four selected states: Bihar, Orissa, Rajasthan and Tamil Nadu. These states have diverse characteristics with regard to structure of poverty, institutional structure and the development process. This chapter focuses on the following questions: what are the factors that explain the differences in poverty reduction between states? How do the states differ in terms of their approach to poverty reduction and what factors have contributed to varying performances? It draws on the findings of the four state-level reports.

7.2 States' Profiles

Bihar, the second most densely populated state in the country, is endowed with very rich soil and irrigation to sustain agriculture. About 17% of the geographical area is covered by forests; while 47% falls under agriculture. Nearly 50% of agricultural land is irrigated of which 65% is commanded by wells (Table 7.1) . Nearly 90% of the population is rural based, that depends on agriculture for its livelihood. The recurrence of floods affects the people living on agriculture and the poor, vulnerable to such shocks suffer the most. Large incidence of landless labour and rigid agrarian structure hinder agricultural growth. After the bifurcation of the state into Bihar and Jharkhand in 2000, Bihar has lost its major mining and industrial areas to Jharkand[6].

[5] G. Mythili is the author of this Chapter. This chapter draws generously on respective state reports prepared by (a) *Ashok Mathur and Alakh N. Sharma* for Bihar (b) *Kailas Sarap* for Orissa (c) *Vidya Sagar* for Rajasthan and (d*) K.V. Palanidurai* for Tamil Nadu.

[6] Data and discussion on Bihar included in this chapter pertain to undivided Bihar.

Orissa is characterized by the highest incidence of poverty, very low per capita income and low agricultural productivity. Agriculture covers 39% of the geographical area, of which irrigated area is only 35%. Canal irrigation is the predominant source of irrigation accounting for 45% of the net irrigated area. The agricultural sector is characterized by higher proportion of landless labour, declining land- man ratio and high incidence of tenancy. State income is marked by high annual fluctuations owing to frequent occurrence of drought in western regions and floods in coastal regions. 85% of the population live in rural areas out of which about 41% are tribes. It has a forest cover of 36% of total area; tribal population depending on forest is very pronounced in this state. Orissa also suffers from structural rigidities in the agrarian structure.

Rajasthan is known for its diversity in resources and activities. About 60% of its area is desert with sparse population and 81% is arid or semi-arid that receives low rainfall. Nearly 45% of the area falls under agriculture with an irrigation ratio of mere 33%. Its irrigation resource is unevenly distributed across its regions. (Table 7.2). About three-fourths of the population lives in rural areas. Tribal and SC communities account for 30% of its population. The state has a rich historical and cultural heritage and it attracts both national and international tourists. Both handicrafts and tourism have huge employment potential. Development of rural non-farm sector enables the poor to cushion shocks resulting from failure of crops.

Tamil Nadu being one of the fast growing states in the country is the second most urbanized state as urban population accounts for 44% of total population. Sustained growth, growing IT and manufacturing sectors characterize the economy. Tamil Nadu has witnessed demographic transition in the last decade. High female literacy and women empowerment are additional features. Agriculture covers 42% of the total geographical area, of which irrigated area accounts for 53%. Surface water was fully tapped; and groundwater to an extent of 60% was tapped. Water scarcity has emerged as a major constraint on agricultural growth. The state also suffers from land degradation, *viz.* water logging and saline affected area is significant, around 2.23% of geographical area.

Table 7.1 : Major Characteristics of the States – 1999-2000

States	Population density-Person per sq.km	% of rural population	% of SC and ST population	% of area under forest	% of net sown area to total area	Cropping intensity	% of net irrigated area to net area sown	% of canal irrigated area
Bihar	880	90	17	17.0	42.9	1.35	50	28
Orissa	236	85	39	36.0	39.0	1.35	35	45
Rajasthan	165	77	30	7.6	45.3	1.21	33	27
Tamil Nadu	478	56	24	16.4	42.0	1.20	53	28

Source: Census Reports and CMIE, Agriculture

Table 7.2: Region Specific Key Farm Statistics – by NSS regions- 1999-2000

States	Regions	Irrigated Area %	Farm output per hectare	Farm Output per worker
Unit			(at 90-93 prices) '000 Rs.	(at 90-93 prices) '000 Rs.
Bihar	Southern Bihar	24	5.1	1.7
	North Bihar	75	6.3	2.5
	Central	78	7.2	2.8
Orissa	Coastal	26	4.7	2.5
	Southern	6	4.4	1.6
	Northern	17	4.0	1.9
Rajasthan	West	27	3.2	4.9
	North East	61	5.6	5.9
	Southern	47	4.5	2.4
	South Eastern	76	7.4	7.8
Tamil Nadu	Coastal North	75	24.3	12.7
	Coastal	77	14.4	8.4
	Southern	70	16.4	6.9
	Inland	66	22.2	13.1

Source: Himanshu, 2005

7.3 Poverty Profile

Poverty indicator, as measured by Head Count Ratio[7], for the four selected states in early 1970s and 1999-2000 are given in Table 7.3. According to the Planning Commission estimates in 1999-2000, poverty incidence was more than 40% in Bihar and Orissa as against all-India figure of 26%. Rural Bihar alone accounts for 21% of the country's rural poor. Poverty incidence is the least in Rajasthan, 15% followed by Tamil Nadu, 21%.

Table 7.3: Poverty Index (Head Count Ratio) for Selected States

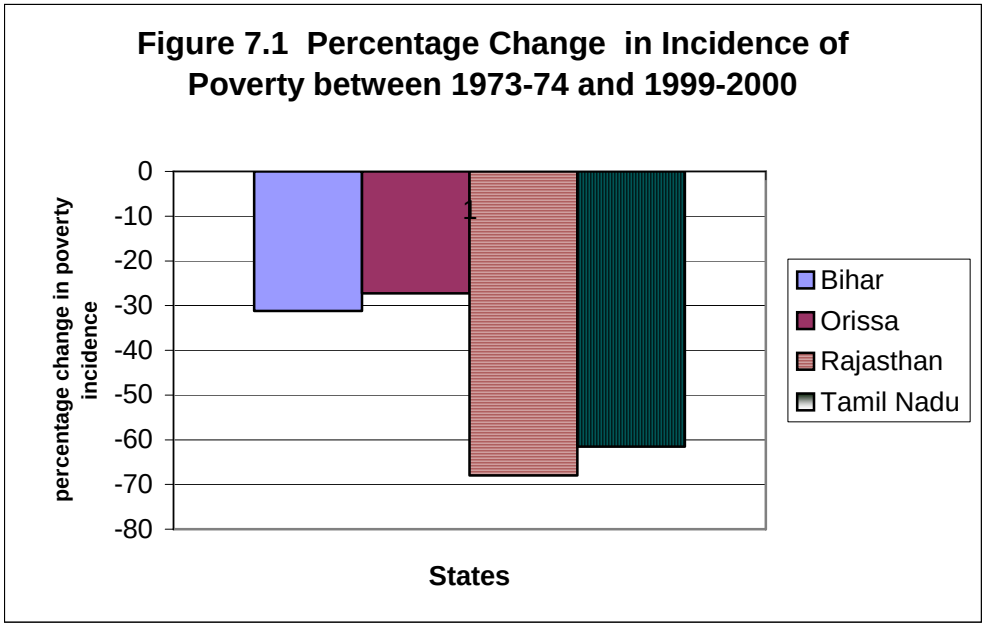
States	1973-74	1999-2000	% change per annum from 73-74 to 99-2000
Bihar	61.91	42.60	-1.20
Orissa	66.18	48.14	-1.05
Rajasthan	46.14	14.78	-2.61
Tamil Nadu	54.94	21.12	-2.37
All India	54.88	26.10	-2.02

Source: State Reports and National Human Development Report, 2001

In Rajasthan and Tamil Nadu poverty has declined by about 2.5% per annum between 1973-74 and 1999-2000. This reduction is faster than the all India figure of 2% per annum. In Orissa and Bihar, the reduction is slower at 1% and 1.2% respectively. As per official estimates, poverty almost remained stagnant in Orissa, between 1993-94 and 1999-2000, whereas Rajasthan and Tamil Nadu have registered a reduction of about 7% per annum between 1993-94 and 1999-2000. In Tamil Nadu and Rajasthan the urban poverty was higher than the rural poverty in the nineties[8] (Chapter 2 , Table 2.4).

[7] The poverty index based on poverty gap and squared poverty gap more or less depict the same trend as does head count ratio.

[8] According to the available alternative estimates (Deaton and Dreze, 2002) , the rural poverty seems to be significantly underestimated in the official statistics. However it is to be mentioned that rural and urban poverty estimates are not exactly comparable as they are based on different poverty lines.



Inequality index

A major factor that contributed to poverty decline in rural Rajasthan is redistribution, that is reflected in the falling Gini inequality index of monthly per capita expenditure in rural areas consistently from the early 80s till 2000 (Table 7.4). It registered a decline of 3.27 percent per annum between 1993-94 and 1999-2000 against a measly decline of less than 1% per annum in other states. This may be attributed to diversified nature of income sources. It is worth mentioning that in rural Rajasthan, livestock as a source of income protects the rural poor from fluctuations in crop income. It yields more stable income than the crop sector. Further, distribution of livestock asset shows less inequality than the land holding assets. Mining activity is a major source of employment for the poor. In the recent period, spread of micro finance schemes might have benefited lower income groups.

Table 7.4: Gini Ratio for MPCE

States	1983-84		1993-94		1999-2000		% change in Gini ratio per annum from 1993-94 to 99-2000	
	R	U	R	U	R	U	R	U
Bihar	.256	.301	.221	.309	.208	.318	-0.98	0.49
Orissa	.267	.296	.243	.304	.242	.292	-0.07	-0.66
Rajasthan	.343	.304	.260	.290	.209	.281	-3.27	-0.52
Tamilnadu	.325	.348	.308	.344	.297	.398	-0.60	2.62

Source: National Human Development Report, 2001
MPCE refers to Monthly per capita expenditure.

Chronic poverty

It is argued that the poor are not a homogenous category and the poverty reduction is likely to be uneven among the subgroups of the poor. Incidence of chronic poverty reveals that in Orissa, hardly any reduction took place in the extremely poor category between 1993-94 and 1999-2000 in rural areas (Radhakrishna *et.al.*, 2004). In rural Bihar, of the total reduction in poverty, much of the reduction has occurred in 'extremely poor' and 'very poor' categories; whereas in urban Bihar, not much change has occurred in these two categories of the poor. In Rajasthan and Tamil Nadu , the 'extremely poor' and 'very poor' categories have recorded significant decline in both rural and urban areas.

Intra state variations in poverty

The trends in the incidence of poverty as seen from the Table 2.4 of Chapter 2, indicate that rural poverty declined faster than did urban poverty in both Tamil Nadu and Rajasthan. Available sub-state level estimates show substantial variations in poverty reduction across regions within Orissa and Bihar between 1993-2000 (Table 7.5). The decline in poverty was faster in North Bihar than in South Bihar. In fact in Orissa, while incidence of poverty declined in its coastal regions, it worsened in its southern and northern regions.

Table 7.5: Intra State Variations in Poverty by NSS Regions (Rural+Urban)

States	Regions	1993-94	1999-2000	% change per annum
Bihar	South Bihar	55.3	46.0	-2.80
	North Bihar	57.9	40.2	-5.09
	Central	51.0	43.7	-2.39
Orissa	Coastal	45.6	33.6	-4.39
	Southern	66.1	81.9	3.98
	Northern	43.9	49.1	1.97
Rajasthan	West	25.1	11.7	-8.90
	North East	22.1	13.7	-6.33
	South	35.0	19.4	-7.43
	South East	44.1	21.7	-8.47
Tamil Nadu	Coastal North	41.6	26.6	-6.01
	Coastal	26.0	15.8	-6.54
	Southern	40.9	21.0	-8.11
	Inland	25.7	15.5	-6.61

Source: de Haan and Dubey, 2003

The reduction in poverty is more even in Tamil Nadu and Rajasthan. Even there, current poverty levels across regions in Rajasthan and Tamil Nadu *viz.* south east Rajasthan and north coastal and southern Tamil Nadu have higher levels of incidence.

Composition of the poor by occupation

Composition of the poor by various occupational groups reveals that the share of agricultural labour households in total rural poor is higher in all the states except Rajasthan. This is due to low incidence of agricultural labour households and prevalence of predominantly owner cultivators in Rajasthan; diversification to rural non-farm is significant among casual labour. In urban Tamil Nadu, migrant workers, particularly those in the construction sector, constitute the poor.

Poverty by social groups

Studies that analysed poverty incidence among social groups have shown that in India, a ST household has 30% higher probability of being poor than other social groups. In Orissa, 73% of STs were poor while 48% of the total population were poor in 1999-00. In fact, the disparity worsened between 1993-94 and 1999-00. Higher incidence of poverty among the STs is associated with the depletion of forest resources. This has been partly associated with the status of forest resources. Many poor tribals in Orissa, who depend on non-timber forest product for livelihood have suffered over the last decade owing to forest depletion and hence reduced availability of non-timber forest products. There is a case of 'entitlement failure' also as there are reports that many tribal lands have been acquired by non-tribals over time in Orissa (de Haan and Dubey, 2005). In Tamil Nadu, poverty is concentrated among SC categories. Incidence of poverty in 1999-2000 among SCs was estimated at 32% in rural and 42% in urban. However, unlike Orissa, the poverty levels among SCs have been declining over time. The reason attributed to this decline is that, increasingly SCs are integrating with the mainstream development process in Tamil Nadu. Effective implementation of reservation of jobs in government and public sector and reservation in education, and historically certain social movements fighting for socially downtrodden (*e.g.* Periyar Movement) could be cited as reasons for this phenomenon.

7.4 Human Development

It has been emphasized that poverty as measured by income deficiency is not adequate to capture full dimensions of human deprivation. A multi-dimensional approach, where human development indicators such as education and health also play vital roles, is helpful.

Table 7.6: Human Development Indicators

States	1981		1991		2001		Ranking based on poverty in 2001
	HDI	Rank	HDI	Rank	HDI	Rank	Rank
Bihar	0.237	15	0.308	15	0.367	15	14
Orissa	0.267	11	0.345	12	0.404	11	15
Rajasthan	0.256	12	0.347	11	0.424	9	6
Tamil Nadu	0.343	7	0.466	3	0.531	3	8

Source: National Human Development Report, 2001.
Note: Only 15 major states for which data were available in 2001, have been ranked.

Tamil Nadu has made substantial progress in human development over the last two decades. Its ranking on human development index is better than that in income poverty criterion. In HDI, Tamil Nadu is among the top 3, while in income poverty it is in eighth position. However, the state's position in HDI could be cited as a reason for better performance in income poverty reduction. The state's emphasis on social policies and programs partly explains this phenomenon. Orissa's poor HDI matches its poor performance in income poverty reduction. Rajasthan has performed much better in achieving reduction in income poverty than in its progress in human development. Perhaps, migration which augments income aggravates other deprivations especially deprivation in education, health etc.

As regards education, Bihar has the lowest literacy rate among scheduled castes (Table 7.7). Orissa is next to Tamil Nadu in terms of female literacy and rural literacy. Even though the enrollment rate has shown improvement, high drop out rates are reported in Orissa. Reasons vary from financial constraints to lack of parental support and uncongenial atmosphere in the schools. Substantial regional variation is reported in the teacher-student ratio and the school infrastructure. Quality of literacy is also open to question in many underdeveloped regions. Even though Rajasthan is improving its position in literacy over time, it is still lagging behind in rural literacy and female literacy. It is worth noting that rural literacy in Rajasthan has improved significantly from 27 % to 47% between 1991 and 2000. Innovative state specific programs initiated in the recent periods underlie its progress.

Rural urban gap in literacy is narrowing down in all the states. However, Bihar experiences larger rural-urban gap. Gender gap in literacy is the least in Tamil Nadu among the four states. Moreover, Tamil Nadu's record in the reduction of rural-urban gap, from 30 percentage points in 1991 to 16 percentage points in 2001 is impressive. As regards elementary education in this state, several initiatives taken by the state government have helped to increase the enrolment rate. Tamil Nadu Compulsory Elementary Education Act was passed in 1994. Moreover, other factors such as opening of schools in close proximity to the habitation and implementation of supplementary programs *viz.* free education to poor, noon meal scheme, free supply of text books and uniform etc. improved its literacy status.

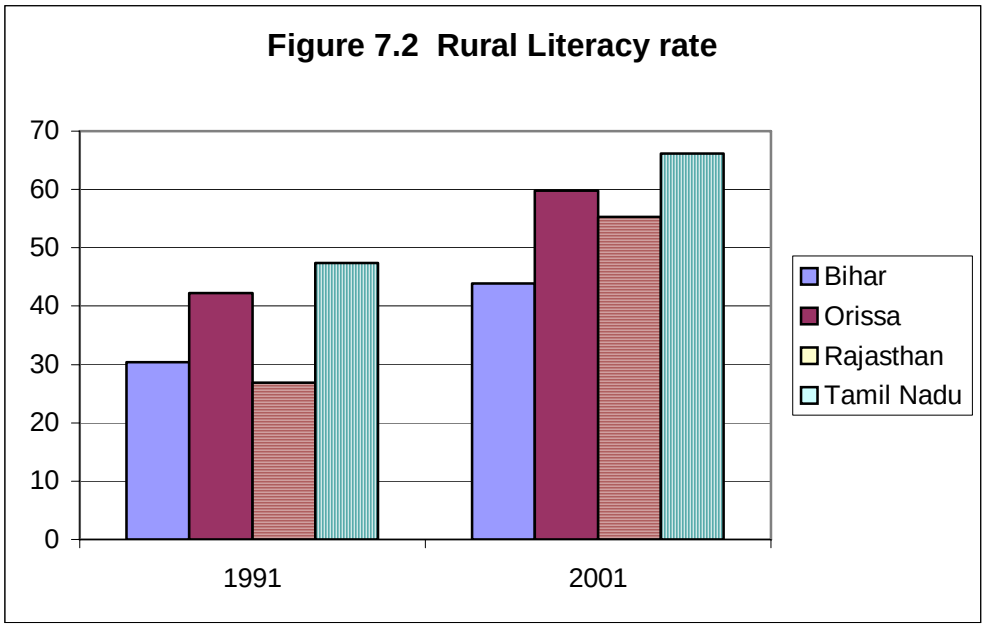
Table 7.7: Adult Literacy Rate

States	Male		Female		Rural		Urban		Scheduled Caste	
	1991	2001	1991	2001	1991	2001	1991	2001	1991	2001
Bihar	50.30	59.68	18.47	33.12	30.35	43.92	67.89	71.93	19.49	40.23
Orissa	61.96	75.35	29.69	50.51	42.26	59.84	71.99	80.84	36.78	70.47
Rajasthan	52.54	75.70	16.89	43.85	26.91	55.34	65.33	76.20	26.29	68.99
Tamil Nadu	69.92	82.42	43.87	64.43	47.42	66.21	77.99	82.53	46.74	73.41

Source: National Human Development Report, 2001

Tamil Nadu is at the top of the ladder as regards infant mortality rate and life expectancy at birth whereas Bihar is at the bottom of the ranking in terms of both the attributes. In Bihar, almost all the health related development indicators are low as compared to all India. Tamil Nadu has made rapid progress in health facilities as this is reflected in the improved health indicators. The gender equality index has been improving over time except for Bihar where it has declined during the eighties and the nineties. Tamil Nadu has the highest gender equality index. There is large variation in this index among the states as per 1991 data, from 0.469 in Bihar to 0.813 in Tamil Nadu. Total fertility rate has been moving towards the norm of 2.0 in Tamil Nadu based on the data for the year 1997. Orissa comes next with a fertility rate of 3.0. In Bihar and Rajasthan, fertility rate is higher, at around 4.3. Movement of demographic indices over time indicates that Tamil Nadu is experiencing favorable demographic transition. The major contributory factor seems to be female literacy. Women empowerment, which is reflected in higher gender

equality index, is an additional factor contributing to this process. Overall one can say that economic growth along with public provisioning of education and health services that ensure gender equality would lead to improvement in human development and income poverty reduction as seen in Tamil Nadu.



7.5 Pattern of Income Growth

Sectoral growth pattern indicates that, as expected, over time, tertiary sector is gaining importance in all the states and the share of agriculture is coming down. Statistics on income growth reveal that, Bihar, Tamil Nadu and Rajasthan have grown at an annual rate of about 5% during 1993-94 to 2003-04 as compared to less than 4% for Orissa. Higher growth of population has pulled down the per capita GSDP of Bihar, Orissa and Rajasthan to a low of 2.2 – 2.3 percent per annum. On the other hand , Tamil Nadu could achieve a per capita GSDP growth rate of 3.6 percent. The absolute per capita income is much higher for Tamil Nadu , *viz.* 30% higher than that for Rajasthan.

Sectoral growth rates show the poor performance of agriculture in the 1990s in Bihar and Orissa.; they registered an annual growth rate of -0.7 and 1.3 percent respectively (Table 7.8). Agriculture has fared better in Rajasthan and Tamil Nadu. Nevertheless its performance has been less impressive than non-farm sector. Non-farm sector has grown

at an impressive rate of 7% to 8% per annum in the nineties in Tamil Nadu and Rajasthan. Some of these favorable factors explain the faster poverty reduction in Rajasthan and Tamil Nadu.

Table 7.8: Agriculture, Non-agriculture- Annual Real Income Growth (%)

States	Agri. Growth between 1980-90	Agri growth between 1990-2000	Non-agri growth between 1980-90	Non-agri growth between 1990-2000	Poverty reduction per annum	
					82-83 to 93-94	93-94 to 99-00
Bihar	2.41	-0.71	6.18	3.90	-1.03	-3.75
Orissa	3.03	1.33	6.01	4.44	-2.12	-0.55
Rajasthan	3.06	3.50	8.06	8.17	-1.76	-7.68
Tamilnadu	3.28	2.92	5.40	7.33	-2.97	-6.61

Source: EPW Research Foundation

Growth rate indicates compound annual growth rate.

Non-farm sector is an important source of income and employment for rural households in Tamil Nadu and Rajasthan. This is attributed to rapid expansion of rural infrastructure facilities, especially road networks that have facilitated migration even from remote areas. In Rajasthan, development of mining and quarrying activities in rural areas has generated substantial income and employment. In Tamil Nadu, textile sector plays a major role in providing employment in rural areas next only to agriculture and contributes substantially to the state's economy. Its share in the export of yarn is 40% of cotton valued at Rs.2500 crores as against the country's total export of Rs.6,320 crores. The knitting and hosiery industry located in Tirupur , derives importance from its export potential. More than 9000 small scale units are functioning in this cluster. The industrial cluster has experienced tremendous growth in the last two decades. With the total turnover of Rs. 9,500 crores of which export is Rs. 4,500 crores, Tirupur accounts for 56% of the country's export in that sector. In employment, women account for about 60% of the total work force in Tirupur textiles sector. Bihar and Orissa have not made much progress in the non–farm sector. In Bihar, allied agricultural sector seems to have better growth potential. In recent period, fisheries, dairy and horticulture (especially litchi and banana) have been showing promising growth in Bihar. A substantial portion of state

income comes from these three sectors. Bihar has a comparative advantage in horticulture and fishery because of its rich alluvial soil and hydro resources.

Based on the study made by Ravallion and Datt (2002) that associates growth of non-farm output with poverty using the NSSO data from 1960-61 to 1993-94, it can be inferred that (Table 7.9), the poverty reducing effect of non-farm growth is weak in Bihar. In the case of other states, a 1% increase in non-farm per capita income reduces incidence of poverty measured by HCR by half a percent. Ravallion and Datt showed that the poverty reducing effect of non-farm growth would depend on initial conditions such as incidence of landless rural population, share of urban population, infant mortality rate, female literacy rate etc. According to them, in states like Bihar, unfavourable initial conditions inhibit the prospect of poor participating in the growth prospects of non-farm sector.

Table 7.9: Elasticity of Poverty with respect to Real Non -farm Output per capita (Period of study 1960-61 to 1993-94)

States	Elasticities			Per capita Non farm Growth
	HCR	PG	SPG	
Bihar	-0.26	-0.67	-1.00	1.96
Orissa	-0.66	-1.06	-1.40	3.15
Rajasthan	-0.66	-0.98	-1.20	2.41
Tamil Nadu	-0.56	-0.80	-0.96	3.88

Source: Ravallion and Datt, 2002

In the rural areas, land is the most important asset that influences the livelihood of the people. The asset distribution, especially land, can throw some light on the structural variations in different states. It is widely known that in Bihar and Orissa agrarian relations are less conducive to poverty reduction. Structural rigidities and insecurity of land tenure have inhibited agricultural growth as well as poverty reduction. Adoption of modern technology among small and middle farmers is very low in both Bihar and Orissa. It could also be due to lack of effective extension and demonstration programs in these states. As against this, structural transformation has taken place in Tamil Nadu owing to social movements as well as reforms undertaken by the state. Small farmers are able to adopt modern technologies helped by a well-designed and implemented extension

and training programs. This state has recorded impressive growth in foodgrain productivity over the last two decades. Estimates of output value per hectare for the NSS regions during the year 1999-2000 show that it was in the range of Rs. 4,000 to Rs. 7,000 in 1990-93 prices in all the selected states except Tamil Nadu (Himanshu, 2005). In Tamil Nadu, it was as high as Rs. 20,000 (Table 7.2). Output per worker also reflects a similar pattern. Higher agricultural growth and a somewhat stronger association between poverty and per capita agricultural income are some of the favourable factors underlying rural poverty reduction in Tamil Nadu (Table 7.10)

Table 7.10: Elasticity of Poverty with respect to Agricultural Income per capita (Period of Analysis 1960-61 to 1999-2000)

States	Per capita agricultural income growth	Elasticities		
		HCR	PG	SPG
Bihar	1.31	-0.412	-1.075	-1.609
Orissa	1.88	-0.355	-0.674	-0.998
Rajasthan	1.52	-0.485	-0.749	-0.950
Tamil Nadu	2.96	-0.700	-1.213	-1.617

Source: Panda, 2003.

There is no significant shift to commercial crops from subsistence crops over the years in Bihar as the share of area under foodgrains to gross cropped area is as high as 90% as against the share of 50% to 60% in other states. Subsistence concern and rigidity in practices mostly explain absence of any major shift towards non-foodgrains. In recent years, Bihar has been witnessing a spurt in the growth of horticulture. Crops like lichi and banana are emerging as engines of growth. However, their overall impact on poverty seems to be marginal. The allied sectors like animal husbandry and fishing have performed reasonably well in Bihar. Both horticulture and animal husbandry sectors hold the future for Bihar.

Notable shifts towards oilseeds and fiber crops have taken place in Rajasthan. It has seen significant crop diversification and agricultural growth in crop productivity in arid and rainfed areas. Development of markets and increase in productivity are cited as factors

underlying the above changes. The poverty reducing effect of diversification has however been little researched. The impact of diversification on poverty would depend on the extent to which new technologies are accessible to small farmers and the extent to which small farmers are equipped with marketing skills.

Diversification to non-farm and intersectoral linkages

Diversification of income earning activities helps to reduce risk associated with a single source of income from farming. Rajasthan shows increased diversification in rural areas. This is particularly seen in income generating potential of the livestock sector in Rajasthan. Tourism in Rajasthan, as is widely known, boosts the state economy; and it also helps growth of other sectors through sectoral linkages. Artisanary and handicrafts also contribute to the diversity of the state's economic activities. Better performance of the non-agriculture sector and its strong linkages with agricultural sector, have enabled Tamil Nadu to record significant poverty reduction in both rural and urban areas. Studies on intersectoral linkages (*e.g.* Kalirajan and Sankar, 2001) have found empirical evidences for the fact that in Tamil Nadu and Orissa, there is a bi-directional linkage between agriculture and industry implying that the growth in farm sector triggers off growth in industry and vice-versa. Whereas in Rajasthan and Bihar it is unidirectional with Rajasthan showing the tendency for sectoral flows to move from industry to agriculture and in Bihar it is from agriculture to industry.

7.6 Employment Scenario

Employment data reveal that overall there was a slowdown in the growth of employment in the nineties as compared to the eighties. The annual growth of employment has dropped in all the states except in Bihar. The slowdown may be partly attributed to withdrawal of child labour from the labour market. On the other hand, there may be voluntary withdrawal of youth labour also. If the withdrawal of youth labour is for the sake of human capital building then it is voluntary. Such reduction in employment should be treated as a welcome factor. Shifts of labour from primary agricultural sector to more

productive industries and service sectors were witnessed over time in the 70s and 80s. But this trend has slowed down in the nineties and after.

Casualisation of labour has occurred over time in all the states. Volatility in labour market exposes the vulnerable and the poor to labour market risks. The resultant casualisation of labour is one factor that increases vulnerability of the poor to labour market risks. Even though manufacturing and service sectors have achieved impressive growth in employment, still owing to their small share of total employment, they have not contributed much to the otherwise declining employment.

Employment scenario is not encouraging even in the better performing state of Tamil Nadu. About 90% of its workforce is in the unorganized sector. Incidence of unemployment is far higher in Tamil Nadu than in other states (Table 7.11). Particularly, unemployment among educated youth is widespread. Bihar and Orissa have lower incidence of unemployment than Tamil Nadu. It is difficult to bring out any association between unemployment and poverty at the aggregate level between different regions or between states; however at the household level, unemployment does increase the risk of poverty. Rajasthan has low level of unemployment. It could be due to its diversified employment opportunities. Mining activities in the arid and semi arid regions might have provided livelihood opportunities to the poor. About 50% of the work force employed in mining comes from SC and ST communities.

Table 7.11: Incidence of Unemployment
(per 1000 days on CDS basis) -Rural

States	Male		Female	
	93-94	99-2000	93-94	99-20 00
Bihar	63	46	72	62
Orissa	76	51	76	56
Rajasthan	15	4	33	19
Tamilnadu	128	113	143	123

Source: NSSO, various rounds
Note: CDS refers to 'current daily status'

Net migration is one factor that would reduce the supply of labour and hence put pressure on local wages. In Rajasthan, migration has taken place regardless of income status of the household. Both rich and poor have resorted to migration. Migration from rural to urban area has worked in favour of the rural poor, by pushing up real wages. An interesting

aspect of migration in Bihar is, increasingly more and more upper caste persons migrate because they are not able to break caste taboos against manual wage work in their villages. Lower castes migrate to avoid falling victims to the prevailing system of caste discrimination in the village.

Inter and intra state variations in the incidence of unemployment, extent of casualisation, relative size of non farm sector etc. are significant (Table 7.12). Proportion of casual workers is very high in all regions of Tamil Nadu, 50-55% as compared to 12-27% in Rajasthan. Wage levels are higher in Tamil Nadu followed by Rajasthan.

Table 7.12: Key Employment Statistics for the NSS Regions - Rural 1999-00

States	Regions	Workforce participation rate- Usual status	Unemployment rate - Usual status adjusted	% employed in non farm sector- Usual status	% employed as casual workers- Usual status	Non farm wage Rs.
Bihar	Southern Bihar	37.5	31	27..0	32.9	41
	North Bihar	31.3	15	15.8	51.0	50
	Central	34.9	11	18.3	43.5	43
Orissa	Coastal	34.4	39	28.2	38.8	42
	Southern	50.8	3	11.2	56.4	40
	Northern	47.8	11	22.3	49.2	38
Rajasthan	West	44.1	6	16.9	13.4	62
	North East	41.9	4	24.6	11.6	61
	Southern	49.1	1	32.8	26.6	55
	South Eastern	49.7	3	17.3	16.7	55
Tamil Nadu	Coastal North	46.8	27	31.5	50.2	70
	Coastal	50.5	16	23.3	56.9	66
	Southern	53.1	23	34.4	50.7	69
	Inland	55.7	12	37.2	49.4	116

Source: Himanshu, 2005

The fast growing Tamil Nadu and Rajasthan had witnessed slower employment growth between 1993-94 and 1999-00 (Table 7.13). The implicit employment elasticity is estimated to be lower for Tamil Nadu and Rajasthan. Higher wages and lower population growth in Tamil Nadu and moderately higher wages and higher incidence of migration might have contributed to their good performance in poverty reduction despite their poor performance in employment growth.

Table 7.13: Annual Employment Growth compared with GDP Growth and Employment Elasticity of GDP -between 1993-94 and 1999-2000

States	Employment growth	GDP growth	Employment elasticity of GDP	Poverty decline per annum from 93-94 to 99-2000
Bihar	1.59	4.5	0.353	-3.75
Orissa	1.05	4.0	0.262	-0.55
Rajasthan	0.73	7.0	0.104	-7.68
Tamil Nadu	0.37	7.1	0.052	-6.61

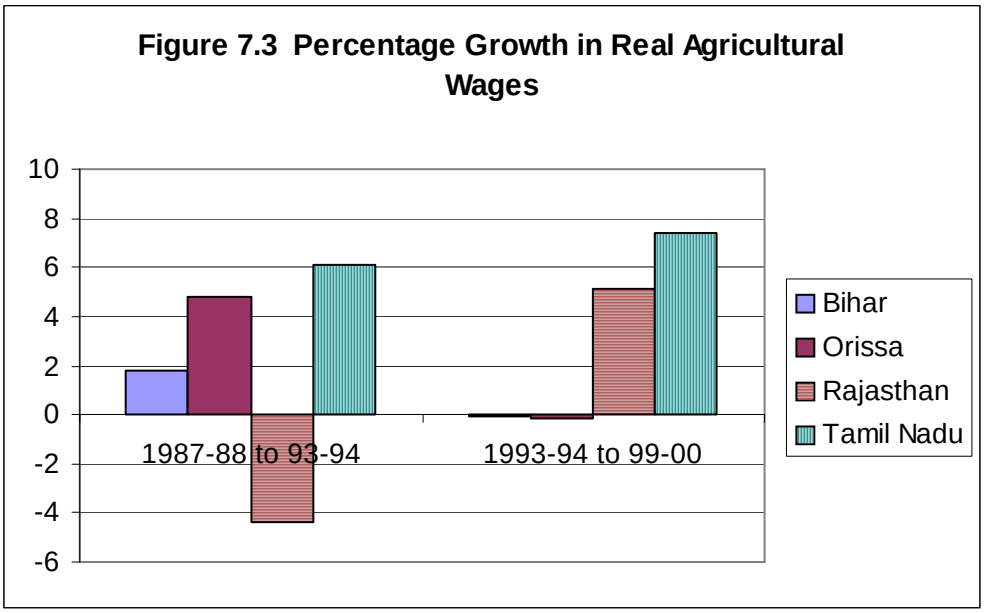
Source: Economic Survey

Real wage for unskilled agricultural labour has improved during 1993-1999 at an annual average of 8.15% in Tamil Nadu, 3.89% in Rajasthan and 0.98% in Bihar while it has declined in Orissa (Table 7.14). The performance of a state in poverty reduction is by and large in consonance with its improvement in real wage. The agricultural wage rates in Tamil Nadu and Rajasthan are significantly higher than that in Bihar and Orissa. The average daily wage for casual labour in agriculture in 2003-04 was about Rs.50 in Bihar and Orissa, whereas it was about Rs. 80 in Rajasthan and Tamil Nadu. Sizable rural–urban migration has raised the agricultural wage in Tamil Nadu and Rajasthan and this has contributed to reduction in rural poverty. In fact even when the per capita agricultural income was stagnant in the nineties, improvement in the agricultural wage was sustained. Non-farm wage classified according to NSS regions showed significant regional variation in Tamil Nadu (Table 7.12). In ‘Inland’ it was twice that of other regions in the 1990s.

Table 7.14: Annual Percentage Change in Real wages
for unskilled Agricultural Labour

States	% change over previous year							Average % change per annum	Average daily wage 2003- in Agriculture Rs.
	93-94	94-95	95-96	96-97	97-98	98-99	99-2000		
Bihar	5.98	1.69	-2.3	15.15	-4.7	-5.7	-3.26	0.98	53
Orissa	-0.14	-3.52	0.55	-0.41	2.39	0.61	-0.23	-0.11	50
Rajasthan	-7.66	1.05	10.33	17.81	5.12	-16.26	16.83	3.89	77
Tamil Nadu	11.60	1.03	3.63	7.90	13.39	2.63	16.84	8.15	80

Source: Economic Survey



7.7 Infrastructure

Infrastructural development is the backbone of rural development and it is expected to distribute the gains from agriculture widely by providing opportunities to less developed regions and to small and marginal farmers. Studies relating infrastructural development and rural poverty have found that factors like irrigation, rural electrification and roads not only improve agriculture growth and but also have favourable distributional impact. A study by Hanumantha Rao *et al.* (1986) using data on NSS regions has provided

empirical evidence to the view that development of irrigation and rural electrification is associated with lower poverty ratio. Benefits from canal irrigation, particularly seem to have a favorable distributional impact on different classes of farmers. A study by Fan Shenggen *et al.* (2000) has found that, improved road networks reduce poverty by way of higher wages and non-farm employment. This study has also concluded that a marginal rupee spent on rural roads has a larger impact on poverty than the other government spending.

Infrastructure in Tamil Nadu has expanded faster in the last two decades and it is comparatively better than the other states in terms of the composite index. Road density per 100 sq. km. of geographical area, as of 1999 was lower in Rajasthan and Bihar with 41.20 Km. and 51.40 Km. respectively; for Orissa, it was 168.60 km; and Tamil Nadu, 117.70 Km. Bihar has witnessed very little growth in road network in the last four decades. The annual percentage increase in road length between 1960 and 1999 was estimated at 0.26% for Bihar. The corresponding figures for the other states are 19%, 6.4% and 5.6% respectively for Orissa, Rajasthan and Tamil Nadu.

Irrigation

The poverty reducing effect of access to irrigation has been firmly established (Table 3.6, Chapter 3). In Orissa and Bihar incidence of poverty among households with no possession of irrigated land is twice that of those with irrigated land; in Tamil Nadu, poverty incidence is 40% higher among the households with no irrigation facility and in Rajasthan, it is about 15% higher.

Irrigation shows substantial variations across regions especially in Bihar and Rajasthan (Table 7.2). Irrigated area has recorded faster rate of utilization in Tamil Nadu. It has exhausted all the potential in major irrigation surface water and very little stock is left in minor irrigation. Ground water also is being overexploited in this state. All these factors go to show that sustaining the growth in agriculture is difficult in the future. Fast growth of agriculture has also brought with it extensive degradation in Tamil Nadu. Percentage of water logged and saline area to total geographical area is 2.23 for Tamil Nadu as against less than 1% for other states.

Even though Bihar is well endowed with water resources, it is constrained by inefficient management of drainage, floods and droughts and poor water management. Incorrect pricing and distributional inefficiency of public irrigation add to the problem. In Orissa, of the total irrigation potential generated, 53% comes from minor (flow and lift) and other sources. Due to erratic behaviour of monsoon and scanty rainfall, major parts of minor irrigation projects fail to provide required water on time. Besides this, constraints in the supply of electricity have contributed to uneven distribution and poor performance of irrigation use in Orissa. In Rajasthan, due to its meager water resources, the state has made concerted efforts to expand irrigated area during the last four decades. Over 70% of irrigation depends on ground water.

Financial infrastructure

Bihar lags behind in terms of financial infrastructure. In 2003, there was only one scheduled commercial bank per one lakh population as compared to one per 26000 persons in Tamil Nadu. The credit deposit ratio was 24 as compared to the maximum of 93, in Tamil Nadu. Investment climate is not conducive in Bihar and is subject to a higher degree of risk. In the wake of emphasis upon more prudential norms after the initiation of reforms in nineties, banks put a brake on the growth of priority sector lending. The inter-regional pattern of credit-deposit ratio was very disturbing in late nineties. For instance, between 1991 and 2001, CDR in rural areas declined from 57.5% to 21.2%. This decline is far higher than the reduction in semi urban or urban areas. In per capita terms, private and public investment, plan outlay, institutional investment and total credit utilized all were lower for Bihar in 2000-01. Data on institutional lending through different sources indicates that SCBs dominate over cooperatives in Bihar (Table 7.15). This is true even in the case of marginal and small farmers. The capital formation per capita is also one of the lowest for Bihar. The FDI is also low. This impinges on the growth potential due to inadequate capital for undertaking necessary infrastructure development.

Table 7.15: Proportion of Institutional Credit by Farm Size Categories - for the year 2005

States	Proportion of Institutional Credit available through									
	Sub-marginal farms		Marginal farms		Small farms		Medium farms		Large farms	
	SCB	Coops	SCB	Co ops	SCB	Co ops	SCB	Co ops	SCB	Co ops
Bihar	89.9	6.2	84.7	5.7	91.2	8.1	88.2	1.4	93.4	6.6
Orissa	71.5	22.0	58.5	18.7	46.5	28.8	59.8	37.7	63.4	36.6
Rajasthan	72.0	23.7	64.3	23.2	82.7	16.1	85.0	12.5	72.3	23.4
Tamil Nadu	47.4	48.5	44.3	51.1	58.7	38.2	44.5	49.8	71.1	28.5

Source: Rangarajan, 2006

Orissa also presents a dismal picture. In 2003, it had one bank per lakh population. CDR has declined from 70% in nineties to 41.5% in 2001. Since access to formal credit market is low, informal credit is the main source of credit in rural areas. The climate is not conducive to new investment in agriculture. Micro credit, which has made a beginning in Orissa is yet to expand in scale.

Financial institutions in rural Rajasthan mostly comprise Scheduled Commercial Banks (SCBs) , Regional Rural Banks and Cooperatives. The share of rural branches of SCBs declined from 66% to 56% between 1991 and 2001. As a result, population coverage per branch has gone up. This trend is attributed to the policy shifts that resulted in the merger of loss-making rural branches with the profit making branches. In this state, the gap between deposit mobilization and credit deployment in rural areas of the state has increased during the reforms period. Of the total credit disbursement, the share of PACs is only 24%. Of the total credit to small farmers and marginal farmers, the share of PAC is below 25%. Inequality has increased in the disbursement of production credit from PACs. The reason attributed to this is large number of defaults from small farmers and their subsequent loss of access to credit. However, innovation in institutional credit, for

e.g micro finance contributed to poverty reduction. In term lending by SCBs, the number of beneficiaries of small and marginal farmers declined from 63% during triennium ending 1987-88 to 56% during triennium ending 1997-98. Corresponding share in credit disbursal declined from 24.5% to 20.4%. The Cooperatives and the SCBs are functioning with greater efficiency. The performance of the Cooperatives and SCBs in terms of recovery and the business handled per staff is significantly higher than the all India average.

Tamil Nadu is well placed in terms of the spread of bank branches and physical accessibility. Banks are more evenly distributed between rural and urban areas. As mentioned earlier, in terms of number of bank branches, it accounts for 7% of the total number of branches in the country. Credit deposit ratio is also quite impressive. Cumulative farm credit per hectare in 2002 is was Rs. 2,200 in Tamil Nadu, much higher than for other states, where it is in the range of Rs.200 to Rs. 300. Besides commercial banks, the network of about 4600 primary agricultural cooperative banks (PACB) at the village level provides short term and medium term loans to the farmers. There is a three-tier cooperative structure with State Co-Operative Bank at apex level and District cooperative Banks at the middle level and PACBs at the grass root level, which extend credit facilities to the farmers.

7.8 Fiscal Scenario

The fiscal crisis of Bihar state brought on by the inability of the state to mobilize resources internally resulted in low budget allocation for poverty alleviation programs. Per capita real social expenditure witnessed a 23% decline from the early 90s to early 2000 (Table 4.7, Chapter 4). Outlay on social sector as a percentage of total spending has also declined by about 10% during this period. The share of budgetary resources going to education sector has witnessed a large decline. Stagnant tax and non-tax revenues coupled with an increase in salaries of the staff as a result of the Fifth Pay Commission recommendation, has compounded the fiscal crisis. Political expediency has triumphed over economic rationale in many instances. Mounting fiscal deficits and widening revenue expenditure gaps have forced the State to take recourse to high interest cost borrowing, thus leading to very low plan capital outlay in the case of Bihar. All these

factors have restricted ability of the State to undertake investments in social and economic infrastructure. Fiscal reforms are needed especially to tone up revenue by way of simplifying the tax system, making the administration more accountable and improving the level of cooperation between different tax departments. Growth of non-tax revenue and public sector reforms are crucial to improve the fiscal position.

Per capita real public expenditure in social sector has gone up between 1990 and 2000 in Orissa. Budget outlay on social sector as a proportion of total spending has increased marginally between 1990 and 2000. The increase has mainly gone to education sector. In the health sector, the share has declined from 3.6% in 90-91 to 2.5% in 2001-02. Orissa is passing through a severe fiscal crisis. It moved from a revenue surplus state in 1980-81 to revenue deficit state in the 1990s. About 80% of state's own revenue and 34% of its total revenue inclusive of shared taxes and grant-in-aid accounting for 6.5% of SDP are being used for debt servicing. A major proportion of the plan revenue expenditure and a part of the non-plan expenditure are being funded from the receipts on capital account. What is worse, revenue expenditure is growing at the cost of capital expenditure. Governance reform is considered to be the solution to the current fiscal crisis. The state has launched a fiscal and governance reform programs. Various measures have been undertaken to increase tax and non-tax revenue and public sector restructuring and debt restructuring. However, there are problems in their implementation. Power sector reforms have not yielded desired results due to unsatisfactory functioning of Electricity Regulatory Commission in the State. Some of the reform measures have been reversed. Similar is the fate of water resource management reforms. Given the fiscal condition of the state, steps are needed to attract private investment to finance infrastructure development. Recently the state has signed MOU for private sector establishments in the steel sector. This will boost Orissa's industrial production and the state economy provided governance improves considerably.

In Rajasthan, per capita real expenditure on social sector has gone up by 55% between 1990 and 2000. Fiscal situation worsened in the nineties and to overcome this, fiscal reforms were initiated starting with agriculture and power sector. However, they were inadequate to overhaul fiscal situation. Plan financing is constrained by extreme paucity of funds. The return on investment is very low. This makes fiscal situation unsustainable

as investments are funded from borrowings at high rate of interest. Panchayat Raj institutions are very weak in Rajasthan. This is attributed to low literacy rates and inadequate knowledge of the functions of the institutions among the elected representatives on the one hand and lack of own resources on the other. An improvement in the quality of representation would help to improve PRI governance. Budget outlay on social sector as a percentage of total spending has witnessed a marginal increase of 4 percentage points. Increasing share in education and a decreasing share in health are observed. The share of medical and health services in the total spending went down from 7.2% in 1990-91 to 5.8% in 2000-01.

In the per capita real social service expenditure, Tamil Nadu has registered a 40% increase between 1990 and 2000. The funds allocated to social sector as a percentage of total spending has seen a 10% points decline. The share of education went down from 22% in 1990-91 to 17.8% in 2000-01 and from 6.6% to 5% for health sector. Food subsidy accounted for less than 1% of the total expenditure in 1980-81; by 2000-01 it emerged as a major item of expenditure accounting for 6.5% of total spending. The absolute expenditure on nutrition programs has almost doubled between 1990s and 2000; though as a percentage of total spending, it has gone down from 4% to 2.27% in the same period. Budgetary allocation to poverty alleviation programs has declined from 5.5% to 3.5% of total outlay between 1990-91 and 2000-01. Even though availability of good infrastructure, quality manpower and the “investor friendly” approach adopted by Tamil Nadu have attracted considerable private investment especially foreign direct investment (FDI) into the State during Eighth and Ninth Plan, the finances of the State began to deteriorate during the later half of nineties. Responding to the fiscal crisis, the state implemented during 2002-03, a number of corrective actions encompassing revenue augmentation, expenditure reduction, power sector reforms and accommodating more private sector investment. However the state did not continue with these efforts with vigour. After the electoral debacle of the ruling party in the parliamentary elections, the state suffered a setback in reform measures. Meanwhile a large number of reputed software firms have shown willingness to invest in Tamil Nadu. The state has taken up the opportunity and created a conducive environment for IT development. The export

intensive sectors, especially textiles, have registered significant growth. Modernisation of textiles is one important reason why this sector is able to withstand competition.

7.9 Determinants of Poverty: An empirical exercise

Regression analysis is carried out to explain the inter district variations in poverty during the year 1999-2000. The data on relevant variables have been extracted from NSSO and the CMIE, District Statistics. Totally 82 districts from the four states constitute the sample. Three alternative measures of poverty have been tried as dependent variable and the results are presented in Table 7.16. All the variables are included in logarithmic form. All the coefficients possess correct signs. However, agricultural income per capita in rural areas is not statistically significant in explaining the inter-district variations in poverty. It can be observed from the table, rural literacy rate is the dominant factor of all. The size of land holding is the next important variable explaining rural poverty reduction.

The results show that rural literacy is the most important factor to be targeted for reducing rural poverty. Shift variables for the states have also been considered and found to be significant. The signs of the state dummy coefficients suggest that the base poverty level is lower in the other states than in Orissa. State dummy coefficients imply that given the level of explanatory variables same in all the states, there are still variations in the poverty status due to variations in initial endowments and other institutional and policy variables[9].

[9] The specification could be improved by adding infrastructure variables, both physical and financial, and other human development indicators. Preliminary trials with some of these variables did not yield expected results.
Due to lack of data, a crucial variable like wage rate was not included.

Table 7.16: Elasticity of Rural Poverty with respect to various Characteristics[10]

Variables	Head count ratio	Poverty gap	Squared poverty gap
	Elasticity		
Rural literacy rate	-0.887*	-0.928*	-1.076*
Agriculture income per capita rural	-0.172	-0.207	-0.203
Average holding Size#	-0.613*	-0.729*	-0.879*
R^2	0.561*	0.621*	0.615*
Sample size	82		

Average holding size is computed as the ratio of total land cultivated to the total number of farmers. *significant at 5% level.

7.10 Programs of Poverty Alleviation

Regardless of the initial conditions of endowment and distribution, government targeted programs are expected to give necessary fillip directly for the poor to improve their economic status. There are various centrally sponsored schemes common to all the states and state specific programs for poverty alleviation. Common central programs are mainly self-employment programs, wage employment programs, food and nutrition programs and social security related programs.

Performances vary among the states for common programs because of initial conditions and the way implementation process is carried on. In Bihar, a comprehensive self-employment program started in April, 1999 has replaced various components under this scheme. But the evaluation studies have shown that it has not made much impact. Among the wage employment programs, Employment Assurance Scheme, which helps the rural poor in lean agricultural season, has gradually covered more and more blocks and in

[10] The system of equations were tested for simultaneous bias by performing endogeneity test (Durbin- Wu- Hausman test) . The simultaneous problem might occur because agriculture income per capita could be endogenous in the system. However the test has proved that there is no simultaneous bias in the specification.

terms of desired targets this program has performed well with the achievement rate of above 90%. As regards PDS, in Bihar, where food production per capita is low, PDS is expected to help the poor in meeting their food needs. But, on the contrary, the PDS allocation and offtake have been very low. Poor delivery system is the main cause. Large level of leakages has been reported. Political commitment is needed to bring in reforms to make PDS to contribute to the overall reduction in poverty. In this state, programs that lead to the organization of self-help groups, have not progressed as expected due to very low 'ground level credit flow'.

In Bihar, one of the major factors underlying the poor performance of poverty alleviation programs and lack of political commitments is due to its backward agrarian structure. Some legislation pertaining to land reforms viz. Land Ceiling and Tenancy Acts were grossly violated because of inadequate implementation. Programs that provide basic infrastructure and basic civic amenities for better quality of life in rural areas also are weak.

In Orissa, the employment generation schemes consist of provision of employment to the unskilled workers and the state has mandated that 30% of the total employment generation should reach women. The targets of wage employment programs have not been met in most years. Self-employment programs are reportedly suffering from poor and inefficient credit delivery. Orissa also reveals failure of PDS to cater for the food needs of the poor adequately. Many constraints such as communication gap between ration shops and the buyers about the exact time of arrival and lack of cash on the part of buyersat the time of arrival etc. are cited for poor offtake from PDS. The supplementary food distribution through Annapurna Scheme has also faced similar problems. It needs to be noted however that in the cyclone year 1999-00, PDS performed well. The ICDS scheme has made significant impact. Provision of noon meal to school going children has improved the attendance rate ovarall, among SC/STs and girl children. However, there is lack of coordination between this scheme and other nutrition programs at the grass roots level. The state is trying to improve the primary school enrollment through District Primary Education program. The progress is slow however, thanks to organizational problems and paucity of funds. Participatory water management is one scheme that is intended to improve soil and water management in the rural areas. The state had formed

Water Shed Mission in 2000-01 with a view to ensuring soil and water conservation. In order to facilitate the process of participatory water management the state passed Pani Panchayat Act in 2002. Micro evidence shows that PPs are not democratic and the rich and the elites control most of the decisions relating to maintenance and distribution of water. Overall in Orissa, many programs suffer from poor functioning and absence of community participation. The coverage of the state run old age pension scheme is very small and hence has had little impact.

In Rajasthan, some innovative schemes for rural infrastructure development and micro credit finance have proved successful in the recent period. However, asset redistributive programs such as IRDP and income transfer programs, and PDS have been efficiently carried out. These programs are not very successful as far as poverty reduction is concerned. Employment programs in the state depend on the drought intensity. Growth, both in the farm and non-farm sector, and rapid development of rural infrastructure, facilitating migration even from the remote areas, might explain poverty reduction in the state better than the directly targeting programs. However some state specific programs and administrative reforms have been successful. One of the administrative reforms is the enactment of Right to Information. This has improved the accountability of programs and better transparency thereby has helped the effective implementation of the programs. Public hearing of the grievances in the welfare programs is a specific feature, that has helped benefit of the programs to reach the targeted people with less corruption.

In Tamil Nadu, social policies, notably the one relating to reservation of jobs in government and state public sector undertakings and reservation of seats in educational institutions including higher and professional education based on social class, as well as integration of socially excluded communities with the mainstream have played a vital role in the reduction of poverty. Government's direct interventions put emphasis on provision of basic minimum services. Tamil Nadu's efforts in improving the nutritional status of its population through innovative schemes with strong political commitment for effective implementation have received universal acclaim (Box 7.1). A few of the schemes, notably the School Noon Meal Scheme, have been expanded nationwide. Started in 1956 as mid day meal scheme, it launched its World Bank supported Tamil Nadu Integrated Nutrition Project (TINIP) in 1980. This scheme provides supplementary

nutrition to children under 3 years age and educates women on breast feeding, weaning and growth monitoring.

A unique feature of PDS in Tamil Nadu is its universal coverage. A large network of fair price shops and arrangement with the neighboring states for inflow of foodgrains during shortfall, have helped to keep grain prices low even during drought season. Higher level of internal procurement of paddy to maintain the supply is an additional feature. It is reported that monthly purchases from PDS is higher in Tamil Nadu than in many other states. The state's policy of maintaining the issue price below the central issue price has provided income gain to the poor. Income gain per capita from PDS shown in Table 7.17 reveals that Tamil Nadu has provided more benefits to the poor thorough PDS than other states. It is also shown that Orissa has been improving in PDS delivery system and it benefits the poor more compared with Bihar and Rajasthan.

There are other programs such as 'Pension to the old people, destitute and physically handicapped'. Tamil Nadu's success has been the outcome of effective implementation of programs, that enable the poor to participate in the democratic process. As reported earlier, textile sector is one of the major sectors generating both employment and income in the state.

Table 7.17: Per Capita Income Gain (Rs. Per month) from PDS in Rural Areas 1999-2000

States	to Poor		to Non-poor	
	Cereals	All-commodities	Cereals	All commodities
Bihar	0.80	4.08	2.11	5.12
Orissa	10.02	11.44	7.79	10.53
Rajasthan	0.56	3.71	0.45	3.65
Tamil Nadu	20.28	32.80	25.49	32.80

Source: Sambi Reddy and Hanumantha Rao, 2004

Box 7.1: Nutrition Program in Tamil Nadu

Nutritious Meal Program (NMP) has been formulated by the government of Tamil Nadu to improve the health and nutritional status of children and to develop their mental and physical capability by direct provision of food and food supplements. Launched in July, 1982, initially, this scheme covered rural pre-school children in the age group 2-5 years through the network of noon meal centers. Subsequently the scheme was extended to urban pre schoolers also. In 1984, the program was further expanded to cover the school students of 10 to 15 years of age. In 1983, the old age pensioners were made eligible under the program. From December 1995, pregnant women have also been included under the program to enjoy the benefits for 4 months during the period of pregnancy. Overall there are more than 70000 noon meal centers feeding over 77 lakhs children and 5 lakh adults. Besides improving nutritional status of children, these schemes also serve as incentives for increasing the enrollment in and reducing dropouts from schools. While initially the noon meal programs were started to combat hunger and malnutrition, over the years the state government has taken initiative to combine provision of food with other services like health care, immunization, growth monitoring, pre and post natal care for women, communication and nutrition education. In 1994, a State Policy on Nutrition was explicitly drafted with technical support from the UNICEF. The state has been spending significantly on the NMP. Budgetary allocation to NMP has increased from Rs. 27,230 lakhs in 1992-93 to Rs.58,118 lakhs in 2000-01. As a percentage to total social service expenditure, it ranged from 6.5% to 7.8% during the same period. Expenditure on the 'nutrition' head ranks third after 'education' and 'medical and public health'. Impressed by the success of the nutrition programs in Tamil Nadu , Government of India supported similar initiatives in the other states. The impact of the nutrition programs has been well documented. Based on the evaluation reports of National Institute of Nutrition, in Tamil Nadu, distribution of 1-5 aged group children by nutritional status between 1975 and 1996 showed that the percentage of children with normal nutritional status increased from 6.2 % to 14.4% during this period; that of mildly mal nourished from 34.2% to 49.2%; incidence of severely malnourished children declined from 14.4% to a low 2.9%. The percentage decline of malnourished is much sharper than the all –India figures.

Source: Social Welfare and Nutritious Meal Programme Department, Government of Tamil Nadu, Policy Note -2005-2006.

Box 7.2: Textile Sector in Tamil Nadu

Tamil Nadu has occupied a distinct place in the growth of textile industry in India. Textile sector consists of spinning, handloom, powerloom and garment. Of the total textile mills, 97% belong to spinning mills. As a percentage to the all-India level, Tamil Nadu accounted for 47% of the total textile mills, 36% of the installed spinning capacity and 35% of the total yarn production as of 1999-2000. The textile mills in the state are mostly managed by private sector and are predominantly cotton oriented. The state is the largest producer of cotton, spun and non-cotton yarn in the country. In order to compete in the global markets and to adopt state of the art technology on par with international standards, interest subsidy at 5% is provided to the textile sector under Technology Upgradation Fund Scheme.

Handlooms and powerlooms provide employment to a large section of people in rural and semi urban areas. To capture consumer markets, both handlooms and powerlooms are encouraged by the State Department of Handlooms and Textiles to produce marketable varieties and a suitable action plan has been given to the respective weavers' co operative societies. The Special scheme under Swarna Jayanthi Gram Swarozgar Yojana has provided assistance for training and capacity building, design development, skill upgradation, creation of additional employment and value addition, technology upgradation, entrepreneurship development, infrastructural development and marketing. All the development and welfare schemes of the State are channelised through Weavers Cooperative Societies.

The hosiery units in Tamil Nadu are located at Tirupur in Coimbatore district. Of the total 6,000 hosiery units in India, about 2,900 units are located in Tirupur. It is an industrial cluster providing large scale employment to the tune of 1.50 lakh employees. The processing facility is mainly in the unorganized manual dying/printing sector. The present availability of processing could not adequately meet the demand of the textile sector. The government is now taking steps to establish a 'processing park' at Cuddalore to facilitate large scale processing.

Source: Handlooms and Textiles Department, Government of Tamil Nadu,
Policy Note -2005-2006

The state's policies have enabled modernisation of textile sector and hence the sector has seen significant growth (Box 7.2). Industrial cluster in textiles, for instance, the one at Tirupur, has been effective in generating income and employment to the poor. Inspite of State's efforts in various employment generation programs, employment growth seems to lag behind. Water scarcity has affected the poor adversely in this state. Being one of the most water starved states, Tamil Nadu has drawn various schemes for assured water supply to rural areas and provision of recharge structure across small streams and rivers and proposal for installation of sea water desalination plant.

7.11 Macro Policies and Poverty

The larger objective of the study is to trace the impact of macroeconomic policies on poverty reduction. It is known that food prices directly impinge on the poor in both rural and urban areas. For rural landless and urban poor, direction of change in relative food prices would serve as a good indicator to explain their poverty status, as food accounts for a major portion of their expenditure. The aim of food pricing policy has been to protect the vulnerable groups from price inflation. For small farmers who own land but have constraints to switch over to other crops, procurement prices will protect them in times of bumper harvests. One has to trace the terms of trade between agriculture and other sectors to determine if they have been favorable to rural small farmers over time.

Comparison of 'food' versus 'general' price index reveals that in general, the food price index has been declining over the years (Table 7.18). Bihar and Orissa have revealed the same trend. Whereas in states other than Tamil Nadu, the relative index of food vs. all commodities is 100 or more than 100, in Tamil Nadu during 1999-2000, it has fallen below 100. Since food is a major item in poor's consumption basket, it is a favorable situation for the poor. Reducing the volatility in the availability of foodgrains across time is one important aspect of price stability. For instance, in Tamil Nadu it has been observed that during the drought year of 2002-03 the wholesale prices of rice rose by only about 3% in real terms over the previous year's prices despite a 34 % fall in paddy production in the state. This is due to the fact that private sector inflows from neighboring states during shortfall years, has stabilized the availability of food to poor consumers.

Table 7.18: Food vs. General Consumer Price Index for Agricultural labourers

States	1987-88	1993-94	1999-2000
Bihar	109	110	100
Orissa	110	110	100
Rajasthan	110	108	103
Tamil Nadu	107	105	97

Source: Monthly Abstract of Statistics, CSO, Government of India

In Bihar, even though the abysmal standard of governance partly explains the performance, the other reason is low investible resources caused by forces of liberalization. This has affected infrastructure development. There is some anecdotal evidence that financial policies pursued after liberalization have diverted resources away from Bihar.

Foreign direct investment flow provides more resources for investment in a state and the situation is encouraging for Orissa. FDI went up from Rs. 19,262 million in 1995 to Rs. 46,953 million in 1997. State policies make the climate conducive for foreign inflows into Tamil Nadu. It has consistently been in the range of Rs. 30,000 million per annum since 1995.

The Central government's agricultural policy has helped Rajasthan's agriculture to significantly grow in the 1980s. The impact was also seen in diversification. In the eighties, mustard cultivation received a boost from public policies. This crop requires low irrigation and suits agro climatic environment of Rajasthan. However, as a result of liberalization, import of edible oil has been on the rise. This badly hits domestic cultivators. The cultivators slowly have shifted to wheat, which requires more water. According to Rajasthan Mustard Oil Industries Association, 90% of the small industrial units have suffered as a result of liberal import policies. Even if we take into account consumers' benefits from lower edible oil prices, the loss of income and employment outweighs the benefits. This has affected agricultural growth in the nineties**.**

In Rajasthan, public sector investment in agriculture has been declining faster than overall investment. Agriculture sector reforms were initiated under the Agricultural Development Project in 1992-93. The state level policy reforms increased investment in agriculture sector, helped better channelization of public expenditure and achieve greater

efficiency in state undertakings. The reforms are intended to limit the role of the state in such activities as seed production and veterinary services, besides full cost recovery for public supply of inputs to agriculture. Power sector reforms were also initiated mainly in the following areas: reduction in cost to power generation ratio, rationalization of power tariff and mobilization of more resources.

Environmental policy and poverty

One neglected area in the literature of the impact of macro policies on poverty is the policies related to environmental protection and its impact on poverty. In the last few years due to increased awareness, and the inclusion of environmental issues in the world trade agenda, many countries including India have legislated environmental policies. Recently the focus has shifted to how the commitment on compliance with the specified environmental norms is going to affect the poor.

For instance, in Tamil Nadu, a few years ago, Supreme Court ordered the closure of many small scale tannery units for their non compliance with the norms. This rendered lakhs of poor jobless. Tirupur bleaching and dyeing units in Tamil Nadu is another example where the authorities are unable to tackle huge level of waste water discharge in the river. As this sector generates huge export earnings and large level of employment, initiatives have been taken to clean up wastewater so as not to affect the industry growth. Forest degradation is another area, which directly impinges on the tribal community that depends on the forest products. Many poor tribals in Orissa, who depend on non-timber forest products (NTFPs), have suffered over the last decade due to forest depletion and hence reduced availability of NTFPs. Forest policies such as those related to Protected Area and Reserved Area, and the conflicts between state departments and the tribals in the management of forests are affecting the livelihood of the tribals. How to take up right measures to combat environmental problems and check its adverse impact on poor and how to balance these two may be one major policy challenge in the near future.

7.12 Summary and Future Direction

From the preceding discussion, it is evident that the same policies have different impacts on different states because of initial conditions, ability to adapt to changes, structural rigidity and the institutional regimes and their way of functioning. In Tamil Nadu, in sharp contrast to Bihar, the institutional functioning is more democratic and hence it is able to respond to liberalization. In Bihar exploitative agrarian relations, poor governance and adverse external factors are the main factors that inhibit growth and poverty reduction. Whereas in Orissa, in view of large proportion of ST communities, social exclusion of tribals from mainstream activities is the major factor responsible for dismal performance of poverty reduction. Rajasthan's progress mainly lay in their ability to develop diversified activities in rural sector. By expanding the rural non-farm sector, it has been able to protect the poor from vulnerability caused by various shocks. This state has achieved significant reduction in rural inequality.

In Bihar and Orissa some drastic measures and steps are called for to bring down poverty level. In Bihar, rural poverty is traced to lack of land access with a large proportion of population being left landless or with very marginal and poor land. Increasing the access to land for the landless is certainly an important way of reducing poverty among agricultural labour. Land redistribution could be a method of asset based poverty reduction in Bihar. It is imperative to overcome structural rigidities and hence structural reforms should be the priority. Bihar's human development indicators such as education and health care are also lower than in other states. Its growth performance is below par as compared to other states. Agriculture, which is the backbone of the economy, has been languishing for a long period. Adding to the natural calamities like flooding, there are also additional factors in the form of poor transport and marketing infrastructure, low investment scenario and drastic fragmentation of holdings, all contribute to poor agricultural growth, inspite of the state's very rich base of land and water resources. To protect the poor from vulnerability, and to reduce the dependence of poor farmers from rainfed cultivation, strengthening of irrigation facilities is required. Fortunately, substantial irrigation potential remains untapped.

Fiscal situation in Bihar is far from satisfactory and is suffering not only from failure to generate adequate funds but also from mismanagement. Social sector delivery system is

fraught with many problems due to lack of proper monitoring and enforcement mechanism. Institutional weakness is quite evident in the poverty alleviation programs and leakages as high as 50 % to 80% are reported in many programs. Of late, diversification to non-crop sector, which yields high value-added products, has made a beginning. Potential of horticulture has to be tapped further. Preservation of fruits and vegetables for longer periods needs better infrastructure. Cooperative institutional set up for processing and marketing of fruits and vegetables would promote growth. Rural infrastructure is very poor because of low investment levels. Bihar's problem is compounded after the state's bifurcation in 2000. As a result, Bihar has lost very productive industrial and mineral resources. Increasing investment and plugging the loopholes in the administration and the overall governance would help Bihar initially to move in the right direction. It is not mere increase in investment in rural infrastructure, but also revival of rural institutions to promote public participation that is needed.

Orissa's problem is low agricultural yield, lower growth in net state domestic product and poor management of resources. Traditional methods of cultivation have led to low agricultural growth. But farmers face many constraints in adopting new technologies. This state also suffers from structural rigidity. Poverty is the worst in the drought affected dry and upland areas and it is seen more among agricultural labour. Due to mounting losses of PSUs, the state has initiated many reform measures. Industrial scenario in the state is gloomy. Casualisation of employment is widespread. This increases labour market fluctuations and exposes the poor to more labour market risks. As regards education, access to even elementary education is low in backward districts though overall literacy rate is impressive. The social sector is suffering from poor allocation of resources. In Orissa, non-farm sector in the rural areas needs to be well developed to supplement farm income. The poor fiscal situation calls for more private investment to raise resources to finance infrastructural and social programs. Institutional reforms to remove the functional obstacles for development must be taken up in a full-fledged manner in Orissa.

Given the uneven sectoral distribution of NSDP and skewed resource endowments of various regions of Orissa, sector specific and region specific policies are called for to reduce poverty. To rejuvenate agricultural growth, the irrigation infrastructure needs to

be extended to dry regions. Diversified employment opportunities need to be explored. A vibrant non-farm sector would immensely help poverty reduction. Agro based and food-processing industries have potential to generate productive employment. Linking informal sector with large-scale industries will increase employment generating potential of the industrial sector. There is a need for development of irrigation, healthcare and educational facilities in the tribal and backward districts to increase the capability of the poor. The large proportion of tribal population, who are spatially concentrated, do not benefit from the mainstream developmental activities. Integrating their activities with the mainstream is the need of the hour.

Rajasthan has emerged from being a slow growing to reasonably better growing state. Even though health and agriculture sectors have been neglected, the progress in rural non-farm activities has been helping reduction in poverty. Efforts are needed to promote crops that suit agro-climatic conditions of the state are needed. Policies that promote diversification of farm sector could be further strengthened to augment rural income. Some of the financial sector institutional reforms have been successful in Rajasthan. Widespread growth of both farm and non-farm income coupled with rapid development of rural infrastructure facilitating mobility even from the remote areas, have made a significant impact on poverty reduction. Income poverty is of little concern for Rajasthan; the issues that are of more concern are human development; specifically health and elementary education. Even though average nutrient intake is higher, large incidence of malnutrition is reported due to poor health delivery. Other areas of concern are degradation of natural resource base in environmentally fragile areas owing to population pressure and depletion of ground water tables. They call for policy attention.

Agriculture in Tamil Nadu has been proving highly productive, due to technological change and extension of irrigation to more areas. Strong agricultural research and extension programs, good road infrastructure, and a relatively more rural literate population are helping agriculture. The problems facing the agriculture sector are, the severe water scarcity and land degradation. These problems are being addressed by establishing ‘water shed development’ units in many identified areas, which in the process of soil conservation also help in integrating rural livelihood activities.

In Tamil Nadu, even though non-farm income is increasingly contributing to the incomes of the rural poor, the poorest rural classes derive about 75% of their income from agriculture, with agricultural wage alone accounting for half of their income. This means, growth in labor-intensive agriculture could further reduce rural poverty through higher yields, higher real wages to labour, and growing income and employment generating opportunities. Increasing employment and earnings in the dry season is especially important for the rural poor. The reduction in poverty is also likely to be greater if small farmers are able to participate in the new practices.

State's role is prominent in the reduction of poverty in Tamil Nadu. The share of fiscal expenditure on social sector as % of SDP has increased from 30% to 38% between 1980s and 2000. The share of education and health has also increased. Food security programs such as PDS and noon meal schemes are very effective in tackling poverty. State's direct intervention in nutrition improvement programs such as noon meal scheme and public distribution programs for food security are all success stories of Tamil Nadu. Tamil Nadu has excelled in human development over time.

Women empowerment and women participation in decision-making and governance is something remarkable in Tamil Nadu. Historically, Tamil Nadu has seen social movements which have helped women and socially downtrodden to fight for their rights and participate in the democratic institutions effectively. This has contributed to improvement in female literacy and reduction in fertility rate. On the employment front, however, the performance of Tamil Nadu is far from satisfactory and the growth has mainly occurred in capital- intensive sectors. Rising rate of unemployment among educated adults is a major concern. Integration of poverty alleviation programs with sectoral development schemes implemented by the line departments is one area where special attention is needed. There is a consensus about the view that the Panchayat Raj institutions are not empowered adequately to carry out their tasks effectively and efficiently. The decentralised institutional set up would enable public participation in decision making and hence help effective implementation. Reforms are needed to make the local government more efficient. Lastly, empowerment of poor people in the decision making process would make the poverty alleviation programs more effective. Given the

recent advancements, communication media could be effectively used to train the rural poor to advance their skills and capabilities and to enhance their opportunities.

Chapter 8
An Overall Assessment[11]

8.1 Introduction

In the previous chapters, we have discussed specific macroeconomic policies and their impact on poverty. In this chapter, we turn to an overall quantifiable assessment of macroeconomic policies on poverty in India. Incidence of poverty depends on growth as well as distribution. Impact of macroeconomic policy on poverty operates through these two channels. If a macro policy improves both growth and distribution, poverty reduction would be faster since the policy would affect poverty directly apart from the effects working through growth component. On the other hand, if mean income growth is accompanied by adverse distribution effect, growth effect on poverty might be neutralised to some extent by the distribution effect. It is thus interesting to check if macroeconomic variables have any impact on poverty independent of growth or their effects are confined to those operating through overall growth only[12]. We attempt here to examine this question by considering variables such as extent of trade liberalisation, government development expenditure, credit availability, wage rate and food prices.

8.2 Review of Literature

We begin with a brief review of the Indian literature. Given the large concentration of the poor in rural areas, one obvious factor that has attracted the attention of many analysists is the role of agricultural growth. Ahluwalia (1978) investigated the relationship between changes in incidence of rural poverty in India and agricultural growth performance. He found an inverse relationship between agricultural output per head of rural population and percentage of population below poverty line in rural India during 1956 to 1973 for most of the Indian states. He concluded in favour of the 'trickle down' effects of agricultural growth in India. Several follow up studies have confirmed this.

Another factor that has attracted a lot of attention is the role of prices, in particular food price. Saith (1981) took this into account and questioned the Ahluwalia hypothesis of trickle down. Since real income or output change is based on nominal income and factor

[11] This chapter is written by Manoj Panda

[12] Pasha and Palanivel (2004) have examined this question in the Asian context.

price movements, it might not adequately reflect the purchasing power of the people to meet their consumption needs. The poor spend a large part, often most, of their income on foodgrains, a staple food that helps to meet the energy need. The real purchasing power of the poor would then depend on prices of food relative to their earnings. Hence, it is natural to consider relative food price as an important determinant of poverty[13].

Central and state governments spend a good part of budgetary resources on several development and welfare programmes. Size of such expenditure has important effect on level of living of the people. The poor are hard hit when volume of such expenditure falls. Per capita real development expenditure has been found to have a significant poverty reducing effect (Sen, 1996).

Datt and Ravallion (1998) estimate jointly three equations for poverty, agricultural wages and relative price of food to examine the effects of farm yield on rural poverty during 1958-94. They found that higher farm productivity led to both absolute and relative gains for the rural poor and that such gains were not confined to those near the poverty line. Real wages and relative prices were the main channels for the poor to benefit from the growth process. The poor benefited mostly from higher average living standard as such and not so much due to improved distribution.

Ravallion and Datt (1996) estimate the relative importance of sectoral composition of economic growth to poverty reduction in India. They find that primary and tertiary sector growth reduced poverty in both rural and urban areas, but secondary sector growth did not reduce poverty in either segment. In fact, it is growth in the tertiary sector - possibly in the informal component - that had the largest quantitative impact on rural and urban poor. They note: "in the historical shift (of income) from primary to secondary and tertiary sectors, it was the latter sector which delivered the bulk of the gains to India's poor". This finding thus questions the capital-intensive industrialization strategy followed by India in the post-independence era in so far as it produced negligible gains to the poor.

One of the justifications for the liberalisation measures undertaken in 1991 was that it would help not only achieving higher growth but also faster removal of poverty. This justification could be traced to India’s own experience since mid-1970s. We noted above that there was no trend decline in incidence of poverty in India till mid-1970s. Given the

[13] See, Mellor and Desai (1986) for an interesting debate on this issue.

low per capita growth and the near invariance of distribution parameter for more than two decades, the poor did not gain much in absolute terms to make a long-term impact on poverty. The fall in poverty incidence was clearly noticed after mid-1970s when the economy jumped to a phase of higher economic growth of 3 per cent or more in per capita terms indicating the important role of a critical minimum growth on poverty reduction.

The poor households benefit from the growth process through several channels. Most of the poor are landless labourers or marginal farmers and earn wages from hired out labour service or imputed wages from self-employment. An increase in volume of economic activities would normally open up more employment opportunities for the poor. As demand for employment grows, real wage rate would increase in various sectors of the economy. Employment expansion and wage rate rise are the direct channels that help the poor. As their income rises, the poor might acquire small productive assets or invest in skill formation and human capital further opening up new opportunities. Government could accelerate this process by intervening in the form of building up of human capital for the poor, generation of wage or self-employment, and development of physical infrastructure.

8.3 Determinants of Poverty

In order to check operation of some of these effects on a long term basis, we have regressed the poverty ratio on economic growth and some relevant quantifiable indicators of macro economic developments using available data for the period 1970-2003. The dependent variable is HCR for rural or urban area and independent variables are the following:

AGY: Agricultural Income (Real Per Head of Rural Population)

SERY: Service Income (Real Per Capita)

GDP: GDP (Real Per Capita)

DEVEXP: Development Expenditure (Real Per Capita)

RFP: Relative Food Prices = WPI for Food/WPI for all Commodities

CPIAL: CPI for Agricultural Labourers

WAGE: Agricultural Wage Rate Real (Deflated by CPIAL)

TRADE: Trade Share in GDP =(Exports + Imports)/GDP

EXPORTS: Exports Share in GDP

CREDIT: Bank Credit to Commercial Sector Per Capita (deflated by WPI)

(WPI and CPIAL respectively refer to wholesale price index number and consumer price index number for agricultural labourers.)

Table 8.1 and 8.2 present some selected results for rural and urban areas respectively. The poverty reducing effects of agriculture income growth is not as robust as it used to be in the past in rural areas. The effect is not significant in some of the equations and at times sign is not in expected direction. It is not surprising given the increasingly smaller share of agriculture and the diversification of rural income base. Aggregate growth reflected by per capita GDP seems to be having a more robust and significant poverty reducing effect in rural areas. Aggregate GDP as well as its service component both have more or less similar effect in urban areas.

Real per capita development expenditure has direct poverty reducing effect in rural areas in addition to those percolating through the growth effect. This includes expenditure on infrastructure development, social sector and direct poverty reduction programmes.

A rise in relative food price has mostly a poverty increasing effect in both rural and urban sectors. This confirms the earlier findings in the poverty context.

Real wage rise has significant effect in the rural sector. But, its presence renders the agricultural income effect weak due to high correlation between the two variables.

In order to check effect of monetary policy on poverty, we have used the variable per capita real credit. Credit expansion does have an impact on poverty reduction in the rural sector independent of growth.

Share of trade in GDP, a proxy for trade liberalization, does not have any effect on urban poverty[14]. This implies trade expansion affects poverty mostly through overall income growth and does not have an effect independent of growth. The results remain similar when we experiment with export share in place of trade share. This finding corroborates that of Pasha and Palanivel (2004).

[14] Though not reported here, effect of trade liberalisation has been similar for rural sector too.

8.4 Conclusion

To conclude, given the low agricultural growth rate after liberalisation, it is overall income growth rather than agricultural growth that has helped observed poverty reduction in recent decades. The increasing divergence between sectoral composition of income and that of occupation noted earlier is a major area of concern. The increasing concentration of poverty among some socio-economic groups would lead to persistence of exclusion of certain areas and groups from the development process. Increase in agricultural productivity through expansion of irrigation facilities and development of rural non-farm sector would facilitate to make the growth process inclusive.

Expansion of government development expenditure as well as that of bank credit has a pro-poor effect independent of income. Fiscal and credit policies thus need to be geared accordingly. Trade expansion, however, does not seem to have a significant effect on incidence of poverty once we control for income. Labour market policies, which have a bearing on agricultural wages, could have considerable effect on rural poverty. Similarly, traditional wisdom of close monitoring of wage goods prices continues to be relevant for the welfare of the poor.

Table 8.1: Determinants of Rural Poverty: 1970-2003 (Dependent Variable HCR)								
	Eqn-1	Eqn-2	Eqn-3	Eqn-4	Eqn-5	Eqn-6	Eqn-7	Eqn-8
Linear Form								
AGY	-0.0206 (-5.76)			0.0062 (1.33)	0.0049 (1.17)	0.0053 (1.32)	-0.0103 (-2.57)	
GDP		-0.0035 (-8.84)	-0.0019 (-2.62)					-0.0056 (-2.72)
DEVEXP			-0.0155 (-2.46)	-0.0134 (-2.80)		-0.0077 (-1.64)		
RFP					0.6086 (3.68)	0.4733 (2.66)		
WAGE				-4.5125 (-3.73)	-7.4028 (-7.72)	-6.1146 (-5.06)		
CPIAL								0.0135 (1.58)
CREDIT							-0.1958 (-3.61)	-0.0895 (-1.47)
Adj R^2	0.6052	0.7859	0.8290	0.8790	0.9009	0.9095	0.7538	0.8180
Double Log Form								
AGY	-1.8445 (-5.33)			0.4388 (0.94)	0.3214 (0.54)	0.5198 (1.05)	-0.7811 (-1.83)	
GDP		-0.7977 (-8.95)	-0.3893 (-2.45)					-1.1162 (-3.71)
DEVEXP			-0.7378 (-2.92)	-0.7695 (-3.10)		-0.8243 (-3.05)		
RFP					0.2709 (0.43)	-0.3262 (-0.58)		
WAGE				-0.4558 (-2.38)	-0.8185 (-4.35)	-0.4244 (-2.10)		
CPIAL								0.2500 (-1.99)
CREDIT							-0.2654 (-3.32)	-0.1605 (-1.98)
Adj R^2	0.5666	0.7903	0.8477	0.8456	0.7656	0.8397	0.7115	0.8268

Numbers in brackets are t-values.

Table 8.2: Determinants of Urban Poverty: 1970-2003 (Dependent Variable HCR)								
	Eqn-1	Eqn-2	Eqn-3	Eqn-4	Eqn-5	Eqn-6	Eqn-7	Eqn-8
Linear Form								
SERY	-0.0042 (-10.68)		-0.0044 (-3.78)	-0.0027 (-1.25)				
GDP		-0.0026 (-10.54)			-0.0018 (-3.71)	-0.0016 (-1.00)	-0.0031 (-10.53)	-0.0038 (-4.98)
RFP			0.2813 (1.66)	0.2117 (1.12)		0.1831 (0.95)	0.3271 (2.40)	0.3468 (2.52)
DEVEXP			-0.0027 (-0.52)	-0.0048 (-0.85)	-0.0082 (-1.98)	-0.0061 (-1.09)		
TRADE				-0.3285 (-0.86)		-0.3114 (-0.67)		
EXPORT								0.7288 (1.01)
Adj R^2	0.8433	0.8398	0.8706	0.8688	0.8601	0.8648	0.8705	0.8706
Double Log Form								
SERY	-0.4716 (-12.39)		-0.3223 (-3.20)	-0.3526 (-1.76)				
GDP		-0.6811 (-1.32)			-0.4274 (-3.85)	-0.3479 (-1.12)	-0.7303 (-9.76)	-0.9495 (-4.94)
RFP			0.0181 (0.05)	0.0496 (0.11)		-0.0805 (-0.16)	0.4488 (1.09)	0.5356 (1.31)
DEVEXP			-0.3939 (-1.95)	-0.3802 (-1.72)	-0.4583 (-2.60)	-0.4842 (-2.14)		
TRADE				0.0278 (0.18)		-0.0469 (-0.28)		
EXPORT								0.1682 (1.24)
Adj R^2	0.8789	0.8583	0.8949	0.8889	0.8900	0.8777	0.8597	0.8635

Numbers in brackets are t-values.

Chapter 9
Summary and Conclusions[1]

India is the second most populous country in the world. After its independence in 1947 from about two centuries of colonial rule, it adopted a mixed economy model with a key role to the state in industrial production and heavy reliance on an import substitution policy. This policy helped to lay the foundation for industrialisation, but overall economic growth was low with a trend growth rate of 3.5 per cent per annum which translated to only about 1.5 per cent in per capita terms. As a result, majority of the people remained below the poverty line till mid-seventies. Starting with similar level of living in the 1950s, the outward oriented East Asian economies grew fast taking advantage of world trade expansion and investment flows.

India was a latecomer in initiating market friendly economic reforms in 1991. The reform process has continued slowly but steadily over the years in several spheres of the economic activities. The various components include liberalisation of international trade by gradual removal of all import quotas and reduction of tariff rates to moderate levels, abolition of the industrial licensing system, market determined foreign exchange rate subject to Central Bank's checks on volatility, promotion of foreign investment to modernize technology and take advantage of global division of labor, disinvestments of government equity in public sector enterprises, and financial sector liberalisation. These wide ranging measures have changed the basic economic policy making framework of the country.

It might be noted that economic growth in India began to improve to 5.5 per cent per annum since 1980, a decade before reforms were undertaken. There is a near consensus that GDP growth has improved further to about 6 per cent per annum. More importantly, it is recognized as a more sustainable one in the new macroeconomic policy environment. The current Indian growth has been led by the service sector whose share in GDP has gone up beyond 50 per cent. Acceleration of agricultural and industrial growth would be key to further enhancement of national income growth.

[1] This chapter is written by Manoj Panda

Attempts to quantify change of poverty in the post reform period have not led to a general agreement on magnitude of poverty reduction. Official estimates show a reduction in incidence of poverty from 36 per cent to 26 per cent during 1993-94 to 1999-2000[2]. Estimate of the magnitude of poverty change was marked by a controversy due to mix up of the recall periods in the 'thick' 55th round NSSO data for 1999-2000. There are by now 4 'thin' rounds of NSSO surveys; the average incidence of poverty in these rounds provides 'supportive' evidence that poverty ratio has reduced to about 25 per cent in recent years at the national level. Inequality seems to have reduced in rural areas but not in urban areas. Urban-rural disparity has certainly aggravated during post reform period.

There is significant trend reduction in poverty during 1970-71 to 2003 in all major states. Poverty is getting concentrated in the East and Central part of India and among the Scheduled castes and Scheduled tribes. Growth elasticity of poverty is lower for these groups of the population compared to others. Government needs to lay more stress on public infrastructure and human capital development, specially in the East and Central part of India where majority of the country's poor now live.

A comparison of poverty incidence in 1993-94 and average of last 4 thin rounds reveal some interesting state specific details:

Kerala and Andhra Pradesh have made big progress during post reform period in reducing rural poverty to a low level of about 10% in rural areas, but not as much in urban areas.

Kerala, Andhra Pradesh, Punjab, Haryana and Gujarat are among the best performing states in terms of poverty reduction. These are also the states which have been doing better than average on the growth front.

There are several states with higher poverty in urban areas compared to rural areas: Andhra Pradesh, Kerala, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu fall in this list. Assuming that the corresponding poverty line income represent the same welfare in rural and urban areas, this calls for a change in relative priorities for these states.

[2] If we use the international poverty line of $1 a day, the poverty ratio is about 10 percentage points higher.

Karnataka and West Bengal, the two best performers on the growth front in the post reform era, have been able to reduce poverty only moderately.

Changes in the depth and intensity of poverty have generally been larger in magnitude than those in the head count ratio. Thus, benefits of the development process do not seem to be confined to people near the poverty line. This result holds at a broad group level like aggregate state and might be consistent with intensification of poverty for certain small vulnerable groups.

Removal of income poverty does not necessarily imply provision of adequate nutrients. Incidence of undernutrition and malnutrition is much higher than incidence of income poverty. Micronutrient deficiency of some type or other is common among both rural and urban people. Diversification of the consumption basket from food to nonfood and within food from cereals to noncereals have meant that calorie intake has stagnated for large section of the population during 1990s.

India remains behind in basic health and education indicators compared to international standards (which are matched by one Indian state, Kerala) though there have been significant improvements over time. There is also considerable gender gap against females in literacy and mortality rates. Infant mortality rate continues to be high at 63 per thousand life birth. In line with international evidence, female life expectancy at birth is higher than that for man.

Incidence of open unemployment has increased during the 1990s along with deceleration in employment growth. Elasticity of employment with respect to growth has fallen sharply during 1993-99 compared to those in the previous decade. Real wage has been rising over time, but the labour force is increasingly getting casualised implying increase in potential vulnerability at a higher mean wage. The government has been intervening for long to promote wage employment and self-employment for the poor. Despite problems of mistargeting and huge leakages, direct poverty reduction programmes have contributed positively to income security of the poor.

Fiscal reform measures did not succeed much to reduce fiscal deficit except for most of post-reform years, though primary deficit has been reduced substantially. Fiscal Responsibility and Budget Management (FRBM) Act 2003, which stipulates that fiscal

deficit and revenue deficit be corrected as per laid down rules, was timely to impose some compulsions on governments. A large compositional change in Central revenue structure in favour of direct taxes has been a welcome move, as also the introduction of VAT by states. The sharp fall in public investment after the reforms has affected physical and social infrastructure investment where government needs to play a major role. Slow down of public investment in irrigation has particularly affected the agricultural sector. Turning deficit on revenue account into surplus without adversely affecting human development expenditure would be critical to release resources to reset the priorities.

Central government's contribution to total revenue receipts of the state governments dropped substantially during 1990s. State governments, which have the primary responsibility for social sector development, did experience difficulties in making provision for adequate social sector expenditure. Social allocation ratio, which denotes expenditure on social services as a proportion of total expenditure, fell in 9 states including low human development states like Bihar and UP.

Trade liberalisation was at the center stage of the reform process and India's trade share in GDP has doubled since 1990-91 to reach 29% of GDP with imports and exports accounting for 17% and 12% of GDP respectively in 2004-05. Large expansion of software earnings and remittances has helped the huge built up of the reserves good enough to meet imports bill of 14 months. This has led to a debate about exploring alternative options for raising capital formation.

The poor are more vulnerable to world market price volatility. For example, cotton producers in India were seriously affected by fall in world market price in 2004. The price fall was one of the reasons that contributed to farmers' suicide in Central India. Cotton growers in US were able to absorb the shock due to huge subsidy given by US government leading to a situation where export price was substantially lower than cost of production. Complementary policies might be needed in such cases to enable the poor to cope with price volatility.

Simulation results in studies on trade liberalisation using economy wide models showed about 0.5% rise in GDP which might be broadly consistent with actual experience. The recent move towards trade facilitation measures too is likely to have similar impact on

growth. The data do not support the earlier expectations about a restructuring of exports towards more labour intensive sectors.

While traditional monetary policy hardly deals with redistribution or poverty reduction objectives, impact of monetary policy on poverty could be visualized in practice through sectoral credit strategies and special credit schemes targeted towards backward regions. Analysis of credit-deposit ratio shows that it has sharply fallen for the backward districts. Supply of credit to backward regions has declined after the reforms relative to those for more advanced regions. Proportion of commercial bank loan to agriculture and small-scale sectors also dropped significantly, though it has picked up considerably since late 1990s.

Access of poor to bank loan dropped significantly as reflected by the absolute drop in number of small borrower accounts by about half during 1992 and 2004. The spread of micro-credit programmes has been a favorable development for the poor households, particularly to women members of such households. The central bank has given several guidelines to commercial banks to spread micro credit; but the poorer states lag behind in this respect too.

Indian experience on privatisation has varied from one sector to another. Entry of private players in the telecom sector has increased access to its services, offered a variety of products, registered decline in tariff charged to consumers, and improved customer relationship. On the other hand, power sector reforms have not led to perceptible increase in competition and consumers have not benefited from service. Institution of effective regulatory mechanism, introduction of transparency in transaction and promotion of competition could enhance social gains from the privatisation process. Retrenched labour needs to be trained and redeployed. Social safety net programmes have been more effective for the Central units, but some privatized units under State governments do not have access to adequate funding for safety net. Part of the privatization proceeds could be deployed for introduction of adequate safety net mechanism so that workers losing jobs do not fall back into poverty.

Case studies of the four states – Bihar, Orissa, Rajasthan and Tamil Nadu – bring out interesting similarities and differences among them. Bihar and Orissa, the two states with highest proportion of poor, have several common features: frequent occurrence of natural

calamities like flood and drought, land fragmentation, low investment, low irrigation, poor connectivity, government's inability to generate revenue and poor delivery of public services. Rajasthan's better than average performance on both growth and poverty front could be traced to new opportunities in non-farm agriculture and rapid development of rural infrastructure facilitating migration. But, income poverty reduction in Rajasthan has not been accompanied by improvement in health or education indicators. Better connectivity, literate farming population and credit availability to small farmers in Tamil Nadu, on the other hand, helped introduction and absorption of technological change in agriculture backed by research and extension programmes. Social movements were instrumental for women and socially downtrodden to fight for their rights. Decentralised institutional setup, more efficient local governments and empowerment of poor would make poverty alleviation programmes more effective in all the states.

Concluding Remarks

Economic liberalisation by itself is not an objective of economic policy. It is an instrument for enhancing a society's economic welfare. The twin primary objectives of India's economic policy since independence have been growth in national income and removal of poverty summarised in the phrase 'growth with social justice'. Indeed, the reforms were justified in terms of further promotion of these objectives. It was also generally admitted, explicitly or implicitly, that the reforms might result in a moderate rise in income or consumption inequality, at least in the initial phases. Markets after all do not distinguish the rich and the poor. Hence, the poor might not be able to take advantage of the reforms to the same extent as the rich do. But, it was expected that the poor too would benefit from the volume effect, though their share in national income might fall.

The Indian economy has performed reasonably well after the initiation of the reform package in 1991. Improvement in GDP growth rate has been accompanied by reduction in incidence of poverty, albeit with a lag. There is significant trend reduction in poverty during 1970-71 to 2003 in all major states. Poverty is lately getting concentrated in the East and Central part of India and among certain socially disadvantaged groups like the Scheduled Castes and Scheduled Tribes.

Irrigation has been found to be a major factor in poverty reduction, measured by any of the three indicators, across all states. More importantly, irrigation makes an important difference to poverty incidence among STs and SCs too. Stagnation in public investment in agriculture has been a matter of concern after the reforms in 1991. Increased focus is needed in rainfed areas of East and Central India for realizing future agricultural growth potential through new programmes like watershed development aiming at soil and water conservation.

Financial market liberalisation has relatively deprived the poorer regions and small account holders of availability of adequate credit. This needs to be corrected; otherwise, availability of credit could become a constraining factor in realizing gains from irrigation and other development measures.

Growth process during the 1980s was fragile and could not withstand external shocks in the wake of Gulf war in 1990. The post-reform macroeconomic scene in India has been more stable and robust. Inflation is low varying between 3-5 per cent per annum, foreign exchange rate is stable, foreign exchange reserves have grown to a sufficiently comfortable level to meet world market volatility and food reserves have been adequate to meet contingency of drought. It is the poor who disproportionately bear the brunt of stabilization measures. The overall macroeconomic stability has helped growth and provided opportunities for the poor to derive benefits from it.

Areas of concern in the macro scene relate to high fiscal deficit and slow employment growth. The Fiscal Responsibility and Budget Management (FRBM) Act 2003 would hopefully put pressure on Central and State governments to reduce the deficit in near future. The National Employment Guarantee Act 2005 ensuring 100 days of manual work per family is a right move from social safety net point of view.

Given the low agricultural growth rate after liberalisation, it is overall income growth rather than agricultural growth that has helped observed poverty reduction in recent decades. The increasing divergence between sectoral composition of income and that of occupation is a major area of concern to solve the problem of exclusion. Increase in agricultural productivity through expansion of irrigation facilities and development of rural non-farm sector would facilitate to make the growth process inclusive.

Government development expenditure and credit availability have favourable poverty reducing effect independent of income. These are two channels through which fiscal and monetary policies directly affect the poor. Labour market policies affecting agricultural wages obviously have considerable impact on rural poverty. However, once we control for effect of GDP on poverty, trade expansion does not seem to have a direct effect on poverty. This might mean a non-significant poverty effect of trade policy through the distribution channel including interaction effect of trade induced growth and distribution, if any.

India is moving on to strengthen the reform process further by extending it to several areas including factor market liberalisation, prudent capital account opening, and effective regulatory system development. As we have stressed in several places, the poor need not automatically derive benefits from the reform measures. Overall social development might call for striking a balance between efficiency and equity, if specific situation so warrants.

References

Acharya, Shankar (2001): India's Macroeconomic Management in the Nineties", Indian Council For Research on International Economic Relations, New Delhi.

Ahluwalia, Montek S. (1978): "Rural Poverty and Agricultural Performance in India", Journal of Development Studies, Vol. 14, April.

Ahluwalia, Montek. S. (2002), 'India's Vulnerability to External Crisis: An assessment', in M.S. Ahluwalia, Y.V. Reddy and S.S. Tarapore (ed.): "Macroeconomics and Monetary Policy – Issues for a Reforming Economy", Oxford University Press.

Asian Development Bank (2004): "Key Indicators 2004", Asian Development Bank, Manila.

Banga, R (2005): "Liberalisation and Wage Inequality in India", Working Paper No. 156 Indian Council for Research on International Economic Relations, New Delhi.

Bayliss, K. (2002): "Privatisation and Poverty: The Distributional Impact of Utility Privatisation", Public Services International Research Unit (PSIRU), University of Greenwich.

Bernanke, Ben S. (1993): 'Credit in the Macroeconomy', *FRBNY Quarterly Review/Spring 1992-93,* Federal Reserve Bank of New York.

Bhagawati, Jagadish and Sukhamoy Chakravarty (1969): "Contributions to Indian economic Analysis: A Survey*", American economic Review*, Vol. 59, Supplement to No.4.

Bhalla G.S. and Peter B.R Hazell (2003): "Rural Employment and Poverty: strategies to Eliminate Rural Poverty", *Economic and Political Weekly*, Vol. 38, No. 33.

Bouche Nathalie et. al. (2004): "The Macroeconomics of Poverty Reduction: The Case of China", UNDP, The Asia-Pacific Regional Programme on Macroeconomics of Poverty Reduction.

Brooks, Douglas and Hal Hill (ed.) (2004): *Managing FDI in a Globalizing Economy: Asian Experiences*, Palgrave Macmillan, New York.

Chadha, G.K. (2003): "Indian Agriculture in the New Millennium", *Indian Journal of Agricultural Economics*, Vol. 58, No.1.

Chadha, G. K. and Sahu (2002): "Post_reform Setbacks in Rural Employment: issues that Need Further Scrutiny", *Economic and Political Weekly*, Vol. 37, No. 21.

Chadha Rajesh, Drushilla K. Brown, Alan V. Deardorff and Robert stern (2003): "Computational Analysis of the Impact on India of Uruguay Round the Doha Development agenda Negotiations", in Aditya Mattoo and Robert M. Stern (ed.): *India and the WTO*, The World Bank and Oxford University Press, 2003.

Chand, Ramesh (2001): Emerging Trends and Issues in Public and Private Investment in Indian Agriculture, *Indian Journal of Agricultural Economics*, Vol. 56, No.2

Chen, Shaohua and Martin Ravallion (2004): “How Have the World’s Poorest Fared Since the Early 1980s?”, Development Research Group, World Bank.

Cline, William R. (2004): *Trade Policy and Global Poverty*, Center for Global Development, Institute for International Economics, Washington, D.C.

Dagdeviren, H. et. al. (2002): “Poverty Reduction with Growth and Redistribution”, *Development and Change*, Vol. 33, No. 3.

Dandekar V.M. and N. Rath (1971): *Poverty in India*, Indian School of political Economy, Pune.

Das, Satya P. (2003): “An Indian Perspective on WTO Rules on Foreign Direct Investment”, in Aditya Mattoo and Robert M. Stern (ed.): *India and the WTO*, The World Bank and Oxford University Press, 2003.

Datt Gaurav and Martin Ravallion (1998): “Farm Productivity and Rural Poverty in India”, *Journal of Development Studies*, Vol. 34, No.4.

De Haan, A. and A. Dubey (2003): " Extreme Deprivation in Remote Areas of India: Social Exclusion as Explanatory Concept", Paper for Manchester Conference on "Chronic Poverty", April.

De Haan, A. and A. Dubey (2005): “Poverty, Disparities or the Development of Underdevelopment in Orissa”, *Economic and Political Weekly*, May 28-June 4.

Deaton Angus and Jean Dreze (2002): “Poverty and Inequality in India: A re-examination”, *Economic and Political Weekly*, Vol. 37, No. 36.

Deaton Angus and Jean Dreze (2002): “Poverty and Inequality in India: A re-examination”, *Economic and Political Weekly*, Vol. 37, No. 36.

Deaton, Angus and Valerie Kozel (ed), “The Great Indian Poverty Debate”, Macmillan India, Delhi.

Dev, Mahendra S. and Jos Mooij (2005): Patterns in Social Sector Expenditure: Pre- and Pot-reform Periods”, in Kirit S. Parikh and R. Radhakrishna ed., *India Development Report 2004-05*, Oxford University Press.

Dollar, David and Aart Kraay (2002): “Growth is Good for the Poor”, *Journal of Economic Growth*, Vol.7.

EPW Research Foundation (2003): “Domestic Product of States of India 1960-61 to 2000-01”, EPW Research Foundation, Mumbai.

Fan Shenggen, Peter Hazell and Sukhadeo Thorat (2000): “Government Spending, Growth and Poverty in Rural India”, *American Journal of Agricultural Economics*, Vol. 82, No.4.

Foster, J., J. Greer and E. Thorbecke, 1984. "A Class of Decomposable Poverty Measures", *Econometrica*, Vol.52, No.3.

Ganesh-Kumar A., Manoj Panda and Marry Burfisher (2005): “Reforms in Indian Agro-processing and Agriculture Sectors in the context of Unilateral and Multilateral Trade Agreements”, paper presented at 8th Annual Conference on Global Economic Analysis, Lubeck, Germany, June 2005.

Government of India (2005): *Economic Survey 2004-05*, Ministry of Finance, New Delhi (Various Issues).

Hazell, Peter B.R. and Steven Haggblade (1991): Rural-Urban Growth Linkages in India, Indian Journal of Agricultural Economics, Vol.46, No.4.

Himanshu (2005): *Rural Income Employment and Agricultural Growth: An Analysis with Disaggregated Data*, unpublished Ph.D. thesis, Centre for Economic Studies and Planning, School of Social Science, JNU, New Delhi.

Kalirajan K.P. and Sankar U. (2001) "Agriculture in India's Economic Reform Program", *Journal of Asian Economics*, 12, 383-399

Kalirajan, K.P, R.T. Shand and S. Bhide (2000): "Economic Reforms and Convergence of Income across Indian States: Benefits for the Poor", in Shubhashis Gangopadhyay and Willima Wadhwa (ed.): Economic Reforms for the Poor, Konark Publishers Pvt. Ltd., Delhi.

Krishna, K L (2004): "Patterns and Determinants of Economic Growth in Indian States", Working Paper No. 144, Indian Council for Research on International Economic Relations, New Delhi

Kumar Nagesh (ed.) (2004): *Towards an Asian Economic Community: Vision of a New Asia*, Research and Information System for Developing Countries, New Delhi and Institute for Southeast Asian studies, Singapore.

Lal Deepak, Suman Bery and Devendra Kumar Pant (2003): "The Real Exchange Rate, Fiscal Deficits and Capital Flows India: 1981-2000", *Economic and Political Weekly*, Vol. 38, No. 47.

Lloyd, Peter (2000): "Generalizing the Stopler-Samuelson Theorem: A Tale of Two Matrices", *Review of International Economics*, Vol.8, No.4.

Mahalanobis P.C. (1955): "The Approach of Operational Research to Planning in India", *Sankhya*, Vol. 16.

Mathur Archana S and Arvinder S Sachdeva (2005): "Customs Tariff Structures in India", *Economic and Political Weekly*, Vol. 39, No.6.

Mehta, Aasha Kapur and Shashanka Bhide (2003): "Issues in Chronic Poverty: Panel Data based Analysis", in Aasha Kapur Mehta et. al (ed.): *Chronic Poverty in India*, Indian Institute of Public Administration, New Delhi.

Mellor J.W. and G.M. Desai, eds. (1986): *Agricultural Change and Rural Poverty*, Oxford University Press, Delhi.

Minsky, Hyman P. (1986): "Stabilizing an Unstable economy", A Twentieth Century Fund Report, Yale University Press, New Haven and London.

Mishra, Srijit (2005): "Suicide of Farmers in Maharashtra", Indira Gandhi Institute of Development Research, Mumbai (Report prepared for Government of Maharashtra).

Murphy Sophia, Ben Lilliston and Mary Beth Lake (2005): "WTO Agreement on Agriculture: A Decade of Dumping", Institute for Agriculture and Trade Policy, Minneapolis, Minnesota.

NABARD (1998): *Issues in Rural Development*

NABARD (2002): *NABARD and Micro finance 2001-02*

NABARD: *Annual Report,* Various Issues

Naoroji Dadabhai (1901): "*Poverty and Un-British Rule in India*", Swan Sonnenschein & Co. Ltd., London.

NIPFP (1997): *Government Subsidies in India*, National Institute of Public Finance and Policy New Delhi.

National Institute of Rural Development (2005): *India Rural Development Report*, National Institute of Rural Development, Hyderabad.

Panda, Manoj (1999): "Growth with Equity: Policy Lessons from the Experience of India", in Growth with Equity: Policy Lessons from the Experiences of Selected Asian Countries, United Nations, New York, 1999 (ST/ESCAP/2007).

Panda, Manoj and Jaime Quizon (2001): "Growth and Distribution under Trade Liberalization in India" in A. Guha, K. L. Krishna and A. K. Lahiri (ed.): *Trade and Industry: Essays by NIPFP-Ford Foundation Fellows,* National Institute of Public Finance and Policy, New Delhi, 2001.

Panda, Manoj (2003): 'A Reassessment of Agriculture's role in the Poverty Reduction process in India', Paper prepared for the Roles of Agriculture Conference, October, 2003, Food and Agriculture Organisation, The United Nations.

Panda, M. and K. P. Rath (2004): "Price Changes and Some Underlying Aspects of Measurement of Poverty," *Journal of Quantitative Economics,* Vol. 2 (New series), No.1.

Parikh K., N.S.S. Narayana, M. Panda and A. Ganesh Kumar (1997): "Agricultural Liberalization: Growth, Welfare and Large Country Effects", *Agricultural Economics*, Vol. 17, No.1.

Pasha, Hafiz A. and T. Palanivel (2004): *Pro-Poor Growth and Policies – The Asian Experience*, Asia-Pacific Regional Programme on the Macroeconomics of Poverty Reduction, UNDP, Kathmandu.

Planning Commission (1979): *Task Force on Projection of Minimum Needs and Effective Consumption Demand,* Government of India, New Delhi.

Planning Commission (1993): "Report of the Expert Group on Estimation of Proportion and Number of Poor ", Government of India, New Delhi.

Planning Commission (2002): "Tenth Five Year Plan 2002-2007, Volume - I", Government of India, New Delhi.

Planning Commission (2002): *National Human Development Report 2001*, Government of India, New Delhi.

Planning Commission (2003): *Report of the Committee on India Vision 2020*, Government of India, New Delhi.

Pradhan, Basant K and P.K. Roy (2003): The Well Being of Indian households: MIMAP-India Survey Report, Tata McGraw-Hill Publishing Company Limited and National Council of Applied Economic Research, New Delhi.

Radhakrishna R (2005): "Food and Nutrition Security for the Poor: Emerging Perspectives and policy Issues", *Economic and Political Weekly, Vol. XL*

Radhakrishna R., K.Hanumantha Rao (2006): "Poverty, Unemployment and Public Intervention", in *India Social Development Report*, Council for Social development and Oxford University Press, New Delhi.

Radhakrishna R., K. Hanumantha Rao, C. Ravi and B. Sambi Reddy (2004) "Chronic Poverty and Malnutrition in India", Working Paper 11, Chronic Poverty Research Centre and IIPA, New Delhi.

Radhakrishna R. and Shovan Ray (2005) (ed.): *Handbook of Poverty in India: Perspectives, Policies and Programs*, Oxford University Press.

Rangarajan, C. (2006): "Reaching Credit to the Marginal Farmers" Inaugural Address , Conference on Macro Economic policy, Agricultural Development and Rural institutions in honour of professor A. Vaidyanathan. April, 9, Bangalore

Rao, C.H.H. (2000): "Declining Demand for Foodgrains in Rural India", *Economic and Political Weekly*, Vol. 35, January 22.

Rao, C. H. H., D.B. Gupta and P.S. Sharma (1986): " Infrastructural Development and Rural Poverty in India: A Cross Sectional Analysis" in "Agricultural Change and Rural Poverty" ed. J.W. Mellor and G. M. Desai, OUP.

Ravallion M. and G. Datt (1996): "India's checkered history in fight against poverty", *Economic and Political Weekly*, Vol. 31, Special Number.

Ravallion Martin and Gaurav Datt (1996): "How Important to India's Poor Is the Sectoral Composition of Economic Growth?", *World Bank Economic Review*, Vol. 10, No.1.

Ravallion, M. and Datt, G. (2002) "Why has Economic Growth been more Pro-poor in Some States of India than Others?", *Journal of Development Economics*, 68, 381-400.

Reserve Bank of India (1985): *Report of Chakravarty Committee to Review the Working of the Monetary System.*

Reserve Bank of India (1987): *Working Group on the Money Market, 1987* (Chairman: N. Vaghul).

Reserve Bank of India: *Annual Report*, Various Issues

Reserve Bank of India: *Report on Trend and Progress of Banking in India, Various Issues*

Reserve Bank of India: *Report on Currency and Finance*, Various Issues

Reserve Bank of India: *Handbook of Statistics on the Indian Economy*, Various issues

Reserve Bank of India (2004): *Reserve Bank of India Bulletin*, Various issues

Rodriguez, Francisco and Dani Rodrik (2001): “Trade Policy and Economic Growth: A Skeptic’s Guide to the Cross-National Evidence,” NBER Macroeconomics annual 2000. Cambridge, MA: MIT Press, pp.261-324

Ronald-Holst, David, Jean-Pierre Verbiest and Fan Zhai (2005): “Growth and Trade Horizons for Asia: Long Term Forecasts for Regional Change”, Asian Development Bank, Manila (draft).

Rosengrant, Mark W. and Robert E. Evenson (1995): “Total Factor Productivity and Sources of Long-Term Growth in Indian Agriculture”, EPTD Discussion Paper No. 7, International food Policy Research Institute, Washington, D.C.

Rowntree, B.S. (1901): Poverty: A Study of Town Life, Macmillan, London.

Rudra Ashok (1975): *Indian Plan Models*, Allied Publishers Private Limited, Bombay.

Saith Ashwani (1981): “Production, Prices and Poverty in Rural India”, *Journal of Development Studies*, Vol. 17, No. 2.

Sachs, Jeffrey D. and Andrew M. Warner (1995): “Economic Convergence and Economic Policies”, National Bureau of Economic Research, Cambridge, MA

Sambi Reddy, B. and Hanumantha Rao K. (2004) “Assessment of Targeted Public Distribution System in India”, NIRD, Research Report, Series -61.

Sarkar, H. and M. Panda (1991)"A Short-term Structuralist Macro-economic Model for India: Applications to Policy Analysis", in *Econometric Modeling and Forecasting in Asia*, Development Paper No.9, UN-ESCAP, 1991.

Sastry, D. V. S., Balwant Singh, Kaushik Bhattacharya and N.K. Unnikrishnan (2003): “Sectoral Linkages and Growth Prospects: Reflections on The Indian Economy”, *Economic and Political Weekly*, Vol. 38, No.

Sen, A. (1981): *Poverty and Famines*, Clarendon Press, Oxford.

Sen, Abhijit (1996): "Economic reforms, employment and poverty", *Economic and Political Weekly*, Vol. 31, Special Number.

Sen, Abhijit and Himanshu. (2004): ‘Poverty and Inequality in India’, *Economic and Political Weekly*, Vol. 39, September 18 and September 25.

Sen, P. (2004): ‘The Real Exchange Rate, Fiscal Deficits and Capital Account Liberalisation – Some Sceptical Observations’, *Economic and Political Weekly*, Vol. 39, No 6.

Sen, Pronab (2005): “Of Calories and Things: Reflections on Nutritional Norms, Poverty Lines and Consumption Behaviour in India”, *Economic and Political Weekly*, Vol. 40, October 22.

Sengupta, Nirmal and Moana Bhagabati (2005): “Trade Facilitation”, in in Kirit S. Parikh and R. Radhakrishna ed., *India Development Report 2004-05*, Oxford University Press.

Shenggen, Fan, Peter Hazell and S. K. Thorat (2000): "Impact of Public Expenditure on Poverty in Rural India" EPW, September 30.

Shariff, Abusaleh (1999): *India: Human Development Report*, National Council of Applied Economic Research and Oxford University Press.

Sharma, Alakh N. (2004): "Globalisation, Work and Social Exclusion: Emerging Global And Indian Perspective", Kunda Datar Memorial Lecture, Gokhale Institute of Politics And Economics, Pune

Shetty, S. L (2001): 'Rapporteur's Report on Working and Impact of Rural Self-Help Groups and Other Forms of Microfinancing', *Indian Journal of Agricultural Economics*, Vol.56, No 3, July-September.

Shetty, S.L. (2002): 'Regional, Sectoral and Functional Distribution of Bank Credit' in Ramachandran V K and Madhura Swaminathan (Ed.) (2005),

Shetty S. L (2003): 'Growth of SDP and Structural Changes in State Economies:

Singh, Nirvikar and T. N. Srinivasan (2004): 'Foreign Capital Inflows, Inflation, Sterilisation, Crowding Out and Growth – Some Illustrative Models', *Economic and Political Weekly*, Vol 39, No 24.

Srinivasan, T.N. and P.K. Bardhan, eds. (1974): *Poverty and Income Distribution in India*, Statistical Publishing Society, Calcutta.

Srivastava, D.K., S.K. Sanyal, C. Bhujanga Rao, Pinaki Chakraborty (2004): "India: Fiscal Reforms for Poverty Reduction, Paper1: Approach, Trends and Issues", National Institute of Public Finance and Policy, New Delhi.

Sivasubramonian S. (2004): *The Sources of Economic Growth in India 1950-51 to 1999-2000*, Oxford University press, New Delhi.

Stiglitz, Joseph E (1993): 'The Role of the State in Financial Markets', *Proceedings of the World Bank Annual Conference on Development Economics, 1993.*

Sundaram and Tendulkar (2003): "Poverty Has Declined in the 1990s: a Resolution of Comparability Problems In NSS Consumption Expenditure Data", *Economic and Political Weekly*, Vol. 38, No. 4.

Virmani, Arvind (2004): "India's Economic Growth: From Socialist Rate of Growth to Bharatiya Rate of Growth", Working Paper No. 122, Indian Council For Research on International Economic Relations, New Delhi.

Wilson Dominic and Roopa Purushothaman (2003): "Dreaming With BRICs: The Path to 2050", Global Economics Paper No. 99, Goldman Sachs.

Winters, L. Alan (2000): "Trade Liberalisation and Poverty", Poverty Research Unit, University of Sussex, Discussion Paper no.7.

Winters, L. Alan, Neil McCulloch, and Andrew McKay (2004): "Trade Liberalization and Poverty: The Evidence So Far", *Journal of Economic Literature*, Vol. XLII.

World Bank (1993): *The East Asian Miracle: Economic Growth and Public Policy*: *A World Bank Policy Research Report*, Oxford University Press, September.

World Bank (2005): *World Development Report*, Oxford University Press, New York.

World Bank (2003): “India: Sustaining Reform, Reducing Poverty”, Oxford University Press, New Delhi.

World Bank Report (2004):“Tamil Nadu Agricultural Development”, World Bank, Washington, DC.

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