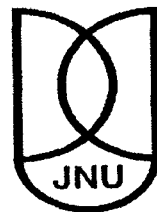


**PUBLIC EXPENDITURE AND
EMPLOYMENT-UNEMPLOYMENT IN INDIA:
ANALYSIS FOR THE PERIOD 1980-81 TO
2004-05**

*Dissertation Submitted to the Jawaharlal Nehru University
in partial fulfillment of the requirements
for the award of the degree of*

MASTER OF PHILOSOPHY

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DECLARATION

This is to certify that the dissertation entitled "*Public Expenditure and Employment-Unemployment in India: Analysis for the Period 1980-81 to 2004-05*" submitted by me is in partial fulfillment of the requirement for the award of the degree of Master of Philosophy of Jawaharlal Nehru University. This dissertation has not been submitted for the award of any other degree in this University or any other University and is my own work.

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CERTIFICATE

We recommend that this dissertation be placed before the examiners for the evaluation.

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*To My Parents
And
My Teachers*

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Abbreviations

AP	Andhra Pradesh
CAGR	Compounded Annual Growth Rate
CDS	Current Daily Status
CES	Consumption Expenditure Survey
CSO	Central Statistical Organisation
CWS	Current Weekly Status
EUS	Employment Unemployment Survey
FCI	Food Corporation of India
FDI	Foreign Direct Investment
FII	Foreign Institutional Investment
GDP	Gross Domestic Product
GoI	Government of India
GSDP	Gross State Domestic Product
LFPR	Labour Force Participation Rate
MBO	Member Based Organisations
MP	Madhya Pradesh
NGO	Non-Government Organisations
NSSO	National Sample Survey Organisation
RBI	Reserve Bank of India
SEWA	Self-Employed Women's Association
TN	Tamil Nadu
UP	Uttar Pradesh
UPS	Usual Principal Status
UPSS	Usual Principal and Subsidiary Status
WB	West Bengal
WPR	Worker Population Ratio

Introduction

Ensuring the welfare of its citizens is one of the foremost tasks for any democratic society. Welfare of citizens especially the majority which is poor can be raised by providing basic amenities like food, clothing, housing etc. Welfare of the people can be partially measure by the level of impoverishment in the country. Affordability by citizens of the basic amenities depends upon their income which they can earn from their employment, and ownership of means of production (primarily land). In most of the developing economies, a high degree of inequality in land holdings persists i.e., larger share of land is held by few. Hence, most of the population in developing economies primarily depends upon paid employment or small-scale production for their livelihood. Thus, employment plays a great role in raising well-being of people in an economy. The volume of employment is determined by total investment in the economy. Total investment consists of public and private investment. Public investment is autonomous and private investment is constrained by effective demand and confidence of private investors in the economy. Therefore, public investment plays an important role in determination of the volume of employment.

In India, official estimates by the government agencies showed a falling percentage of persons in poverty in both rural and urban areas. This unfortunately was done by tampering with the definition¹ of the poverty line which was determined in the early 1970s by the Planning Commission in India. Applying this initial definition adopted by the Planning commission in the early 1970s, however, poverty is found to have increased considerably in the post-reform period. This fact is supported by falling food consumption expenditure and declining per capita food availability. In India, the well-being of a large part of people principally depends upon the volume of employment in the county including employment of those employed as wage paid

¹ If a person consume less than 2400 Kcal/day in rural area 2100 Kcal in urban area, that person will be considered as poor [Patnaik, Utsa (2007): 'Neoliberalism and Rural Poverty in India', *Economic and Political Weekly*, July 28].

labourers and self-employed as small producers in agriculture. The percentage of land owned by the top 15 percent of households rose slightly from 65 percent to 66 percent between 37th (1982) and 48th (1992) rounds of the NSSO and further rose to 68 percent in the 59th (2003) round. Correspondingly the share of the bottom 85 percent fell from 35 to 34 percent and further to 32 percent by 2003.

In India, the ratio of public investment to gross domestic product (GDP) declined and there was an insignificant increase in private investment to GDP ratio in the recent past². Therefore, public investment still plays an important role in the determination of volume of employment. However, increase in employment also depends on the nature of investment i.e., elasticity of employment with respect to output of the concerned sector. The Indian economy witnessed a fall in public sector employment and an insignificant increasing employment in private sector as investment was directed more to low employment elasticity sectors in recent years. This has resulted in jobless growth in Indian economy.

After starting to implement economic reforms from 1991, government pursued contractionary fiscal and other macroeconomic policies and employment opportunities deteriorated even with higher GDP growth. The primary objective of this study is examining the relationship between public investment and employment in the pre-reform and the reform period. However, it would be fruitful to look at pattern of government spending and the employment- unemployment situation for a longer period between 1980-81 and 2004-05. The study will focus on 14 major states in India (Andhra Pradesh, Bihar, Gujarat, Karnataka, Kerala, Karnataka, Maharashtra, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal).

The main argument of this study is that there has been a fall in government spending in the economic reform period after 1990 as compared to the pre-reform decade and the employment situation has also deteriorated in the reform period. Public expenditure played an important role in determination of the volume of employment both in the post and pre-reform period. A fall in public expenditure in

² GoI, *Economic Survey 2004-05* (Table 1.4)

post-reform period will have a negative impact on employment. The claims are supported with the factual evidence from both the Central government finances and the State Governments Finances from 1980-81 to 2004-05 and Employment Unemployment Surveys by NSSO for 38th (1983), 43rd (1987-88), 50th (1993-94), 55th (1999-2000) and 61st (2004-05) round. Though there are minor changes in categorization of public expenditures in 1985-86, there is no serious problem of comparability of public expenditure data as regards data before 1985-86 and that after this date.

The data for public expenditure is available for all the years in the period under consideration. However, we have taken the data on public expenditure for only those years which are necessary for the study. In this study we have taken the development expenditure and expenditure on economic services as proxy of public expenditure rather than total expenditure because total expenditure also includes wasteful expenditure like non-development expenditure. Unlike public expenditure data, employment data is fully comparable to each other for all the rounds. The claim, public expenditure does not raise the total employment because raise in employment by increasing public spending is counterbalanced by fall in employment through fall in private investment at the full employment, is not supported in the Indian context. This study establishes the fact that contractionary macroeconomic policy is principally responsible for the weird situation of employment in the post-reform period. This results in deterioration of development indicators, thus in the well-being of the people.

This dissertation is divided into five chapters. Chapter 1 explores the nature of employment under capitalism, highlights the various theories of employment with some empirical evidences. Chapter 2 discusses the relevance of macroeconomic theories and with respect to the creation of employment and maintaining full employment by fiscal policy. Chapter 3 looks at the pattern of the Centre and State government spending in India over the 1980-81 to 2004-05 and Chapter 4 looks at the employment and unemployment situation in India. Chapter 5 examines the interaction between these variables and hence the relevance of fiscal policy in creation of new employment in the Indian context. The summary findings of this study are given in the Concluding Remarks.

Chapter 1

Employment under capitalism

1.1 Introduction

The primary objective of production under capitalist system is maximisation of capitalists' profits, not to employ all the workers in the labour force and provide minimum wage to ensure the minimum level of livelihoods for all workers. Consider a capitalist economy operating at full employment under perfect competition (i.e., upward rising marginal cost curve). Suddenly aggregate demand falls in the economy, which leads to a situation of negative excess demand. Therefore, in order to correct the supply-demand mismatch, price falls and those firms which were operating at marginal cost higher than new equilibrium price, leave the market. Thus, total output will fall with reduction in employment. Again, aggregate demand will fall due to fall in total employment. This is known as 'Anarchy of Capitalism'.

Two important features are seen in the context of employment and labour earnings that marked classical industrialisation in Britain, France and other countries in Europe in the eighteenth and nineteenth centuries are according to Prof. Utsa Patnaik based on the discussion on historical and theoretical studies by Northern scholars. First, in the course of industrial development, from the very beginning the wage bill was kept to the minimum possible level by the capitalists in order to maximise profit, taking the route of what Karl Marx had called the extensive exploitation of labour through raising absolute surplus value, namely the lengthening of the working day for the same daily wage and the widespread use of the underpaid labour of women and children. The resulting rise in the rate of surplus value however led to contradiction because the restriction on mass labour earnings in the process of maximising profit meant that the internal market for capitalism could never grow rapidly enough to

delay the problem of inadequately expanding demand and maintain the economic incentives for accumulation in the closed economy³.

Second, from its very inception capitalist industrialisation was marked by labour-displacing mechanisation, perhaps because the main industries involved were import-substituting industries. Textiles in Europe could not compete with the much cheaper imported handicraft output of Asian artisans as long as mechanisation did not reduce unit labour costs of yarn and cloth, nor could iron ores be extracted and reduced profitably until innovations were applied. Once technological innovations were introduced, they affected not only importing-substituting goods but domestic employment in every traditional sector. On the one hand, extensive methods of labour exploitation gave way to intensive methods in which it was no longer the lengthening of the working day, but rise in relative surplus value through a dual route – reduction in the necessary labour through decline in the cost of wage-goods, in which imports obtained free through colonial exploitation played a major role; and rise in labour productivity through the substitution of dead labour (machinery) for living labour. This latter route provided a means of overcoming partially the contradiction affecting accumulation, by absorbing more investment in the form of capital-intensification. On the other hand with mechanization there was inevitably labour displacement at a faster rate than the increase in labour demand arising from expansion of the domestically absorbed part of total output, giving rise to social discontent, to Luddite movements for breaking machinery⁴.

The early industrialising capitalist economies resolved the problem of growing unemployment inherent in the system by exporting the unemployment to their periphery (Third world economies). The export of unemployment took place through colonisation and imperialism till middle of the twentieth century by the former to their colonies.

³ Patnaik, U (2008): 'The Question of Employment and Livelihood in Labour Surplus Economies', *Social Scientist*, Vol 36, Nos 5-6 May-June.

⁴ *ibid*

Physical migration of population is the most direct form of export of unemployment. In Britain almost two percent of the domestic population every year was migrating for permanent settlement abroad by the mid-nineteenth century. Now, we can see that United States of America deploy the large proportion of army in other developing countries across the world in the name of security and cost of armies is born by the host country. Beside, the early industrialised countries deploy their experts either directly or through various international agencies to provide proper guidance for running the economy successfully.

The capitalist system is inherently demand constraint by limited size of the market. In order to keep the economy sustainable, it requires expanding market. The early industrialised countries protected their domestic market by pursuing protection policies, while grab the market share in their colonies by keeping those markets compulsorily and completely open to import. Thus, deindustrialisation was taken place, which led to massive unemployment. This is another way to export unemployment.

The third means is export finance capital by imperialist power from its colonies to export unemployment from metropolis to periphery. The leading imperialist countries did so through the systematic annual appropriation of the foreign exchange earnings from rising export surplus to meet deficits on balance of payment of imperialist powers. In the colonies, the producers of rising volumes of exportable were paid out of tax revenues they themselves had contributed to the state, therefore no new purchasing power was injected through their exports, on the contrary the export surplus was merely the commodity-equivalent of rising taxes extracted from them. The strong deflationary impact of the mechanism (which involved one-quarter to one-third budgetary surplus in India) led to higher net unemployment in the economy⁵. Now-a-days relocation of labour-intensive industries from developed industrialised countries to labour surplus developing countries has taken place for earning more surpluses by capitalist.

⁵ *Ibid*, p.5.

1.2. Employment from the Neo-liberal Policy Perspective

In the neo-classical framework, involuntary unemployment does not exist and only unemployment that exists is frictional unemployment. The reason is the assumption of full-employment i.e., the potential output is equal to actual output. Therefore, all labour and capital are utilised and there is no question of involuntary unemployment in labour market, unemployment that can only arise is the voluntary unemployment ('structural' or 'frictional' or 'natural'). Now, suppose expansionary policy is undertaken to mitigate the problem of unemployment through creating new jobs in public works programme. We know that the total amount of savings depends on income, given the propensity to save. Because at the full-utilisation level income cannot increase further, there is fixed pool of savings in the economy, and if more of it is used for public works, financed by government borrowing, then less is left for private investment. So, the newly created jobs through public works will be counterbalanced by reduction in employment in public sector by the exactly same amount. Therefore, public works through creating new jobs can never increase the total employment. This is known as *Treasury View*⁶. However the Treasury View produces a wrong conclusion when applied to a situation when its assumption is not true, namely when resources are not actually fully utilised and full employment income has not been reached.

To repeat, we know that the total amount of savings depends on income, given the propensity to save. Therefore, there is no 'fixed pool of savings' if the economy is operating below full employment level. Consider an economy in which there is unemployment in the sense of utilised resources because of lack of effective demand. Now an increase in investment leads to increase in income through various rounds of multiplier effect and thus both saving and employment increase. This process will go on until investment creates its equal amount of savings. Therefore, saving does not determine investment, but other way round and investment is autonomous (depends on other factors). If government increases new employment in public works through borrowings (fiscal deficit), it is finance by itself by creating its equal amount of

⁶ Patnaik, P (2002): 'The Humbug of Finance' in *The Retreat to Unfreedom*, Tulika, New Delhi.

savings. As a result, income increases and total employment increases by expanding public works. This is propounded by Richard Kahn, pupil of Keynes. This view was put forward by Keynes in his '*The General Theory of Employment, Interest and Money*'. The unrealistic Treasury *View* was unable to drive out the global economies from the great depression in 1930s, while expansionary policy suggested by Keynes was able to do so. Nowadays, though the Treasury *View* is fallacious (as at any point of time economy can be at full-employment by accident), policy makers also have belief in it and suggest demand deflationary policy.

Policy makers are in favour of lower fiscal deficit because an increase in public investment leads to increase in aggregate demand and they think that at full employment price adjustment will be taking place (as output adjustment is not possible). As a result total employment will remain unchanged in the economy and profit inflation will take place, which leads to decline in real wage rate and adversely affects the income distribution in the economy. But here also investment creates its equal amount of savings through profit inflation under classical savings assumption (All wages are consumed and all profits are saved). Therefore, an increase in public investment does not crowd out private investment even at the full-employment situation.

Beside, Policy makers also believe in Phillips curve which says that percentage change in money wage rate is inversely related to unemployment rate at full-employment in the short-run. Now, if expansionary policy is taking place for creating new job through public works, it leads to a situation of high inflation with lower unemployment. Higher inflation has an adverse effect on investment decision because of capitalists keep themselves restrained from long-term investment due to uncertainty in real returns owing to surging prices. In other words, high inflation has negative effect on animal spirits determining investment by the capitalist. This is another reason to oppose the job creation through public works by government. But if the economy is operating below the full-employment output level, then the scenario will be totally different. In that situation output adjustment will take place and also employment will increase through various rounds of multiplier effect until public investment creates its equal amount of savings. Therefore, the macroeconomic policies will have different impacts on employment under different situations. In the

latter situation of existing unemployment of labour and resources, demand deflationary policy is misleading and worsens the situation.

1.3 Growth performance of the Indian economy and Employment during 1980-01 to 2005-06

In the 1980s, rapid growth in agriculture was accompanied by much higher growth in the non-agricultural sectors and this resulted in a visible acceleration in the growth of Indian economy. Indian economy witnessed an annual growth rate of 5.29 percent during the same period. With the introduction of economic reforms in the economy, the annual growth rate was 6.06 percent during 1991-92 to 2005-06. The economy is also witnessing 8-9 percent growth rate during global economic slowdown⁷. The share of agriculture in total GDP has declined over the period, and the non-agriculture sectors of the economy especially the services sector has been growing at a much faster rate than the agricultural sector. Share of agriculture in total GDP has declined from 30.1 percent in 1993-94 to only 20.22 percent by 2004-05 at constant 1999-2000 prices.

Table 1.1
Employment and Unemployment in million person years (by CDS basis)

	million				Growth p.a.(%)		
	1983	1993-94	1999-00	2004-05	1983 to 1993-94	1993-94 to 1999-00	1999-00 to 2004-05
Population	718.1	893.68	1005.05	1092.83	2.11	1.98	1.69
Labour Force	263.82	334.2	364.88	419.65	2.28	1.47	2.84
Workforce	239.49	313.93	338.19	384.91	2.61	1.25	2.62
Unemployment Rate (per cent)	9.22	6.06	7.31	8.28	NA	NA	NA
No. of unemployed	24.34	20.27	26.68	34.74	NA	NA	NA

Source: Government of India, Economic Survey 2007-08, p 247

⁷ Bhalla, G.S (2008): 'Globalisation and Employment Trends in India', *Indian Journal of Labour Economics*, Vol.51, No.1.

The share of agriculture in GDP is declining, but its share in employment is declining at much slower rate. This is because lower absorption of surplus labour released from agriculture in the non-agriculture sector due to low employment elasticity in the sector. Thus, employment diversification of the economy lagged far behind the diversification of the economy in terms of value added. The share of agricultural employment in total employment declined from 73.94 percent in 1972/73 to 63.88 per cent by 1993-94 and further to 56.47 percent in 2004-05.

During 1983 to 1993-94, Indian economy registered a growth rate of 2.04 percent per annum in employment. After the economic reforms in 1991, the employment growth rate declined significantly to mere 1.85 percent during 1993-94 to 2004-05 and was lower than the population growth rate. Though it grew at a much slower rate during 1993-94 to 1999-2000, but later the growth rate improved to 2.82 percent per annum during 1999-2000 to 2004-05. This is true for absolute number of employment. The increment in the total number of employment was over 11.45 million per year during 1999-00 to 2004-05 which was much higher as compared to 4.02 million per year during 1993-94 to 1999-00. The employment growth rate in agriculture declined notably from 1.41 percent per annum during 1983 to 1993-94 to mere 0.06 percent per annum during 1993-94 to 1999-2000 and thereafter marginally improved to 1.49 percent per annum during 1999-00 to 2004-05. Non-agriculture sectors also grew at a substantially high rate namely, secondary sector at 5.81 percent per annum and tertiary sector at 3.92 percent per annum in the same period⁸.

On the other hand, a perceptible increase in unemployment is observed during 1999-00 to 2004-05. The number of unemployed in India rose from 3.98 million in 1973-74 to 11.21 million in 2004-05. In other words, annual growth rate of unemployment increased from 1.64 percent in 1973-74 to 2.39 percent by 2004-05.

Bhalla (1996) discusses three different aspects of the historic process of restructuring of work force.

i) An increase in per capita income changes the structure of the demand for goods and services in favour of manufacturing sector and innovations in the

⁸ *Ibid*, p.9.

production process of manufacturing goods leads to increase in productivity. This results in an expansion of industrial employment.

ii) With rising income and labour productivity in industry this results in an expansion of market to absorb the additional output of the agriculture as well as non-farm sectors and thus additional employment is created in the latter sectors. All these entail massive restructuring of workforce such that manufacturing sector creates a large number of jobs.

The early industrialised countries have already passed through all these stages and have reached towards the maturity stage. After 1960s their industrial sector became stagnant and the share of industrial sector in output was also declining, but the structure of workforce remained unchanged as restructuring of the workforce has already been completed. In these countries a small portion of the total population is now engaged in agriculture and low productivity employment in the farm sector has been almost abolished. On other hand, developing countries of Asia, and Latin America and to a lesser extent Africa, suffer from huge surplus labour in the farm sector. These economies desperately need to shift a considerable portion of workers out from low productivity farm sector to non-farm sector. Unfortunately, these economies are unable to pursue the required transformation.

In India, according to Bhalla (1996) the normal process of workforce diversification got a set back during the 1980s. The share of manufacturing and some services (transport, communication etc.) in the workforce declined in the same period. Also, a substantial reduction in the relative importance of agriculture in rural areas was observed. In this situation, tertiary sector has to absorb the workers which are unable to find a niche in other sectors. In the economy as a whole, the share of agriculture in total workforce went up by more than three percentage points in 1990-91. Correspondingly, the share of non-agriculture fell from 37.9 percent to 34.5 percent. Deindustrialisation took place in rural area and share of sector in rural workforce fell from 12.2 to 9.5 percent, but rose in urban areas. The share of tertiary sector declined across the economy. Thus a larger share of the people, in agriculture, gets a smaller share of the national cake.

The manufacturing sector responded to the changing patterns of domestic and foreign demand during the 1980s. During this period, private industry modernised, and its high technology segment grew at much faster rate. The highest growth was recorded by electrical machinery, chemicals, machine tools, and so on. There was a boom also in production of consumer durables. These segments are all characterised by their low labour intensity production. On the other hand, industries which grew slowly, like food products, beverages, and cotton textiles, were the ones in which output growth has always been associated with much higher rate of labour absorption. Thus, the structure of production changed corresponding to the emerging pattern of demand. This new structure of production is associated with much lower elasticity of employment, in the manufacturing sector in particular.

Stabilising manufacturing output share with respect to (w.r.t) per capita incomes does not guarantee an increase in the employment share of the non-farm sectors. In relation to the development of labour market, the transition from lower to higher structure is associated with the separation of worker from the means of production.⁹ In some states in India, this process is still on progress and left very few hired workers with their means of production i.e., land. It ranges from 25 to more than 70 percent across the states. Another indicator associated with the transition process is a phasing out of self-employment with the rise in the share of hired workers and open unemployment. According to NSSO, the share of the self-employment in the Indian economy has declined from 61.4 to 56.3 percent during 1972-73 to 1987-88. The share of workforce in manufacturing sector declined because of rise in household industry workforce was unable to compensate fall in manufacturing sector. As a result surplus labour seemed to move tertiary sector to get job.

The non-farm per worker productivity improved in 13 out of 15 major states in India and the non-agricultural daily wage earnings relative to agricultural daily wage earnings remained stable for male and marginally increase for females. Non-farm earnings fell in larger number of states. It seems to be contradictory that both the rural and urban poverty have gone down as per official estimates with falling farm and non-farm earnings during 1972-72 to 1987-88.

⁹ The structure which generates a larger surplus product per worker is defined as a 'higher' structure.

Now let us examine the nature of employment by the changes in the status wise distribution of workers and distribution of workers in organised/formal and unorganised/informal¹⁰ enterprises.

The number of casual labour increased rapidly in both rural and urban areas and self-employment also registered a sharp increase during 1993-94 to 1999-00. The trend was reversed during 1999-00 to 2004-05. Total increase in the number of workers was 59.41 million, 83.7 percent of that was self-employed and more than half of the self-employed were engaged in the agriculture.

In 2004-05, more than 50 percent of the rural and nearly 60 percent of urban self-employed considered their status of employment as remunerative even at monthly family incomes less than Rs.1500 in rural area and less than Rs.2000 in urban area. Those who considered their status remunerative were laid below the poverty line even if we consider the present official poverty line (as average family size is 5). Therefore, their job is not remunerative enough for all the people belonging to the group since it means incapacity to provide enough income to keep them above the official poverty line. A large number of people were employed as per official definition, but they did not earn enough to avoid their impoverishment as per official definition of poverty. A special group suggested the need to take a broader view of employment quality which included all the elements such as earnings, minimum wage and security but again did not define the constituent elements of 'quality'¹¹.

Again, the share of unorganised informal sector in total employment was 92.4 percent in 2004-05. During 1999-00 to 2004-05, about 87 percent of 60.7 million newly created job was in the unorganised informal sector¹². The major portion of newly created jobs was of informal nature. Even the increase in employment in formal sector is entirely informal. Thus, non-formalisation of employment took place during

¹⁰ Informality in employment refers to the absence of employment and/or social security and it is overwhelmingly associated with low income, poverty and vulnerability. NCEUS (2009): *The Challenge of Employment in India: An Informal Economy Perspective*, Vol. I & II.

¹¹ *Ibid*, p.13.

¹² Bhalla, *op. cit.*, p.9.

the post-reform period¹³. Therefore, most of the workers are working in an unsatisfactory working condition and lack social security. It can be easily inferred that overall quality of employment deteriorated in the post-reform period.

The share of agriculture in informal sector employment was 64 percent in 2004-05. The agriculture sector consists almost entirely of informal workers who are mainly the self-employed (65 per cent) and the casual workers (35 per cent). The share of non-agricultural worker in the informal sector rose from 32 per cent to 36 percent between 1999-2000 and 2004-05. The workers in agriculture are primarily the self-employed (63 per cent). The rest of the workers in the non-agriculture informal sector are more or less equally distributed between the regular salaried/wage workers (17 per cent) and casual workers (20 per cent). The non-agriculture sector is also predominantly informal and the share of the informal sector has increased to nearly 72 per cent in 2004-05, an increase of 4 percentage points from 68 per cent in 1999-2000.

1.4 Unorganised sector employment

There exist two approaches to measure the employment in the unorganised sector, namely, indirect approach and direct approach. The residual or indirect approach is the result of deducting estimates of organised employment (available from DGE &T source) from total employment figures derived from employment-unemployment surveys (EUS) of NSS. Direct estimation involves arriving at organised/unorganized component of workers directly from EUS, based essentially on the following variables: (a) employment status of workers: salaried/regular labourers, casual wage workers and self-employed workers; (b) type of enterprise; (c) number of workers; (d) type of job: part-time/temporary, etc; and (e) coverage of provident fund.

1.4.1 Indirect Approach to Measurement:

Over half of India's national output comes from the unorganised sector. While employment in the formal sector has been stagnant in the last decade, employment

¹³ NCEUS, *op. cit.*, p.13.

creation in the informal segment of the economy has been tremendous. It is evident that throughout the period 1983 to 1999-2000, an overwhelmingly large portion of the workforce in India is found to be employed in the unorganised sector. Out of 399 million workers in 1999-2000, it is estimated that 371.2 million workers are employed in the unorganised segment of the economy and it is nearly 93 per cent of the total employment in the economy, whereas only 27.8 million workers are engaged in the organised sector. The share of unorganised employment in the economy has displayed remarkable steadiness over the years. The share of informal employment has risen from 92 per cent (nearly 276 million out of 300 million) in 1983 to 93 per cent in the 1999-2000. It is clear that employment opportunity in the organised sector has remained more or less stagnant, showing only a marginal increase from 24 million in 1983 to 27.8 million in 1999-2000. The share of unorganised sector in total employment has slightly declined to 92 percent (of total workforce about 457 million) in 2004-05¹⁴.

The near stagnancy of employment opportunity in the organised sector is evident. Employment in the organised sector has registered a growth rate of 1.25 per cent between 1983 and 1987-88 and 1.26 per cent between 1983 and 1993-94. But during the decade of the 1990s, we witness a sharp decline in employment opportunities. During this period organised employment grew by only 0.34 per cent. Overall, the decade of the 1990s in India has been characterised by slow growth in employment opportunities. This is also true for the unorganised sector of the economy.

The stagnancy of employment opportunities in the organised sector in the 1980s has been compensated to a large extent by a significant expansion of workforce in the unorganised segment of the economy. Employment in the unorganised sector grew by 2.05 per cent annually during 1983 to 1987-88, while the growth rate was around 2.27 per cent during the period of 1983 to 1993-94. This fact clearly indicates that unorganised sector served as a buffer for the workforce when the employment opportunity in organised sector dwindled. However, the unorganised sector also

¹⁴ Sakthivel, S and Joddar, Pinaki (2006): 'Unorganised Sector Workforce in India', *Economic and Political Weekly*, May 27.
NCEUS, *op. cit.* p.13.

underwent a sharp slump during the 1990s with the growth rate of employment falling to 1.25 per cent.

Over the last two decades, agriculture, hunting, forestry and fishing absorbed an overwhelming proportion of workforce in the Indian economy and the similar trend is witnessed in the previous decades. Moreover, the unorganised pattern of cultivation was widely spread. The size of the unorganised segment of the workforce in this category was 203.8 million in 1983, 209.9 million in 1987-88, 238.3 million in 1993-94 and 238.6 million in 1999-2000 respectively. The dominance of unorganised employment in this category of industry is clearly visible.

It is clear that during the 1980s and 1990s, 99 per cent of employment in agriculture, hunting, etc, could be categorised under the unorganised segment. This is followed by employment in trade, hotels and restaurants whose share of unorganised employment in this category accounted for 98 per cent. Construction and manufacturing sectors are the other two sectors witnessing rapid informalisation of the workforce. In the construction industry, share of unorganised employment has increased from 82 per cent in 1983 to 90 per cent in 1987-88. In the post-liberalisation period, this share further increased to 94 per cent in 1999-2000. As far as the manufacturing sector is concerned, the share of unorganised employment has increased from 80 per cent in 1983 to 83 per cent in 1987-88. And in the next decade, this share has further risen to 84 per cent in 1993-94 while in 1999-2000 the share is found to be 85 per cent. During the 1980s, informalisation of the workforce has been most prominent in electricity, gas and water supply industry where the share of unorganised workers increased from 9.3 per cent in 1983 to 28.7 per cent in 1987-88. But in the next decade, the transport, storage and communication industry experienced a rapid informalisation of the workforce where the share of the unorganised workers increased by 8 per cent points (70.3 per cent in 1993-94 to 78.45 per cent in 1999-2000). In fact, this particular category of industry has experienced a rapid informalisation of the workforce with an increase of 17 per cent points in the share of unorganised employment from 61.2 per cent 1983 to 78.5 per cent in 1999-2000. The compound annual growth rates for the unorganised workforce distributed over the eight broad industrial categories are represented. In the pre-liberalisation period, informalisation of workforce involved in the electricity, gas and water supply

occurred most rapidly. The unorganised workforce in this industry grew by 18 per cent between 1983 and 1993-94. Growth rates for unorganised workers in mining, quarrying and construction industry were also quite high for this period and it is estimated 7 per cent growth for each of these industries. But in the post-liberalisation phase, the situation changed dramatically. Between 1993-94 and 1999-2000, the highest growth rate for the unorganised workers was observed in transport, storage and communication and compound annual growth for these industries was 9 per cent. Growth rates for unorganised workers in construction industry (8 per cent growth rate) and in trade, hotels and restaurants (7 per cent growth rate) were quite high. But for electricity, gas and water supply industry as well as in the mining and quarrying industry, growth rates of unorganised workers were found to be negative. This suggests that in the post-liberalisation era, informalisation of the workforce is most prominent in the transport industry, construction industry and for wholesale and retail trade and also for the hotel industry.

1.4.2 Direct Approach

Estimates from the residual approach suggest that 92 per cent of Indian labourers are engaged in the unorganised sector while organised segment constitutes the remaining 8 per cent. Strengthening overall trend estimates from the direct approach also reveals that roughly 9 per cent of the workforce in India is in the organised sector while the rest 91 per cent are in the unorganised segment, a difference of 1 per cent between direct and residual approach. Further, it can be noted that 95 per cent of female workers and 89 per cent of male labourers are engaged in the unorganised segment in India. The informal nature of farm and non-farm activities in rural areas drives this trend of overwhelming presence of unorganised sector in India. Thus, nearly 95 per cent of the rural workforce is engaged in unorganised activities whereas barely 5 per cent of rural workers are found in formal economic activities. The gender break-up of workforce in informal sector in rural areas suggest that roughly 97 per cent and 94 per cent of male and female workers are found in the unorganised sector respectively. On the other hand, roughly two-thirds of the urban labourers constituting around 76 per cent are engaged in the unorganised sector and the rest one-third of them are engaged in the organised segment. As far as male and female workforce break-up is concerned, the results show that the former accounted

for a little over one-third while the latter around 80 per cent in the urban unorganised sector.

Although the informal nature of farm activities in rural areas has been well documented, even non-agricultural activities appear to be extremely unorganised in nature in India. Estimates derived from the non-agricultural sector reveals that nearly 80 per cent of the workers are unorganised and the rest belongs to the category of formal employment. As far as the rural-urban break-up is concerned, nearly 80 per cent of rural non-farm activities were found in the informal sector, while the share of the informal sector in urban areas accounted for around 75 per cent.

It is observed that industrial distribution of workforce, barely 2-3 per cent of the agricultural sector workers are in the organised segment, largely comprising the plantation sector. As far as mining and quarrying is concerned, two-thirds of the workforce engaged in this sector is informal in nature. However, the rural-urban break-up suggests that while in rural areas roughly 13 per cent is in the organised segment; in urban areas, the share of organised workers is close to 60 per cent in mining and quarrying. Manufacturing, on the other hand, displays a different pattern, wherein a little over 85 per cent of workers in this sector are unorganised. In urban areas, unorganised workers in manufacturing worked out to a little less than four-fifths while in rural areas, the percentage share is over 90¹⁵.

1.5 Rural non-farm employment

In the third world, the rural economy has until recently been equated with the agricultural economy. In addition to crop production, fishing, forestry, etc, members of rural households may engage in a certain amount of agro-processing, transporting and marketing of agricultural produce as secondary activities. This view of the rural population's exclusive dependence on agriculture has begun to change in the past few years. There is a growing recognition that non-agricultural activities in rural areas play a crucial role in providing simple consumer goods and services to the rural

¹⁵ *Ibid*, p.15.

households. Such activities also provide a humble but critical income to the landless labour¹⁶.

Rural households engage in a variety of activities, both agricultural and non-agricultural. Few households in any category derive their income exclusively from agriculture. However, the non-agricultural activities they engage in are likely to be quite different at the two ends of the income distribution spectrum. For the low income rural households, wages from working on construction work, brick kiln, etc, and personal services are the predominant source. There is evidence from many countries that the extent of secondary employment in non-farm work also is extensive and important for small and landless farm families (World Bank, 1978). For the high income rural households manufacturing or other-business activities and salaried income tend to predominate. These latter activities have higher entry barriers and yield higher returns than agriculture or other non-agricultural activities¹⁷.

Agriculture led growth is partly substantiated by a positive relationship between agricultural productivity in a region and percentage of non-agricultural employment. At the disaggregated level this appears to positively influence non-agricultural employment in all industry groups, except electricity, gas and water, and in both developed and less developed regions. Rapid growth of agricultural production in the previous decade however, appeared to absorb labour better in the agricultural sector. Of the other proxies for agriculture led growth, concentration of land in a region had a positive impact on percentage of male non-agricultural employment. At the disaggregated level this positive impact was observed for the industry groups trade and hotels and transport, storage and communications. The level of rural incomes and cropping pattern in favour of non-food crops in a region had a positive impact on percentage of male workers in transport, storage and

¹⁶Kilby, P and Liedholm (1986): 'The Role of Non-farm Activities in the Rural Economy', Invited paper Prepared for 8th *World Congress of International Economics Association*, December 1-5, New Delhi.

¹⁷ *Ibid*, p.19.

communications. Both high levels of agricultural productivity and land concentration can lead to spill-over of excess labour into unproductive non-agricultural jobs.¹⁸

The incidence of rural non-farm employment expanded gradually in all-India during 1972-73 to 1987-88, but the expansion got halted during 1987-88 to 1993-94. The incidence of rural non-farm employment in all-India increased from a low level of 14.3 per cent in 1972-73 to 21.7 per cent in 1987-88, which remained almost unchanged at the same level till 1993-94 (21.6 per cent). Later it started to improve during economic reform and reached at 23.8 per cent in 1999-2000 and further improved to 27.4 per cent in 2004-05. Therefore, the employment in non-farm sector is flourished during the agrarian crisis. The growing labour force in rural area was unable to absorb into stagnant farm sector and this sector was working as buffer.

In absolute terms, the size of non-farm employment has increased from 35.24 million on 1st April, 1972 to 95.28 million on 1st January, 2005. But in the post-form period, the size was growing much faster in the later half as compared to earlier. In the later half of the reform period, non-farm employment for male was increasing by more than that for female.

The annual growth rate of non-farm employment improved from 3.05 per cent in pre-reform period to 3.81 per cent in the reform period. While non-farm employment for males has increased from 3.18 percent in pre-reform period to 3.91 percent in the post-reform period, that for females also improved from 2.64 per cent in pre-reform period and 3.45 per cent in the post-reform period.

Manufacturing and services are losing their shares in total non-farm employment during the entire reform period. The most important sub-sector for male within the rural non-farm sector has been trade, which is followed by manufacturing, construction, services, transport and storage etc. These five sectors together accounted for nearly 98 per cent of male rural non-farm employment. Though the first four

¹⁸ Unni, Jeemol (1991): 'Regional Variation in Rural Non-Agricultural Employment', *Economic and Political Weekly*, January 19.

sectors accounted for almost 97 per cent of female rural non-farm employment, only the share of manufacture is 50 percent among them¹⁹.

1.6 Livelihood of the workers

The livelihood of workers depends on their total earnings. Again, their total earnings if they are wage paid workers, depend on the number of labour days and real wage rate they receive. In symbols,

$W = w \cdot L$, where W is total earnings of workers, w is real wage rate and L is number of labour days.

Now total earnings may rise by (a) increase in real wage rate with constant number of labour days, (b) increase in number of labour days without change in real wage rate, and (c) increase in both real wage rate and number of labour days. When the real wage rate increases, the total earnings may rise, remain unchanged or fall depending on whether and to what extent the number of labour days rise, remain unchanged or decline. Livelihoods never depended on days employed alone, but recent changes in the nature of work mean that this feature has become even more important than before. It is clear that increase in days of work is necessary but not sufficient to ensure a livelihood to the worker. Both the quantity and quality of work matters in determining total earnings. For it must yield an income that is enough to meet basic needs or ensure material well-being. Therefore, livelihood is shaped by incomes. And income is determined by the duration of the work and earning from such work. Both the number of working hours and wage rate can vary over time²⁰.

¹⁹ Bhaumik, S.K (2007): 'Growth and Composition of Rural Non-farm Employment in India in the Era of Economic Reforms', *The Indian Economic Journal*, Vol. 55(3).

²⁰ Nayyar, Deepak (2003): 'Work, Livelihoods and Rights', *Indian Journal of Labour Economics*, Vol.46, No.1.



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1.7 Social Security

According to Unni and Rani (2001), there are two kinds of insecurity faced by the workers in the informal sectors, basic social insecurities which include needs related to food, shelter, health, education and income and economic needs which include employment, access to capital, markets or demand and legal recognition.

Both kinds of insecurities arise from two types of sources - random shocks that hit the households from time to time or contingencies, and structural features of the households or individuals which remain more or less same over a period of time. The random shocks can be in the forms of loss of job, sudden illness, social expenditures, change in demand situation, sudden death, crop failure, natural calamity etc. Traditional social insecurities were taken into consideration only this form of insecurities. Structural feature of households or individual include age, marital status, gender, ownership of assets, caste, activity status, location etc. Among all these activity status is the most important feature for workers in the informal economy.

From the mid twentieth century, the global view was that a larger proportion of labour force would be absorbed in the formal sector and the social securities would be required only to meet contingencies. The role of the state in assuming these contingencies was recognised. However, it is observed that a growing proportion of labour force even in the developed economies is being absorbed in the informal economy. Therefore, contingencies are not the only thing to be taken care of; other kinds of social securities also have to be taken into consideration. Therefore, the present reality is completely different from the mid twentieth century. And the present global view is that the role of state also has to change i.e. now state has to take into account all kinds of social securities due to informalisation of the economy.

The role of state in the provision of social securities has been diminishing, but it still plays the most important role to provide social securities to the workers. The growing role of market is clearly recognised. Besides the state and the market, there is third form of institutional mechanism, the civil society which also plays an important role in delivering social protection to workers. This appears in the form of individuals, social networks such as non-government organisations (NGO) and member based

organisations (MBO). Hence, the instruments of institutional mechanism are found in form the institution of private (market), public (government) and civil society in delivering social protection to workers.

As of today, there are a variety of social security policies and institutions in India – both promotional and protective. While promotional measures include financing and provision of education, health, nutrition, employment, etc, protective ones on the other hand, comprise of pension and provident funds, maternity benefits, sickness allowance, employees' state insurance etc, which are provided to the workers. Protective measures are largely available to the central and state government employees in specific and to the minuscule organised workforce in India in general.

Irrespective of the quintile groups, results suggest that non-farm unorganised sector workers have been virtually been left out of social security arrangements. As far as organised sector workers are concerned, 90 per cent of the richest groups avail provident fund facility. Further, it appears that only 55 per cent of the poorest among non-farm organised segment of workforce are covered under the provident fund system in India. Overall, in the non-farm sector, as against a paltry 5 per cent of poorest, 35 per cent of the richest workers avail provident fund benefits. It is interesting to observe that except public utilities, the coverage of provident fund among the unorganised segment of workforce in India is virtually next to nil. Since electricity, gas and water supply are largely under the public sector, around 10 per cent of unorganised workers are covered under the scheme of provident fund²¹.

According to the survey conducted by Unni and Rani (2001), about 44 percent of male and 55 percent of female respondents are facing crisis due to large amount of expenditure on social events. About 39 percent of households reported crop failure as major crisis facing them. The nature of the crisis remains same across the various activity statuses.

The sources of borrowed funds to overcome crisis were more or less same across gender (mention source), but it varied significantly across activity statuses.

²¹ *Sakthivel and Joddar, op. cit.* p.15.

Only 16 percent of the households borrowed from formal financial institutions. They are either salaried employees or self-employed (cultivator). Almost half of the households get funds from social networking (relatives, friends, neighbours) and money lenders, sell of their assets due to lack of their credit-worthiness. Last two sources are accessed mostly by the vulnerable section i.e., casual workers and piece rate workers.

About 24 percent of the informal poor households did not find work regularly and this was the high among the women workers (29 percent) compared to men (17 percent). Across the status category, the casual workers (44 percent) and piece rate workers (27 percent) were most vulnerable in terms of irregularities of work. 11 percent of workers perceived continuation of their present employment to be uncertain. It was marginally higher among women (12 percent) compared to men (10 percent) workers. Across the status group, it was 29 percent for piece rate and casual workers.

Almost 27 percent of workers were engaged in multiple activities during the course of the day, while about nearly 40 percent were undertaking multiple activities during the year because of lack of job and income security. The job and income insecurity arises due to easily transferability of the their skill i.e. low level of skill (63 percent), lack of access capital (49 percent), lack of demand for their products (59 percent) and lack of legal recognition (46 percent).

The proportion of women reported that they went hungry over the last 12 months was higher than (10 percent) compared to men. Similarly, a higher proportion of piece rate home based (20 percent), self-employed non-agricultural workers (14 percent) and casual workers (13 percent) reported that they were hungry over the last 12 months. To overcome this problem, public distribution system (PDS) is an effective strategy. Of these households, merely 9 percent had access to PDS and 15 percent did not have access to it.

Another important need for the workers is access to medical and health care. About 17 percent of the households reported no existence of public health care facility in the vicinity and 19 percent of the households with public health infrastructure did

not avail of the facility as either unavailability of required treatment or facility is too far. The determination of health was high among the women workers (15 percent). 79 percent of workers pay for the entire cost of medical care. The most vulnerable were piece rate and self-employed workers.

The literacy rate among the sample population was 86 percent and remained same across the worker category. The proportion of school going age, were not going to school was comparatively higher among women (27 percent) and casual (31 percent) workers. 17 percent of the households living in Kutcha houses were most insecure.

Now we look at the performance of three above mentioned *institutional mechanism* to deliver social protection.

In the people's security survey (PSS) in Gujrat, 94 percent of the households surveyed were purchasing from the PDS. 83 percent of the households reported that such facility existed in the neighbourhood of 5 kilometres. Only about 15 percent of the households received some medical benefits from their employers and 19 percent of that was entitled to medical leave. 33 percent of the school going children received scholarships and got support for the purchase of clothes and school books. Near 66 percent of the households reported girl child receiving free education. Though 3 percent of general sample having any form of medical insurance; it was about 26 percent of the Self-Employed Women's Association (SEWA) workers. 48 percent of SEWA women worker reported lack of access to capital compared to 67 percent of general sample of women.

About 90 percent of the households reported the existence of social network to bail them out in the time of financial crisis. Among them, 89 percent of the networks were structured on familial and kinship lines and 10 percent among friends.

Informal workforce in public utilities like electricity, gas and water supply are accounted for only one-fifth of the total workers in this sector. Since public utilities are directly under the supervision and control of the government, employment security and benefits are assured to the maximum extent. Hence, the organised

segment accounts for a larger share in public utilities. Construction, which accounts for close to 5 per cent of the total employment in India, displays an almost similar structure to that found in agriculture. The break-up of the component of construction sector shows that close to 98 per cent of the workforce is in the unorganised segment of this industry. This is closely followed by trade, hotels and restaurants sub-sector, where 95 per cent of workforce is unorganised.

The sub-sector of transport, communication and storage slightly deviates from the above trend. The organised component of the workforce in this sector accounts for close to one-fourth of the total workers in this sector. Barring transport, communication and storage, the other service sectors such as, (i) finance, insurance and real estate; and (ii) social, personal and community services, displayed a different trend. The significant presence of the government in the field of banking, insurance, education, health etc, enables close to half of the workforce engaged in these sub-sectors to be organised. But such trends may be reversed with the withdrawal of government from these sectors, as private sector cannot be expected to provide employment and social security for the unorganised.

Furthermore, an analysis of the possession of industry-wise skills among informal workers in India reveals that about 99 per cent of them are illiterate who are engaged in agriculture, construction and trade, hotels and restaurants. Even among the other sectors, 90 per cent of the unorganised sector workforce is found to be illiterate. The only exception is being public utilities. It is observed that 54 per cent of the illiterate workforce in electricity, water and gas supply is organised in nature. On the other end of the spectrum, workers possessing graduate and higher level of education in the informal sector shows that in traditional forms of sub-sectors such as, agriculture, construction, trade, hotels and restaurants they account for 95, 81 and 88 per cent respectively. In spite of possessing the skills, workforce in these sectors is still largely engaged in unorganised activities. However, workers with graduate degree and higher levels of education appear less likely to be in the unorganised segment and are largely engaged in the public sector such as public utilities, mining

and quarrying, and social, community and personal services. The respective share of these set of workers in such sub-sectors are 7, 16 and 30 per cent.²²

From the preceding discussion we find the following research questions.

(i) Two important features of labour market under capitalism are maximizing profit by keeping the wage bill at a low level, as much as possible, which leads to limits on effective demand. And employment in capitalist industrialization is characterised by labour-displacing mechanization. Question here is: whether these two features are seen in the labour market of India and how has it changed over the period of 1983 to 2004-05?

(ii) There are primarily three forms of exporting unemployment by early industrialized countries to their colonies till mid twentieth century: migration, protecting own domestic market with complete control over of colonies' market and exporting finance capital. Question here is: What are the present forms of exporting unemployment in the world economy? Are they different from the past? If yes, then how?

(iii) According to the Neo-classical view, government spending crowds out private investment at full employment. An increase in employment through an increase in government spending, is counterbalanced by reduction in the private investment. However, another group of economists argue that in an initial situation of under-employed resources including labour unemployment and under-employment, government spending actually increases total employment in an economy by creating primary and secondary employment through increase in output, by inducing private investment and consumption. Does this proposition hold for the Indian economy?

(iv) Neo-classical economists always put forward an argument that involuntary unemployment in a capitalist system arises because of labour market inflexibility. However, in practice labour market inflexibility ensures the stability of the system. Does this proposition hold for the Indian economy?

²² Sakthivel and Joddar, *op. cit.* p.15.

(v) Indian economy witnessed jobless growth for the last two decades. What are the factors responsible for such kind of growth? How is the present growth different from that of the past?

(vi) According to the standard theory of development, the structure and nature of the workforce changes with the industrial transition of the economy. However, Indian economy's experience was different from the standard theory. What kind of change in structure and nature of the workforce in India took place in the post-reform period? What are the factors responsible for such changes? How does the change affect workers' earnings, consumption and social security?

(vii) If self-employment is rising because it is more secure and remunerative than wage paid work, then there is increase in income from self-employment. Therefore, a study of their pattern of consumption expenditure can be conducted to verify the above statement.

We shall deal mainly with the third research question in our study. Before proceeding to the data we will first look at some of the theoretical formulations bearing on the question of the macroeconomic links between public expenditure and employment in the next chapter.

Chapter 2

Employment and Macroeconomic Policies

2.1 Introduction

The well-being of people depends upon their income and wealth. Employment provides income to individuals to meet their basic needs of livelihoods. Employment also plays an important role in increasing well-being in an economy which is one of the primary objectives of the macroeconomic policies in any economy. Therefore, it is important to analyse the factors that determine the level of employment and how macroeconomic policies can affect those factors to increase or decrease the level of employment. In this chapter we summarize some of the past discussion on the important concept of 'the multiplier' first put forward by J M Keynes and R Kahn. We then present entirely in their own words the theoretical analysis and arguments of macro-economists in India regarding the ways in which opening up to the global economy under economic reforms, affects employment.

2.2 Determinants of employment

Both money-income and real income depend on the volume of employment N given technology, resources and costs. The relation between income and consumption expenditure (C), depends on propensity to consume of the economy. In other words, consumption is a function of aggregate income and thus, it is also a function of level of employment for given propensity to consume. The amount of employment N is determined by the effective demand (D) which is consist of consumption expenditure (C) and new investment (I). Since $C + I = D = f(N)$, where f is the aggregate supply function, and we may write $C = g(c, N)$ as C depends on employment and the propensity to consume, it follows that $f(N) - g(c, N) = I$. Therefore, level of employment in equilibrium depends on i) the aggregate supply function, (ii) the

propensity to consume, and (iii) the volume of investment. We will discuss each factor briefly²³.

(i) The employment function is inverse function of the aggregate supply function and is defined in terms of wage unit. It relates amount of effective demand in wage units directed to a given industry or industries as a whole with the amount of employment. Thus, if an amount of effective demand D_r directed to industry r to create an amount of employment N_r in the industry, the employment function is given by $N_r = F_r(D_r)$. Moreover, if we assume that D_r is unique function of total effective demand, D , then the employment function is given by $N_r = F_r(D)$. Beside, increase in aggregate demand to be distributed between different commodities may considerably influence the volume of employment. In other words, the aggregate increase in employment will be greater if the increased demand is largely directed towards a high elasticity of employment sector than a low elasticity of employment sector. Moreover, total wage bill as compared to total profits will also increase in the former situation than in the later which also effects consumption propensity as a whole because workers consumption propensity is high. Therefore, an increase in investment affects employment much more in the former case than the latter.

(ii) When in an economy, income increases, consumption in that economy also increases, but by a lesser amount. It follows from that the greater the volume of employment, the greater will be the gap between the aggregate supply price (Z) of the corresponding output and the sum (C) which the entrepreneurs can expect to get back out of the expenditure of consumers. Hence, if there is no change in the propensity to consume, employment cannot increase, unless at the same time I is increasing so as to fill the increasing gap between Z and C .

As propensity to consume in poorer economies is stronger than that in richer economies, and the gap between actual and potential production will be wider in the latter, a very modest measure of investment will be sufficient to provide full employment in the former. On the other hand, a wealthy economy will have to discover much more avenues for investment if the saving propensities of its wealthier

²³ Keynes, J, M (1936): The General Theory of Employment, Interest and Money, Macmillan Cambridge University Press, for Royal Economic Society.

members are to be compatible with the employment of its poorer members. If the inducement to invest in a potentially wealthy community is weak, then in spite of its potential wealth, the working of the principle of effective demand will compel it to reduce its actual output, until, in spite of its potential wealth, it has become so poor that its surplus over its consumption is sufficiently diminished to correspond to the weakness of the inducement to invest. This is still worse. Not only the marginal propensity to consume is weaker in a wealthy community, but owing to its accumulation of capital being already larger, the opportunities for further investment are less attractive unless the rate of interest falls at a sufficiently rapid rate.

The rate of investment decision (I) is an increasing function of gross savings (S) and of the rate of change in the aggregate profits ($\Delta P/\Delta t$) and a decreasing function of the rate of change in the stock of capital equipment ($\Delta K/\Delta t$). The rate of investment decision is also an increasing function of technological innovations (d). Another factor affecting rate of investment, is investment in inventories which is function of the rate of change in output of the private sector ($\Delta O/\Delta t$). These are the factors primary behind the investment decision by the capitalists.²⁴

Though the rate of interest has a negative effect on changes in profits, but it is not considered as co-determinant of the investment decision as long-run rate of interest does not show marked cyclical fluctuations. Beside, the conception of counteracting the slump by stimulating private investment through lowering the rate of interest emerges over time and again. If the businessmen do not have confidence in the economy, he/she will not invest. Therefore, we can assume for simplicity investment is autonomous. Employment primarily depends on investment. Now we will examine the rise in employment that occurs through an increase in effective demand due to an increase in investment.

The multiplier is defined as the marginal effect of a change of one variable upon another variable, where the latter is a component of the former. The concept of

²⁴ Kalecki, M. (1971): 'Determinants of Investment' in Selected Essays on the Dynamics of the Capitalist Economy, Cambridge: Cambridge University Press, pp. 110-123.

multiplier in economics was first propounded by R F Kahn. He talked about *employment multiplier*²⁵.

Suppose at the time of general unemployment, an increase in investment takes place in the form of road construction: under public works programme, men are given jobs in road construction. This is primary increase in employment due to the increase in investment. When employment increases, income rises and the employee spend more on consumption goods. Thus, primary employment will increase the production of consumption goods for which market has improved now. The increase in employment in the consumption goods production will further result in an increase in consumption and employment. This will go on in successive periods. The addition to employment in consumption goods industries is secondary increase in employment due to the increase in investment. The ratio of the total increase in employment to the primary is known as *employment multiplier*²⁶.

Later Keynes further extended the work of Kahn and developed the investment multiplier²⁷ and the consumption multiplier. The story behinds the investment multiplier is quite similar to that of *employment multiplier*.

Now we look at how the investment multiplier works. Suppose, investment (I) increases by dI , then income increases by the same amount of the increase in investment, which leads to increase in consumption by $c.dI$ (assume marginal propensity to consume is c). Thus, increase in consumption leads to induced investment $c.dI$. Again income will increase by $c.dI$ and consumption expenditure will increase by $c.(c.dI)$ and so on. Therefore, the total increase in income (dY) due to increase in investment, dI is

²⁵ Kahn, R. F. (1931): The relation of home investment to employment, *Economic Journal*, 41, pp. 173-198.

²⁶ *ibid*

²⁷ Keynes, J.M. (1936): The Marginal Propensity to Consume and the Multiplier in *The General Theory of Employment, Interest and Money*, Macmillan Cambridge University Press, for Royal Economic Society, pp. 102-118.

Lange, O (1943): The Theory of the Multiplier, *Econometrica*, Vol.11, No.3/4 (Jul.-Oct., 1943), pp. 227-245

Robinson, J (1937): The Multiplier in *Introduction to the Theory of Employment*, pp. 15-21

$$dY = dI + c.dI + c^2.dI + c^3.dI + \dots$$

$$= dI (1 + c + c^2 + c^3 + \dots)$$

Therefore, $dY/dI = 1/(1-c)$, where $0 < |c| < 1$ (well-established empirical fact)

Similarly, consumption multiplier, $dY/dC = 1/(1-b)$, where b is marginal propensity to invest.

The stability condition of the system is $c + b < 1$ given $0 < |c| < 1$ (marginal propensity to save is greater than marginal propensity to invest), implies $0 < |b| < 1$.

As we know an initial autonomous increment in investment leads to increase in consumption which leads to increase in national income. Increment in national income induces additional investment. Similarly, an initial autonomous increment in consumption leads to increase in investment which leads to increase in national income. Increment in national income induces additional consumption. dI or dC is not the initial increment in I or C , but the total increment, which includes all induced increments along with the initial increment. This imposes serious limitation upon practical application of the aforesaid multipliers.

In order to overcome the above problem Angell and Lange²⁸ defines the cumulative multiplier²⁹ by extending earlier multiplier. Later Samuelson derived the formula for the compound multiplier.

Let dI_0 be an initial autonomous increment in the rate of investment. This leads to an equal increase in national income and leads to induced consumption $c. dI_0$ and induces an increase in investment to $b dI_0$. As a result, an induced increase income is $(c + b) dI_0$, which leads to a further induced increase in income $(c + b) (c + b) dI_0$ and so on. Therefore, total increase in national income is

$$dY = [1 + (c + b) + (c + b)^2 + \dots]dI_0$$

Therefore, the compound investment multiplier³⁰ is

²⁸ Angell, W (1941): *Investment and Business Cycles*, McGraw-Hill Book Co., New York, 1941, p.196.

Lange, O: Review of Professor Schumpeter's Business Cycles, Review of Economic Statistics, Vol. 23, November, 1941, p.191n.

²⁹ Also know as cumulative multiplier.

$dY/dI_0 = 1/[1 - (c + b)]$, where $|c + b| < 1$.

Similarly, the compounded consumption multiplier is

$dY/dC_0 = 1/[1 - (c + b)]$, where $|c + b| < 1$.

Therefore, $dY/dI_0 = dY/dC_0$

There is prevalent notion that the government spending has a negative effect on national income. This implies the multiplier is negative i.e., $1 - (c + b) < 0$, which makes the system unstable. Hence, the prevalent notion is not true under a stable system.

We can see that any autonomous increase in expenditure has exactly the same effect upon national income, irrespective of whether the expenditure for investment or for consumption. We can rewrite the multiplier as expenditure multiplier,

$dY/dE = 1/(1 - e)$, where e is marginal propensity to spend and is equal to $c + b < 1$.

As we have seen above that government spending crowds in the private investment which leads to increase in employment through increase in effective demand. Moreover, government expenditure is not governed by profits, while private investment is. Therefore, in practice, there is no valid economic reason behind the maintenance of full employment in an economy through government spending, but there may some political reasons.

The reasons for the opposition of the 'industrial leaders' to full employment achieved by government spending may be sub divided into three categories³¹:

(i) Without government intervention the level of employment depends to a great extent on state of confidence. If this deteriorates, private investment declines, which results in a fall in output and employment. In this way the capitalists gains a

³⁰ Samuelson, P.A: "Fiscal Policy and Income Determination", *Quarterly Journal of Economics*, Vol. LVI, No. 4, August 1942, pp. 575-605.

³¹ Kalecki, M. (1971): 'Political Aspects of Full Employment' in *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge: Cambridge University Press, pp. 138-145.

powerful indirect control over government policy as whatever adversely affects the state of confidence should be avoided, otherwise it would lead to an economic crisis. If government learns the trick of increasing employment by its own spending, then that would pose a serious threat to the powerful controlling device of the capitalists. Hence, the capitalists dislike the government interference in the problem of employment.

(ii) Public investment should be restricted to social sectors and infrastructure which do not overlap with private sectors. Otherwise, the profitability of private investment might be harmed resulting in a decline in private investment. Thus, public investment crowds out private investment. This argument is put forward by the capitalists. But in reality the capitalists fear that once government may learn that their argument is not true and then government may be tempted to carry out investment in new spheres to maintain full employment.

It may be expected that the capitalists to be more in favour of subsidizing mass consumption than public investments as government is not embarking on any private enterprise. In reality they oppose to subsidizing mass consumption because the fundamental of capitalist ethics prefers a person who has private property and a person would not have private means unless he/she earns to maintain his/her livelihood.

(iii) The maintenance of full employment empowers the workers. Thus, full employment situation causes loss of the capitalists' dominance over the workers. This results into indiscipline in factories and political instability. The existence of unemployment ruled out these possibilities.

Now we look at the outcomes of the opposition to maintenance of full employment by government spending. The outcomes are:

(a) The countering of slump by stimulating private investment through lowering the rate of interest is suggested by the capitalist rather than government spending. However, lowering the rate of interest cannot improve the state of confidence, thus there is no possibility of rise in private investment.

(b) The reduction in the rate of interest rate or tax rate or both in slump and increase in those in boom leads to reduction in the amplitude of business cycle. As a result level of employment is far from full employment both in boom and slump periods.

(c) If there is a reduction in the rate of interest or tax rate or both in slump and there is no increase in boom, then boom may last longer, but ends up in new slump as no such action eliminates the forces which cause cyclical fluctuation in a capitalist economy. Then again a reduction in the rate of interest or tax rate or both to stimulate private investment in the resulting slump, to revive the economy, will result in a similar cycle. As a result the rate of interest will be negative and income will be subsidized.

So far we have seen the impact of government spending in the employment creation in a close economy. Now we shall look the same thing in open economy.

2.3 Government spending in an open economy

Let us assume a system where rate of interest is same in all the countries and there is free mobility of capital across nations. Then we have

$$(i) i = i^*$$

$$(ii) M_s = M_d(Y, i)$$

$$(iii) Y = C(Y) + I(i) + G + NX(Y, e)$$

$$(iv) G = \bar{G}$$

$$(v) e = \bar{e}$$

$$(vi) M_s = \bar{M}$$

Where i is the rate of interest, i^* is the world rate of interest, Y is income, C is consumption, I is investment, Government spending (G) is fixed at \bar{G} , e is exchange rate, NX is net exports and M_d , M_s are money demand and money supply, respectively.

Equation (i) means that there is a rate of interest all over the world, equation (ii) implies money supply is equal to money demand, equation (iii) represents the

national income identity, equation (iv) points to an autonomy in matters of fiscal policy, equation (v) points to a fixed exchange rate regime and equation (vi) means an autonomy in monetary policy.

Now in a conventional Mundell-Flemming (M-F) world it can be shown that the desired objectives of full employment with balance of trade can be obtained through fiscal policy measures in a fixed exchange rate regime and monetary policy measures in a flexible exchange rate regime. The M-F world, however, says that monetary policy and fiscal policy are not effective tools for macroeconomic management in both fixed and flexible exchange rate regimes. Let us illustrate adjustments in the M-F world in fixed and flexible exchange rate regime.

Fixed Exchange Rate Regime:

Suppose an economy is operating below the full employment level i.e., income is less than the full employment level. Then the government increases G which will raise Y through a multiplier effect. The increased Y then leads to an increase in money demand given a fixed money supply which will lead to a rise in i . This will lead to a capital inflow until $i = i^*$. As the Central bank pegs exchange rate by using its policy instruments, there will be no currency appreciation. Thus, fiscal policy can be used to achieve $Y = Y^*$.

However, at a given level of income a decrease or increase in the money supply leads to an increase or decrease in the rate of interest. As a result, an inflow or outflow of capital will take place. Now the central bank intervenes to maintain exchange rate by increasing or depleting its reserves which brings money supply back to its original level. This makes monetary policy ineffective.

Flexible Exchange Rate Regime:

An increase in G leads to a capital inflow and thus an appreciation in the domestic currency as the central bank does not intervene. This results in a fall in NX and Y . Therefore, fiscal policy is ineffective in increasing output.

On the other hand an increase in money supply results in a fall in i given the level of Y and therefore increasing domestic investment and outflow of funds from the economy. This leads to a currency depreciation and increases NX till $i = i^*$ and an increase in Y .

The dynamics of such an adjustment are based on two very crucial implicit assumptions, namely:

- (i) foreign exchange cannot substitute domestic currency in its money function
- (ii) any level of trade deficit can finance itself at the going rate of interest through financial flows

In the present era of capitalism, finance capital is a highly mobile and volatile which poses question mark on the validity of these assumptions.

Let us take the case of net capital inflow (F). In the M-F world, the necessary condition is $\Delta F = \Delta NX$ to work the system correctly. Now if capital flow is autonomous, the economy has to make adjustments to its foreign exchange reserves to work the system properly in fixed exchange regime. Therefore, we rewrite our condition as $\Delta F = \Delta NX + \Delta R$. If $\Delta F < \Delta NX$, then the country simply adds to its reserves and there is not much problem. But when $\Delta F < \Delta NX$, there must be a commensurate fall in the country's foreign reserves. However, an economy can afford to run down its foreign reserves with their being a lower bound on ΔR . Thus, G becomes endogenous in the system. Therefore, fiscal policy with perfect capital mobility loses its autonomy even in a fixed exchange rate regime.

In the regime of perfect capital mobility, the wealth holders have a choice of shifting from a domestic to international portfolio. Conventional economic theory would again argue that this would lead to an equalization of rate of return on capital and lead us to $i = i^*$ equilibrium. But this might not happen because of the following factors: (i) countries are not identical (ii) where capital finds a greater risk, it demands a risk premium over and above the international rate of interest. This risk might arise due to factors like political instability, terrorism etc. This of course is a historical phenomenon as well that capital always demands a higher price to move out from the metropolis to the non industrialised world.

For a representative wealth holder making an decision between investing in two assets in countries I (developed) and II (third world) in the time period $t = 0$ to $t = t_0$. The choice is between

$$i + \left(\frac{p_I^0}{p_I}\right)^e - \delta - C_I = i + \left(\frac{p_I^0}{p_I}\right)^e - \delta - C_I + \left(\frac{p^0}{p}\right)_{II}^e - \delta_{II}$$

where i = rate of return

$\left(\frac{p_I^0}{p_I}\right)^e$ = expectation of price appreciation in country I

δ = marginal risk premium

C_I = carrying cost

$\left(\frac{p^0}{p}\right)_{II}^e$ = expected change in the price of third world currency vis-à-vis the

advanced country currency

δ_{II} = additional risk premium for third world country

One very important factor in determining $\left(\frac{p^0}{p}\right)_{II}^e$ is the differential rate of inflation in the two countries. To put it simply the rate of return to capital (r) in a third world country must exceed the rate of return in an advanced capitalist country so that $r_{II} = r_I + \delta_{II}$

Now, this means that the rate of interest cannot be fixed in a third world country by the central bank in an exogenous manner and must be fixed while keeping in mind the prevailing rate of interest in the world. This means that there is not much autonomy for a third world country in the realm of monetary policy as well. Only the leading capitalist country in the world like United States has autonomy in fixing the rate of interest in its economy given the special position enjoyed by its currency (because of the economic and military power of that country) which makes it as good as gold and is considered a safe medium of holding wealth³² as well as being the reserve currency.

³² Patnaik, P and Rawal, V: "The Level of Activity in an Economy with Free Capital Flows", Economic and Political Weekly, April 2, 2005.

Some people might argue that there are some countries in the third world which do receive a large amount of capital inflow and the above mentioned constraint therefore should not hold in their case e.g., India and China. However it can be shown that even this capital inflow is not an unmixed blessing for any third world economy and has the potential of doing more bad than good in various ways. There is a cost of holding excess reserve. As we know most of the capital inflow in India is Foreign Institutional Investment (FII) to invest in the share market and earn higher rate of returns. On the other hand Reserve Bank of India (RBI) could not invest in any long term productive assets to avoid the crisis during capital flight and invests in safe financial assets like US Treasury Bills which render nominal returns. Therefore, the economy borrows dear to lend cheap. Thus, RBI bears the cost of holding reserves.

Again, capital inflow leads to increase in reserve money which does not lead to commensurate increase in money supply due to lack of elastic demand for credit. As a result, commercial banks end up with surplus cash reserves which pay nothing, but they have to pay on those excess reserves. This affects the banks' profitability. In rescue of commercial banks, central bank sells government securities to the banks to mop up the additional reserves. This would lead to a fall in the profitability of the central bank, which squeezes priority sector lending in the economy. However beyond a point even this process cannot be carried on as there is a limited number of government securities the central bank can sell to the banks, particularly in the regime of fiscal austerity. In that case the problem of excess reserves cease to disappear and the situation is worse than before. An increase in reserves can thus affect adversely the profitability of the financial system in the country.

Indeed there can be different policy measures to take care of this problem. Suppose there are unsold food stocks with the state procurement agency like Food

Patnaik, P (1998): 'Capital mobility and the problem of effective demand in underdeveloped economies' in *Restoring Demand in the World Economy* (Ed) by Halevi, J and Fontaine, J-M, Edward Elgar, UK

Patnaik, P (2006): "Financial Flows and Open Economy Macroeconomics" paper presented at International Development Economics Associates (IDEAS) and United Nations Development Programme (UNDP) conference on 'Post Liberalisation Constraints on Macroeconomic Policies', Muttukadu, Chennai, India 27th-29th January. (http://www.networkideas.org/feathm/mar2006/prabhat_patnaik.pdf).

Corporation of India in India, and the government buys food stocks for a food for work programme from the procurement agency with this extra reserve money. Then the money remains with the government and level of income and employment goes up in the economy. In this case the bank's net credit to the government also does not go up³³.

Another way to deal with this situation can be undertaking some investment project by borrowing money. Then there is an increase in income levels and thus an increase in money demand, which leads to a net increase in bank's credit over and above government borrowing. Even if there is no unsold stock or unutilized capacity in the economy then also the government can increase G which will lead to an increase in imports and raise the current account deficit leading to a fall in reserves. In such a case investment would increase in the economy without any increase in reserves. But even these methods have their own problems. For example the third kind of intervention means that the country is borrowing short term to put money into a long term asset, which might create a mismatch, or borrowing foreign exchange to build assets which might not earn foreign exchange. Such a mismatch has the potential of opening up to a liquidity crisis where the economy might not be able to get foreign exchange when it needs them³⁴.

For the other two types of policy measures there is no need of foreign exchange at all. What is worse however is the fact that such moves by the government might actually trigger a capital outflow as investor's start "losing confidence" in the economy because of inflationary expectations (devoid of any economic logic) or simply political radicalism.

The conventional advice given by international financial institutions in this situation is a relaxation in import of consumption goods and expansion in loans for consumption purposes (part of which might go to imports again) owing to "strong fundamentals" of the economy. The result would be a trade deficit and hence

³³ Patnaik, P (2005): "On the Need for Providing Employment Guarantee", *Economic and Political Weekly*, 03 January 15 - January 21.

³⁴ Patnaik, P (2004): "On the financing on Infrastructure on the strength of Reserves", *Economic and Political Weekly*, December 25- December 31.

disappearance of excess reserves. The result of this can be explained in the following manner:

The macroeconomic identity which must hold for the economy is

$$(I-S) + (X-M) + (G-T) \equiv 0$$

Now suppose $(X-M)$ goes down, then either $(I-S)$ or $(G-T)$ must increase by the same amount to maintain the balance. G cannot be increased in the economy as it can have an adverse affect on investor finance or trigger inflationary speculations leading to capital flight. As 'I' is autonomous, S must decrease by an equal amount to restore the equilibrium. This can take place through two possible ways: firstly, there can be an increase in consumption of imported or even domestically produced luxury goods (which might be import intensive and have very little impact on employment creation) in the economy. This means that the economy is borrowing foreign exchange in order to raise the consumption standards of the wealthier class, leaving the domestic output or employment unchanged. However it is the poor who bear the burden of this decadence with reduced employment and real wages when a liquidity crisis emerges. In another case, imports simply substitute domestic goods in consumption, leading to de-industrialization in which case income would go down and therefore savings, which is a fixed proportion of income, would also go down. This is a situation when the country is borrowing from abroad to finance its own deindustrialization.

Let us also consider the case when the central bank does not hold any extra reserves with perfect capital mobility in the economy. In such a situation, domestic currency will appreciate, which makes imports more preferred over domestically produced goods. Further, inflow of capital adjusts the current account deficit and so on. Thus, the economy experiences a debt financed de-industrialization due to currency appreciation through a debt which came on its own³⁵.

³⁵Patnaik, Prabhat (2003): "On the Economics of "Open Economy" De-Industrialization", Nov 25th, http://www.macrosan.org/anl/nov03/anl251103Open_Economy.htm.

The preceding discussion illustrates how opening up to world might led to a serious loss in autonomy in macroeconomic policy decisions and have devastating implications for output, employment and distribution of income in third world economies caused by merely speculative factors rather than any real economic reasons. Bhaduri³⁶ appropriately describes this challenge, “Progressive” economists everywhere must recognize that their main task now is to ensure that, in the process of globalization, the market mechanism does not denigrate into a form of “casino capitalism” in the name of freedom and efficiency.

2.4 Labour Market flexibility and employment

The word flexibility in market economy implies free functioning of the economy without any outside intervention like trade unions, customs or government regulation. Those who advocate flexibility are implicitly arguing for removal of regulation, institutions and convention designed to protect workers. But flexibility leads to unstable equilibrium.

The term “labour market flexibility” comes only next to “globalisation” in frequent occurrence in the discourse on economic growth nowadays. This is natural because labour flexibility formed part of the package called the Washington consensus. The framework for producing labour market flexibility was designed to deregulate the labour market and remove or cut protective regulations (Standing)³⁷. The Washington consensus was based on what Stiglitz called market fundamentalism³⁸. The basic idea behind this thesis was that free market outcomes are efficient and Pareto optimal. The free play of market forces results in employment of resources at the market-clearing prices; this leads to both efficiency (as almost all resources are employed) and equity (all are rewarded according to their marginal contribution). Regulation of the market by the state leads to deviations from full employment of all resources. Hence, attempts should be made to remove as many of these imperfections in the market as possible so as to achieve full employment of all

³⁶ Bhaduri, A (1998): “Implications of Globalization for Macroeconomic Theory and Policy” in *Developing Countries in Globalization and Progressive Economic Policy* (ed) by Baker, D, Epstein and Pollin, R, Cambridge University Press.

³⁷ As described in Sharma, Alakh, N (2006): ‘Flexibility, Employment and Labour Market Reforms in India’, *Economic and Political Weekly*, May 27.

³⁸ *Ibid*, p.43.

resources and optimal social welfare. In the case of labour market, trade unions and protective labour legislations are said to be market-distorting agents, which curtail the free operation of market forces to ensure full employment of labour. Interference by collective institutions (law and trade unions) in the market process results increased transaction costs, which mar investment, thereby resulting in unemployment and welfare loss. These institutional interventions in the name of equity and social justice superimpose terms set above the market-clearing prices. As a result, markets do not clear, wages become “sticky” and the cost calculations of firms go haywire. These institutions not only tamper with the “price” and the essential market signals that enable efficient functioning of the market, but also affect the freedom of employers to adjust the “quantities” of resources, which, in turn, leads to unemployment. They also result in “inequity” because by protecting the interests of “insiders”, they hurt the chances of “outsiders” entering the labour market, who thus remain unemployed. A social division is created, which perpetuates inequality. While the “outsiders” remain scattered and their political power becomes diffused, the “insiders”, on the other hand, are well-organised and vocal and influence policy decisions more than their unfortunate counterparts. Hence, it is strongly argued that the labour market should be deregulated for stimulating investment and employment, as well as equality in order to provide flexibility in entry and exit.

In the neo-classical paradigm, there exists only frictional unemployment (voluntary) in the capitalist system and there is no involuntary unemployment under the flexible price system as all markets clear through price adjustment. The involuntary unemployment in a capitalist system arises due to wage rigidity in labour market. Therefore, if money wage rate are flexible, then there will be no involuntary unemployment. This is the prevalent notion all over the world.

The above phenomenon is true if we treat the money market like any other market where value of money in terms of other goods is that which clear the market. For the logical consistency of Walrasian equilibrium, if it is essential that the system considered money and non-money commodity including labour, then an increase in money prices of non-money commodity should increase the demand for money. This is satisfying the gross substitute assumption and later ensures that the equilibrium is

unique and stable. The gross substitute assumption ensured by taking demand for money is a stable function of money income. This holds when money plays only role of medium of exchange. But in capitalist economy money plays another role as wealth can be held. Then the amount of money demanded is not constant fraction of money income i.e. not stable function of money income. Therefore, there is demand for money over and above what is required for transaction purposes. All these facts make the Walrasian system unstable³⁹.

The monetarists tried to resolve this instability problem through postulating a 'Real balance effect' i.e., a fall in a commodity price leads to an increase not in the asset demand for commodities but in consumption demand. But 'Real balance effect' is unable to provide stability in the inside money world as the gains of some agents would be nullified by the losses of others. This instability problem can get resolved through inelastic price expectations. With such inelastic price expectations, a fall in commodity prices would give rise to a larger asset demand for commodities or a lower money demand. This would ensure unique and stable Walrasian equilibrium. Therefore, the functioning of a capitalist economy itself requires inelastic price expectations i.e., at least one commodity price should be sticky (here it is money wage rate)⁴⁰.

Responses of the trade unions to the political and economic developments in the advanced capitalist economy are inadequate as depicted below.

(a) Based on the experience during the last quarter century that followed the Second World War, the trade union movement admitted the full employment as a natural state of being. So, it bargains for wage rather than concern itself with employment levels. (b) Most governments accepted the monetarist view on macroeconomic policy (There is a trade-off between inflation and unemployment). Though the oil shock left the world economy with high inflation and higher unemployment, but the monetarist view doctrine found political acceptance among

³⁹ Patnaik, P (2006): 'The Labour Market under Capitalism', *Indian Journal of Labour Economics*, Vol.49, No.1.

⁴⁰ *ibid*

trade unions. (c) The trade union movement could not quite cope up with the nature and the pace of technological progress which displaced a large number of low skilled labourers and created small number of high skilled jobs.

Though the situations in developing countries are not comparable with developed countries, but these facts are also hold true in developing countries⁴¹.

Consider national income accounts from the expenditure side. GDP as aggregate demand (Y) consists of private (Cp) and government consumption (Cg), private (Ip) and government investment (Ig) and trade surplus, and export (X) minus import (M).

$$Y = (Cp + Cg) + (Ip + Ig) + (X - M) \dots \dots \dots (1)$$

Now, lowering in real wages leads to a decline in Cp as workers' consumption propensity is higher relative to the economy as whole. Under the structural adjustment process Cg and Ig have to decline to maintain fiscal discipline. Therefore, aggregate demand can increase through an increase in net export. While India has been able to increase her export quite substantially during liberalisation, her imports have increased even more rapidly due to the policy of trade liberalisation during the post liberalisations period. So, there is only item left i.e., Ip which can resolve the problem of aggregate demand through multiplier process. However, domestic Ip is also not encouraging so far. Therefore, foreign direct investment (FDI) can improve aggregate demand and foreign exchange reserve position. Unfortunately, FDI is very low as compared to foreign institutional investment (FII) which generally goes to unproductive sector. And RBI has to maintain stability of rupee for the sentiments of market by holding huge forex reserves without any reflection in the current account.

From equation (1)

$$I = S + (X - M) \dots \dots \dots (2)$$

Where total investment $I = Ip + Ig$, and total savings, $S = Y - (Cp + Cg)$

⁴¹ Nayyar, Deepak (2003): 'Work, Livelihoods and Rights', *Indian Journal of Labour Economics*, Vol.46, No.1.

Let a part of the foreign portfolio investment say, A , go in support of the excess import bill,

$$\text{I.e. } M - X = A \dots\dots\dots (3)$$

Savings is an increasing function of income

$$\text{I.e. } S = sY \dots\dots\dots (4)$$

Using (2) to (4),

$$Y = (I-A)(1/s) \dots\dots\dots (5)$$

Which shows that a higher magnitude of A leads to multiple contraction in output Y through the multiplier $(1/s)$. Therefore, the labour market flexibility in the era of liberalisation drives the economy into depression⁴².

Several other economists like Wilkinson, Sengenberger and Campbell⁴³, however, contest this view with their microeconomic and macroeconomic logic. Their argument runs as follows. Competing firms may compete either on the basis of reducing their unit costs by lowering wages and labour standards or by pushing up productivity with innovation in technology, product design, and organisation. As long as a firm can continue competing on the basis of low wages and bad working conditions, there is no motivation to innovate for improving productivity. Only when the path to competition on the basis of low wages and bad working conditions is barred by providing a floor of labour standards, the firms can become enterprising and invest in technological and organisational innovation, which, in turn, leads to better wages and working conditions. In fact, the absence of a minimum floor of labour standards would inevitably trap the industrial economy in the syndrome of low wage and low productivity. This is what leads to the “race to the bottom”, which is most authoritatively brought out in the study by Blanchflower and Oswald⁴⁴. The study showed that almost all over the world, higher wages are associated with higher employment, implying that unemployment could be the result of many factors except high wages. One ILO study, based on data collected from 162 countries, concludes that stronger trade union rights do not generally hinder trade competitiveness,

⁴² Bhaduri, Amit (1996): ‘Employment, Labour Market Flexibility and Economic Liberalisation’, *Indian Journal of Labour Economics*, Vol.39, No.1.

⁴³ Sharma, Alakh, *op.cit.*, p.43.

⁴⁴ *Ibid.*, p.47.

including trade of labour- intensive goods, and indeed countries with stronger trade union rights tend to do comparatively well⁴⁵. The fact that deregulation of the labour market, even in most of the advanced capitalist countries, has not been able to contain high unemployment even after decades of implementation, increases skepticism about deregulation and its supposed benefits⁴⁶.

2.5 'Labour market flexibility' in India

The deceleration in employment growth has been accompanied by increasing informalisation of the workforce. Over the years, organised sector employment has grown more slowly than total employment. Organised sector employment grew at 1.20 per cent per annum during 1983-94 but this rate fell to 0.53 per cent between 1994 and 2000. Consequently, the proportion of unorganised sector employment has considerably increased in construction, transport, storage and communications, and financial services. Apart from new jobs largely being created in the unorganised sector, a large number of retrenched workers have found refuge in the unorganised sector. Mainstream economists argued inflexibility in the labour market leads to the deceleration in employment growth.

The issue of flexibility in the Indian labour market has been particularly debated in recent years in the context of manufacturing sector employment – comprising both the factory and the non-factory segments – particularly the former one, as this sector is supposed to have borne the brunt of the mild dose of restructuring in the 1980s and later of liberalisation of the economy, which started in the early 1990s. The sector experienced an annual average growth rate of 7 per cent per annum during the decade of the 1980s, as compared to 4.3 per cent per annum during the 1970s. The organised factory segment registered a higher annual average growth rate of 7.9 per cent in the 1980s as compared to 4.6 per cent during the

⁴⁵ Kucera, David and Ritash Sarna (2004): 'How Do Trade Union Rights Affect Trade Competitiveness?'. *Working Paper No 39, Policy Integration Department, ILO*.

⁴⁶ Sharma, *op. cit.* p.47.

previous decade⁴⁷. However, the faster growth rate of the 1980s was associated with a virtual stagnation in factory sector employment and the decade was widely described as one of “jobless growth” in the factory-manufacturing segment⁴⁸. Employment elasticity in the organised manufacturing sector has also been very low and declining rapidly. These trends are often attributed to the rigidities in the labour market leading to high labour adjustment cost⁴⁹, identified in terms of job security provisions, and lack of any relation between productivity and wages. It is argued that the legal provisions of job security and institutional factors like the pressure of trade unions make adjustment of the workforce of enterprises difficult, and discourage organised sector enterprises from expanding employment. In particular, the provision in the Industrial Disputes Act relating to prior governmental permission to retrench workers or close down enterprises of a particular size is held to be the main culprit. According to Fallon and Lucas (1991), employment in organised manufacturing would have been 17.5 per cent higher in the absence of job security regulations.

According to Ahluwalia (1992), a 34 per cent increase in the real wages of manufacturing sector workers between 1980-81 and 1985-86 significantly contributed to a decline in employment during that period. Some studies also noted that the major factor behind “jobless growth” during the 1980s was the rise in the product wage⁵⁰, which was both due to inflationary consequences of macroeconomic policies and

⁴⁷ Sundaram, K and S Tendulkar (2002): ‘The Working Poor in India: Employment-Poverty Linkages and Employment Policy Options’, *Discussion Paper 4, ILO, Geneva*.

⁴⁸ *ibid*
Ghose, Ajit (1994): ‘Employment in Organised Manufacturing in India’, *Indian Journal of Labour Economics*, Vol. 37, No 2.

⁴⁹ Ahluwalia, Isher J (1992): *Productivity and Growth in Indian Manufacturing*, Oxford University Press, Delhi.

Besley, Timothy and Robin Burgess (2004): ‘Can Labour Regulation Hinder Economic Performance? Evidence from India’, *Quarterly Journal of Economics*, February.

Fallon, P and R Lucas (1991): ‘The Impact of Changes in Job Security Regulations in India and Zimbabwe’, *World Bank Economic Review*, Vol. 5, No 3.

⁵⁰ Sundaram, K and S Tendulkar, *op. cit.*

ILO-ARTEP (1993): *India: Employment, Poverty and Labour Policies*, New Delhi.

pressures in the labour market⁵¹. This encouraged enterprises, irrespective of their size and organisational set-up, to adopt a strategy of capital deepening⁵². The process involved both modernisation and pure substitution of capital for labour. Although Ghose finds rising labour cost to be an important factor behind the slowdown in employment growth, he does not find evidence that employment security regulations adversely affected employment growth. Jose (1992), on the other hand, argues that instead of high wages causing low levels of employment during 1980s, rapid productivity growth led to improvement in real wages. He also opines that the decline or deceleration in the rates of growth of employment and the concomitant increase of structural reforms and technological changes in the manufacturing industries.

The increase in annual earnings was primarily accounted for by the increase in the number of person-days per worker during the year and only to a small extent by the increase in earnings per day⁵³. In fact, minimum wages have generally been set lower than the market wages in industry and their rationality has not been questioned⁵⁴.

Changes in the Industrial Disputes Act, 1976 made it necessary for enterprises employing 300 or more workers to seek government permission to effect lay-offs, retrenchments and closures, and later in 1982, these provisions were made applicable to establishments employing 100 or more workers. It has been argued that due to these rigid provisions, the employers were highly reluctant to increase the number of employees, because they were unable to reduce their workforce. The industries either opted for more capital-intensive technologies or contracted out increasingly larger volumes of work to smaller enterprises wherein the provision of government permission did not apply.

⁵¹ *ibid*, p.49.

⁵² Ghose, *op. cit.*

⁵³ Nagraj, R (1993): 'Employment and Wages in Manufacturing Industries in India: Trends, Hypothesis and Evidence', Indira Gandhi Institute of Development Research, Mumbai.

⁵⁴ Sharma, *op. cit.*, p.47.

At the aggregate level, the growth rate of employment was 1.6 per cent per annum during the period 1972-73 to 1989-90, which increased to around 3 per cent per annum in the period 1990-91 to 1997-98. The employment elasticity also showed an increase of 0.33 in the period 1990-91 to 1997-98 as against 0.26 in the period 1972-73 to 1989-90⁵⁵. There was also acceleration in output growth, which was responsible for expansion of industrial employment. Between 1995-96 and 2000-01, about 1.1 million workers, or 15 per cent of workers in the organised manufacturing sector across major states and industry groups, lost their jobs. Real wages practically stagnated, though emoluments of supervisors and managers rose sharply.⁵⁶

Until the mid-1990s, job losses did not show up in the aggregate, due to considerable job creation owing to the boom in industrial output and employment. However, with the boom ending and lay-offs continuing, there was a sharp fall in employment in the second half of 1990s. Productivity gains largely accrued to employers, as real wages were practically stagnant.⁵⁷

Along with reduction of workforce, the employers also resorted to the increasing use of contract labour. The percentage of contract workers to total workers in manufacturing as a whole increased from about 12 per cent in 1990 to about 23 per cent in 2002.

The decline in employment in the organised manufacturing sector during the 1980s was largely accounted for by a large reduction in employment in only two major industry groups – cotton textiles and food products, which account for one-third of the total employment in the organised sector. These two industries experienced a decline of more than 3.5 per cent per annum during 1980s, which was mainly due to the closure of a large number of mills because of sickness caused due to several factors and rationalisation to overcome obsolescence.

⁵⁵ Goldar, Bishwanath (2002): *Trade Liberalisation and Employment: The Case of India*, ILO, Geneva.

⁵⁶ Nagaraj, R (2004): 'Fall in the Organised Manufacturing Employment: A Brief Note', *Economic and Political Weekly*, July 24.

⁵⁷ *ibid*

Chapter 3

Pattern of Central and State Government Spending in India during 1980-81 to 2004-05

3.1 Introduction

Government spending plays an important role in poverty eradication and employment generation both directly and indirectly by crowding in private investment. An increase in government spending leads to rise in employment and in aggregate income. Conversely decline in public spending has the opposite effect. Public expenditure has an important role in the determination of other macroeconomic aggregates. Hence, it is worthwhile to look at the pattern of public expenditure over a period of time.

3.2 Concept and Definitions

Here total expenditure consists of development expenditure, non-development expenditure and others.

Total Expenditure = Development Expenditure + Non-Development Expenditure + Other Expenditure

Development Expenditure = Expenditure on Economic services + Expenditure on Social Services

Of which

Expenditure on Economic Services = Expenditure on: Agriculture and Allied Services + Rural development + Irrigation and flood control+ Energy, industry and minerals + General economic services + Transport and services + Other

Expenditure on Social Services = Expenditure on: Medical and Public Health + Education and Sports + Family Welfare + Water supply and Sanitation + Housing and urban development + Welfare of socially backward classes + Social security + other

Non-Developmental Expenditure = Expenditure on: Interest payments + Administrative cost + Pension account + state organs.

Thus development expenditure consists of expenditure on economic services and expenditure on social services. And the expenditure on agriculture and allied services, rural development, major and medium irrigation and flood control, energy, industry and mineral, general economic services, transport and communication are the main constituents of expenditure on economic services. Expenditure on social services consists of education and sports, medical and public health, family welfare, water supply and sanitation, housing, urban development, welfare of socially backward classes, social security.

Non-development expenditure primarily consists of interest payments, administrative cost, pension account and state organs. Other expenditures are grants-in-aid and contributions, compensation and assignments to local bodies, reserves with finance department, repayments of loans to the Centre, loans and advances by state governments etc.

3.3 Data and Methodology

Data on public expenditures for various governments are taken from various publications of Reserve Bank of India (RBI). Data for Central government is taken from Hand Book of Statistics on Indian Economy and data for all individual states as well as all the states as a whole are taken from various issues of RBI Bulletin, Handbook of Statistics on State Government Finances and State Finances: A Study of Budgets (2007-08). India has a Central government and 28 state and union territory governments. All the special category states and union territories are excluded from this discussion on pattern of government spending individually for the 14 major states⁵⁸ on the basis of receiving funds from the Centre. We shall look at total

⁵⁸ Earlier, 70% of the Plan assistance given to the states was loans and the balance 30%, grants. In the case of special-category states, 90% of Plan assistance was given as grants, and only 10% as loans. The 12th Finance Commission recommended that the Centre give only grants, and leave it to the states to raise loans as they wanted. Since then, the 90% grants: 10% loans formula for special-category states is restricted to centrally-sponsored schemes and external aid.

expenditure⁵⁹, total development expenditure, and expenditure on economic services in various ways namely, expenditure to GDP/GSDP ratio, compound annual growth rate, and share of other expenditures in total expenditure. Moreover, all the three expenditures, GDP and GSDP are taken in constant prices (at 1993-94 prices). Though public expenditure data is available beyond 2004-05, the data up to 2004-05 is relevant for this study as the objective of this study is investigate the relation between public expenditure and employment and date on employment is available till 2004-05. We primarily consider only the years of the quinquennial survey on employment and unemployment by NSSO.

3.4 Public Expenditure to Gross Domestic Product Ratio during 1980-81 to 2004-05

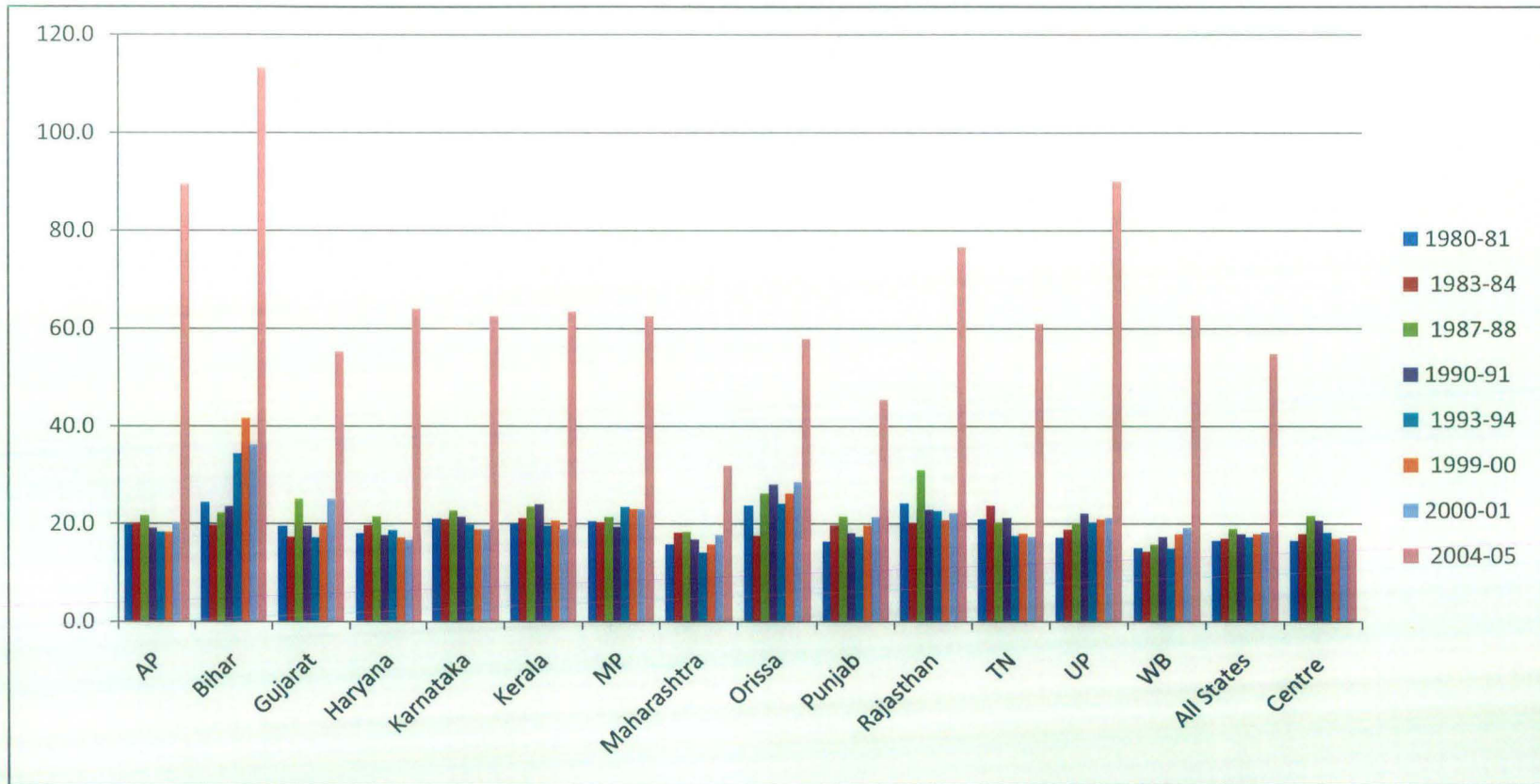
3.4.1 Pattern of Total Expenditure to Gross Domestic Product Ratio

Total expenditure to GDP ratio for the Central government increased steadily during the 1980s, but it declined in the 1990s and rose marginally in the early 2000s. More precisely, it increased from 16.5 percent in 1980-81 to 21.6 percent in 1987-88 and then slightly declined to 20.6 percent in 1990-91. After the change in the policy regime, it declined sharply to 16.9 percent in 1999-2000 and improved marginally to 17.6 percent in 2004-05.

Individually, every state has shown increasing trend in this ratio during most of the pre-reform period and declining trend in the first decade of the reform period. A very sharp rise in the ratio is observed in all states during 1999-2000 to 2004-5. When all the state governments' expenditure including special category states is taken together, we find that it has been showing a similar pattern. It increased from 16.4 percent in 1980-81 to 18.9 percent in 1987-88 and then marginally declined to 17.8 percent in 1990-91, and 17.2 percent in 1993-94. Again, it rose marginally between 1999-2000 and 2000-01, but increased substantially to 54.8 percent in 2004-05. (See Figure (3.1) and Table (A.1.5) in Appendix I)

⁵⁹ Total expenditure is defined as sum of expenditure on capital account and that on revenue account for all the three kinds of expenditure.

Figure 3.1
Percentage of Total Expenditure to GSDP/GDP during 1980-81 to 2004-05



Source: Table (A.1.5) in Appendix I

Bihar, Karnataka, Kerala, Madhya Pradesh, Orissa, Rajasthan and Tamil Nadu had the highest total expenditure to GSDP ratio ranges between 20 percent and 24.4 percent in 1980-81 and for all other states the ratio ranges between 15 percent and 19.6 percent in the same year. Andhra Pradesh, Haryana and Rajasthan witnessed a declining total expenditure to GSDP ratio both in the pre and post-reform decade, but the magnitude of decline in the ratio was marginal in Andhra Pradesh and Haryana. Bihar and Madhya Pradesh showed a different trend i.e., the ratio declined in the pre-reform decade and rose in the post-reform decade. The ratio remained stable in Gujarat between 1980-81 and 1999-2000. It increased considerably in the pre-reform decade and marginally rose during 1990-91 to 1999-2000 in Punjab and West Bengal. All the states together showed a similar trend of the ratio in the same period. In the pre-reform decade the ratio increased in Karnataka, Kerala and Tamil Nadu in southern, Maharashtra in Western, Uttar Pradesh in Northern India and Orissa in Eastern part of the country respectively. These states saw a decline in the ratio during the post-reform decade. While Kerala, Orissa and Uttar Pradesh saw a notable increase in the ratio in the pre-reform decade, other three states saw a nominal increase in the total expenditure to GSDP ratio in the same period. However, most of these six states witnessed a significant decline in the ratio in the post-reform decade apart from Maharashtra and Uttar Pradesh. All the states amplified their total spending in 1987-88 to counter the drought situation in the country and witnessed a tremendous increase in the ratio in 2004-05. (See Figure (3.1) and Table (A.1.5) in Appendix I)

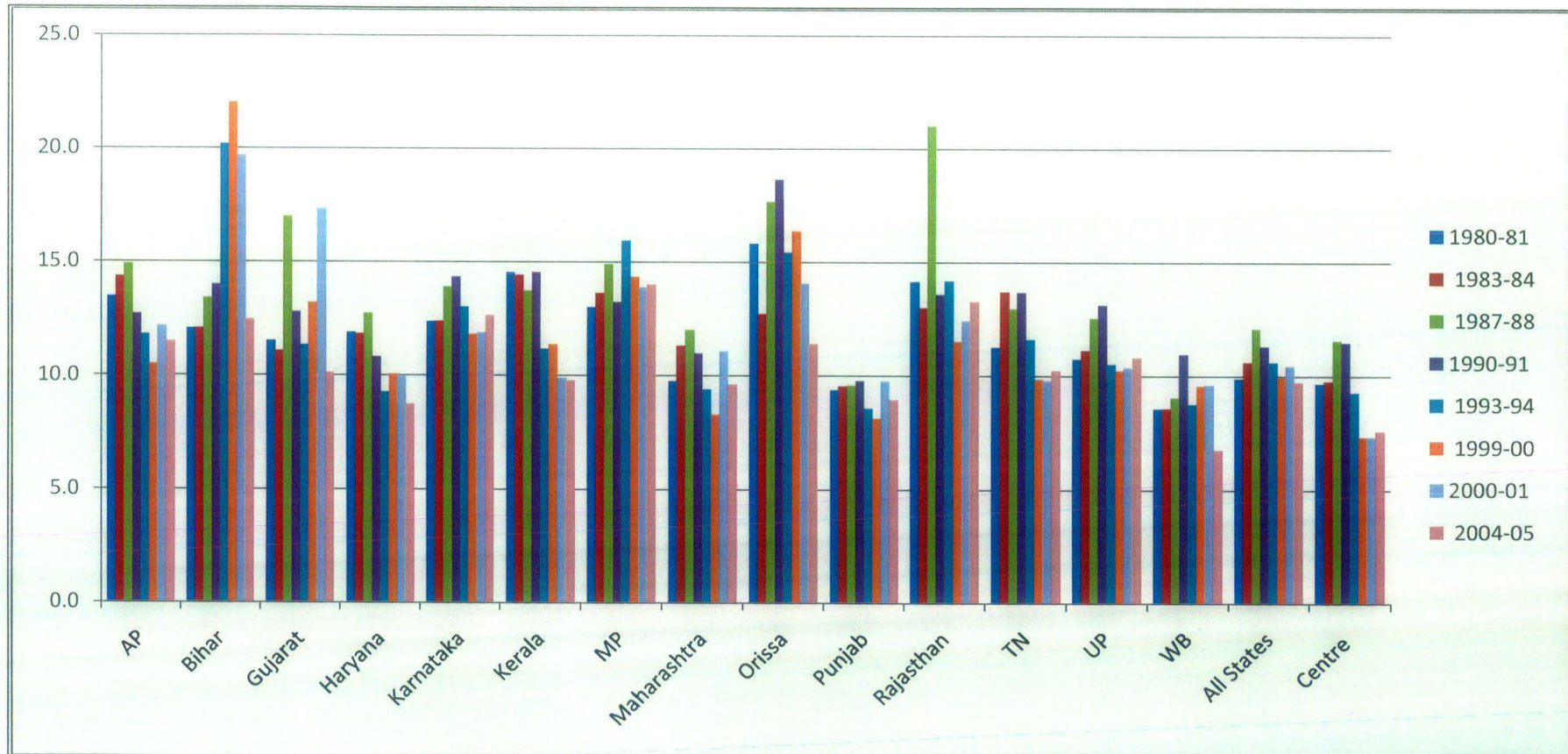
3.4.2. Pattern of Development Expenditure to Gross Domestic Product Ratio

The Centre's development expenditure to GDP ratio shows a rising trend during the pre-reform period. It increased from 9.7 percent in 1980-81 to 11.5 percent in 1990-91. The ratio declined to 9.3 percent in 1993-94 and further declined to 7.6 percent in 2004-05.

This decline in development expenditure to GDP ratio is significantly different from the behaviour of the total expenditure to GDP ratio, which as we have seen, had shown rise in the period 1999-2000 to 2004-05. If we look at development

Figure 3.2

Percentage of Development Expenditure to GSDP/GDP Ratio



Source: Table (A.1.6) in Appendix I

expenditure to GSDP ratio for all the states (including special category states), it rose in the pre-reform period and it declined in the post-reform period till 2004-05. The ratio in 2004-05 was even lower than what prevailed in 1980-81. Contractionary macroeconomic policy as result of economic reforms reflected in the falling development expenditure to GDP ratio.

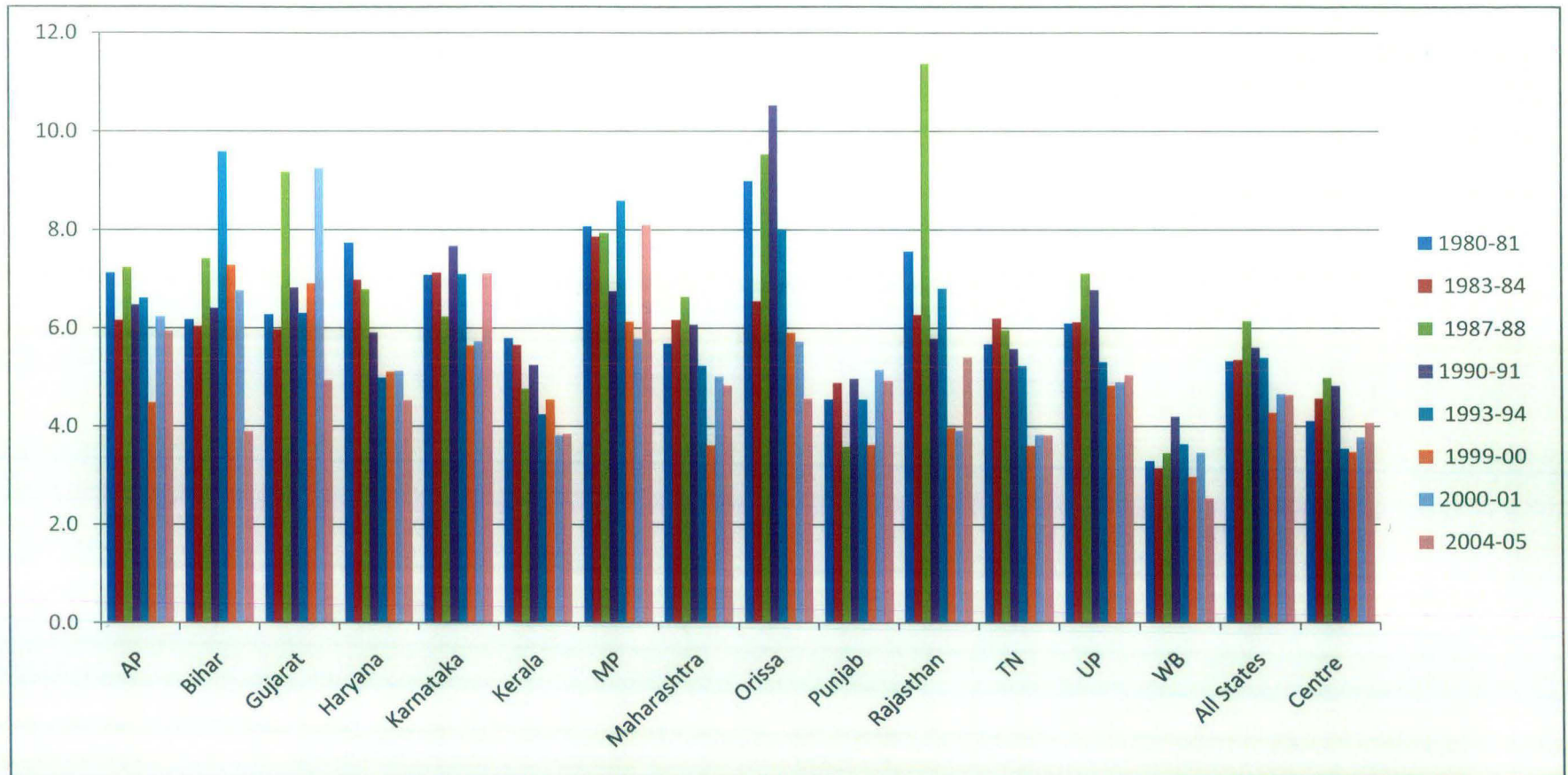
Among the major states most of the states had a higher ratio than the ratio for all states together excluding Punjab, Maharashtra and West Bengal and the ratio was ranging between 10.7 percent and 15.8 percent in 1980-81. Development expenditure to GSDP ratio declined in Andhra Pradesh, Haryana and Rajasthan over the period 1980-81 to 1999-2000. Bihar, Gujarat and Madhya Pradesh witnessed the reverse trend over the same period. Gujarat and Madhya Pradesh witnessed moderate growth apart from Bihar witnessed a tremendous increase in the ratio in the post-reform decade. Kerala was the only state which saw no change in the ratio between 1980-81 and 1990-91 and a significant fall between 1990-91 and 1999-2000. All the states increased the ratio in 1987-88 to counter the drought situation in the country. It is quite anticipated that the ratio rose in the pre-reform decade and declined in the post-reform period. A similar trend of the ratio was seen in Karnataka, Tamil Nadu in southern, Maharashtra in western, Orissa and West Bengal in eastern and Punjab and Uttar Pradesh in the northern region of the country respectively. Orissa among these seven states witnessed marginal increase in the ratio between 1980-81 and 1990-91 and all other states saw a moderate increase in the ratio. The ratio declined in most of the states in 2004-05 except Madhya Pradesh, Rajasthan and Tamil Nadu. All the states saw a faster decline in the ratio if we consider entire reform period. (See Figure (3.2) and Table (A.1.6) in Appendix I)

3.4.3. Pattern of Economic Services Expenditure to Gross Domestic Product Ratio

The economic services expenditure to GDP ratio of the Central government increased from 4.1 percent in 1980-81 to 5 percent in 1987-88, but it declined marginally to 4.8 percent at the end years of the 1980s. However, it declined notably in early year of

Figure 3.3

Expenditure on Economic Services to GSDP/GDP Ratio



Source: Table (A.1.7) in Appendix I

the reforms period (3.5 percent) and remained stable till 1999-2000. Again, it increased in the early years of the twenty first century to 4.1 percent in 2004-05. Similarly, the economic services expenditure-GDP ratio for all state governments followed a pattern almost similar to the Centre in the pre-reform period, but the ratio was much higher for the state governments (5.3 percent in 1980-81, 6.1 percent in 1987-88 and 5.6 percent in 1990-91) as compared to the Centre in the same period. In the post-reform period, it declined to 4.3 percent in 1999-2000 and after that slightly improved to 4.6 percent in 2004-05.

The economic services expenditure to GSDP ratio declined in Andhra Pradesh, Haryana, Kerala, Madhya Pradesh, Rajasthan and Tamil Nadu over the period 1980-81 to 1999-2000. However, Andhra Pradesh, Kerala and Tamil Nadu showed a sharp decline in the ratio in the post-reform decade, Haryana and Madhya Pradesh witnessed a sharp fall in the ratio in the pre-reform decade with Rajasthan experiencing a sharp fall in the ratio over the entire period. Karnataka in the southern region, Maharashtra in the western region, Orissa and West Bengal in the eastern region, and Punjab and Uttar Pradesh in the northern region saw a sharp rise in the ratio in the pre-reform decade and a sharp decline in the post-reform period after introducing economic reforms in 1991. All the states as a whole, showed a similar pattern of the ratio during the entire period i.e., 1980-81 to 1999-2000. While on the one hand eight among the fourteen major states witnessed an improvement in the ratio between 1999-2000 and 2004-05 and were unable to reach previous peak in the past, on the other hand Bihar, Gujarat, Haryana, Kerala, Orissa and West Bengal saw a decline in the same period. Similarly, all the states experienced a sharp fall in the entire post-reform period. (See Figure (3.3) and Table (A.1.7) in Appendix I)

3.5. Compound Annual Growth Rate of Government Spending during 1983-84 to 2004-05

3.5.1. Annual Growth Rate of Total Expenditure

The Central government's total expenditure grew at 9.3 percent between 1980-81 and 1987-88 and 2.8 percent between 1983-84 and 1993-94 and 6 percent between 1993-94 and 2004-05. Compounded annual growth rate (CAGR) over the period 1983-84 and 1987-88 was more than triple that registered over the period 1987-88 and 1993-94. Moreover, CAGR of total public expenditure considerably declined in all states except Bihar and Madhya Pradesh and also declined at the Centre immediately after introduction of the economic reforms over the period 1990-1 to 1993-4. While the CAGR was 7.8 percent in the pre-reform period, it was only 4.6 percent during the post reform period despite it was 6.7 percent during 1999-2000 to 2004-05.

It is evident from the Table (3.1) that all the 14 major states witnessed much lower growth of total expenditure between 1983-84 and 1990-91 than that between 1990-91 and 2004-05 period. The CAGR was less than two to six times higher between 1990-91 and 2004-05 than over the period 1983-84 to 1990-91. During 1983-84 to 1990-91, it was ranging between 3.3 and 7.5 percent in the most of the states except Orissa and Rajasthan. During 1983-84 to 1990-91, Andhra Pradesh, Madhya Pradesh, Punjab and Tamil Nadu witnessed lower CAGR, Gujarat, Hariyana, Karnataka and Maharashtra showed moderate growth of it, all other major states showed higher growth of it. Most of the states registered higher growth of the total expenditure over the sub-period 1983-84 to 1987-88 period than over the period 1983-84 to 1990-91 except Gujarat, Kerala, Timil Nadu, Uttar Pradesh and West Bengal. Most of the states registered either negative or sluggish growth of total expenditure except Bihar and Madhya Pradesh. This is a reflection of the demand deflationary policy that several states followed in this period. CAGR of total expenditure was several fold higher during 1999-2000 to 2004-05 than that in any other sub-periods (1983-84 to 1987-88, 1987-88 to 1993-94, 1993-94 to 1999-2000) and it was ranging between 13.7-22.4 percent in 2004-05. (See Table (3.1))

3.5.2 Growth Rate of Development Expenditure

Central government's development expenditure grew at a much higher rate at 8.1 percent during 1983-84 to 1990-91 than 2.7 percent between 1990-91 and 2004-05. The

Table 3.1

Annual Growth Rate of Total Expenditure

States	1983-1987/8	1987-1993/4	1993/4-1999/0	1999/0-2004/5	1983-1993/4	1993/4-2004/5	1987/8-1990/1	1983-1990/1	1990/1-1993/4	1990/1-2004/5
Andhra Pradesh	4.3	2.4	5.4	46.5	3.1	22.4	2.1	3.3	2.6	17.9
Bihar	6.7	10.0	7.4	28.3	8.7	16.5	8.7	7.5	11.4	15.3
Gujarat	8.7	1.6	10.4	31.1	4.4	19.4	2.2	5.9	1.0	15.2
Haryana	7.3	4.0	4.5	39.1	5.3	19.0	3.6	5.7	4.4	15.7
Karnataka	7.1	3.8	6.8	34.9	5.1	18.8	3.1	5.4	4.4	15.5
Kerala	6.5	3.5	6.6	33.7	4.7	18.2	8.0	7.1	-0.8	13.8
Madhya Pradesh	4.7	7.4	6.0	24.5	6.3	14.0	4.5	4.6	10.4	13.3
Maharashtra	4.8	4.5	8.2	20.9	4.6	13.8	6.6	5.6	2.4	11.3
Orissa	12.3	2.9	5.8	24.1	6.5	13.7	5.3	9.2	0.5	10.7
Punjab	8.3	1.2	7.0	22.9	4.0	14.0	-1.0	4.2	3.4	11.6
Rajasthan	10.9	2.0	6.7	36.2	5.5	19.2	4.6	8.1	-0.5	14.7
Tamil Nadu	1.6	3.9	7.1	32.9	3.0	18.1	8.9	4.7	-0.8	13.8
Uttar Pradesh	5.4	4.6	5.3	39.0	4.9	19.4	10.4	7.5	-0.9	14.7
West Bengal	6.8	4.4	10.4	37.5	5.4	22.0	8.0	7.3	0.9	17.1
All States	7.3	4.2	7.2	32.6	5.4	18.1	5.4	6.5	2.9	14.7
Centre	9.3	2.8	5.4	6.7	5.3	6.0	5.9	7.8	-0.2	4.6

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

Table 3.2

Annual Growth Rate of Development Expenditure

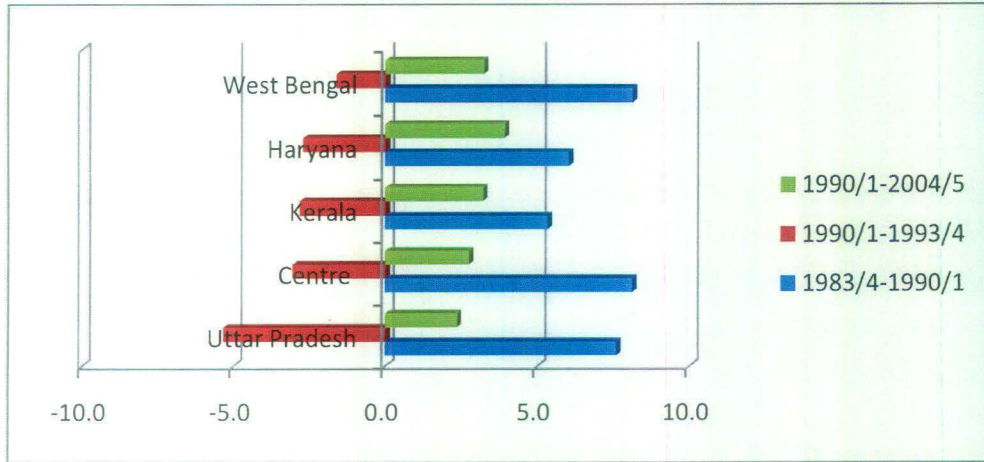
States	1983-1987/8	1987-1993/4	1993/4-1999/0	1999/0-2004/5	1983-1993/4	1993/4-2004/5	1987/8-1990/1	1983-1990/1	1990/1-1993/4	1990/1-2004/5
Andhra Pradesh	3.2	1.3	3.4	8.5	2.1	5.7	1.1	2.3	1.6	4.8
Bihar	6.1	9.5	5.6	-6.3	8.2	0.0	8.1	7.0	11.0	2.2
Gujarat	10.1	1.2	10.6	1.2	4.7	6.2	1.0	6.1	1.5	5.2
Haryana	6.9	1.0	7.4	3.9	3.3	5.8	4.9	6.0	-2.7	3.9
Karnataka	8.0	5.1	5.9	7.5	6.2	6.6	6.3	7.2	3.9	6.0
Kerala	2.3	3.1	6.0	3.7	2.8	4.9	9.5	5.3	-2.8	3.2
Madhya Pradesh	5.7	7.0	4.4	1.5	6.5	3.1	3.8	4.9	10.3	4.6
Maharashtra	6.1	4.8	4.0	8.2	5.3	5.9	6.7	6.3	2.9	5.3
Orissa	10.2	2.0	5.3	-1.5	5.2	2.1	4.8	7.9	-0.8	1.5
Punjab	6.0	2.9	3.9	6.0	4.2	4.8	5.6	5.8	0.3	3.8
Rajasthan	12.3	0.7	4.5	7.8	5.2	6.0	0.1	6.9	1.4	5.0
Tamil Nadu	4.1	4.6	3.8	4.8	4.4	4.2	9.4	6.3	0.0	3.3
Uttar Pradesh	6.8	1.4	4.2	4.9	3.5	4.5	8.7	7.6	-5.3	2.3
West Bengal	5.6	4.7	8.7	-0.1	5.1	4.6	11.5	8.1	-1.6	3.2
All States	7.7	3.5	5.5	5.4	5.2	5.5	5.2	6.6	1.9	4.7
Centre	8.7	2.0	2.5	6.6	4.6	4.4	7.3	8.1	-3.1	2.7

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

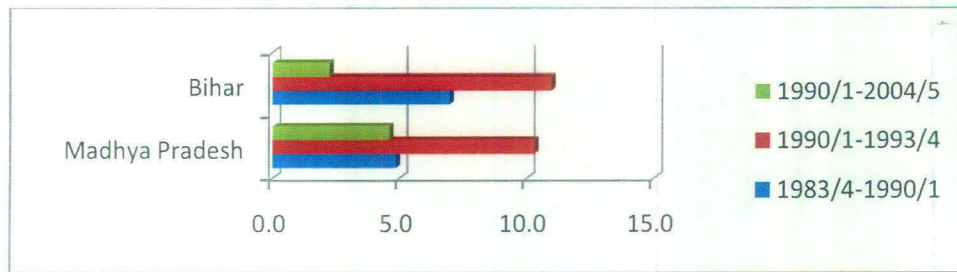
Figure 3.4

Annual Growth Rates of Development Expenditure over the sub-periods 1983 to 2004-05 (Based on Table 3.2)

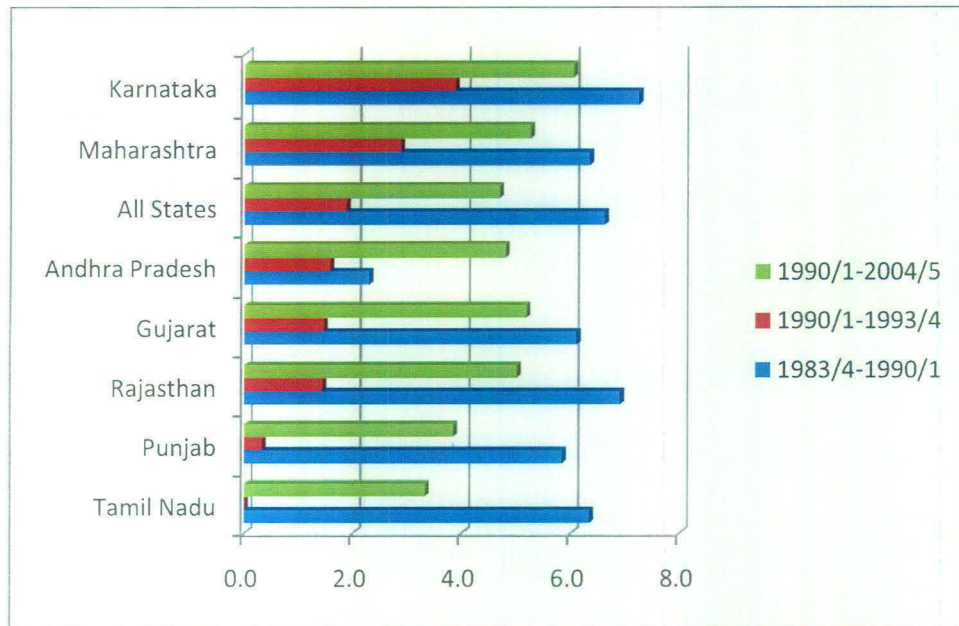
a



b



c



CAGR was markedly higher at 8.7 percent between 1983-84 and 1987-88 as compared to 7.3 percent between 1987-88 and 1990-91. After that it decelerated at 3.1 percent over the period 1990-91 to 1993-94. It registered merely 2.5 percent during 1993-94 to 1999-2000, while it increased substantially to 6.6 percent during 1999-2000 to 2004-05.

Similarly, the CAGR was lower at 4.7 percent in the post-reforms period as compared to 6.6 percent in pre-reforms period for all the state governments. While it grew at 7.7 percent during 1983-84 to 1987-88, it grew at merely 5.2 percent during 1987-88 to 1990-91. Similarly, the CAGR was mere 1.9 percent during 1990-91 to 1993-94, which can be partially explained by economic reforms. It grew at 5.5 percent during 1993-94 to 1999-2000 and 5.4 percent during 1999-2000 to 2004-05. Hence, we can see clearly the reflection of public expenditure deflationary macroeconomic policy in the economic reform period.

In the most of the states, the development expenditure grew at significantly higher rate during 1983-84 to 1990-91 as compared to that during 1990-91 to 2004-05 except in Andhra Pradesh. The sharpest deceleration in the growth of development expenditure in the reform period compared to the earlier pre-reform period is observed in the states of Bihar, Orissa, West Bengal and Uttar Pradesh since the growth rate became half or less than half. Substantial deceleration also took place in the states of Kerala, Tamil Nadu and Punjab where the reform period growth rate was three fifths or less, than the pre-reform growth rate. We would therefore expect to see the most adverse impact on employment and SDP growth in these states which account for most of the Eastern and Northern states, and two out of the four Southern region states. The states in the West-central region of the country – Rajasthan, Gujarat, Madhya Pradesh and Maharashtra – did not see as sharp a contraction as the rest.

Considering the sub-periods within the period 1983-4 to 1990-1, most of the states witnessed higher growth in development expenditure during 1983-84 to 1987-88 than during 1987-88 to 1990-91. The exceptions were Bihar, Kerala, Tamil Nadu, and

Uttar Pradesh which saw a higher rate of growth in the second sub-period period compared to the first.

Economic reforms were initiated from 1991 under structural adjustment programme following the 1991 problem of external balance created by the Gulf War, which led to India taking a \$5 billion Extended Financing Facility from the International Monetary Fund. The Central government undertook sharp fiscal contraction with large absolute reduction in real development expenditures which is reflected in the negative growth rate of -6.1% during the period 1990-1 to 1993-4. Most of the states registered either sharp deceleration or sluggish growth in development expenditure where Bihar and Madhya Pradesh were the striking exceptions, showing the highest growth rates precisely in the period when there was expenditure deflating policies being followed everywhere else. In several states there was absolute reduction in real development expenditure showing up as negative growth – these states were Haryana, Uttar Pradesh, Orissa, West Bengal and Kerala. Zero growth was registered by Tamil Nadu while in Punjab growth was positive but negligible at 0.3 percent. In West Bengal growth decelerated sharply to 1.6 percent compared to 8.1 percent in the pre-reform period.

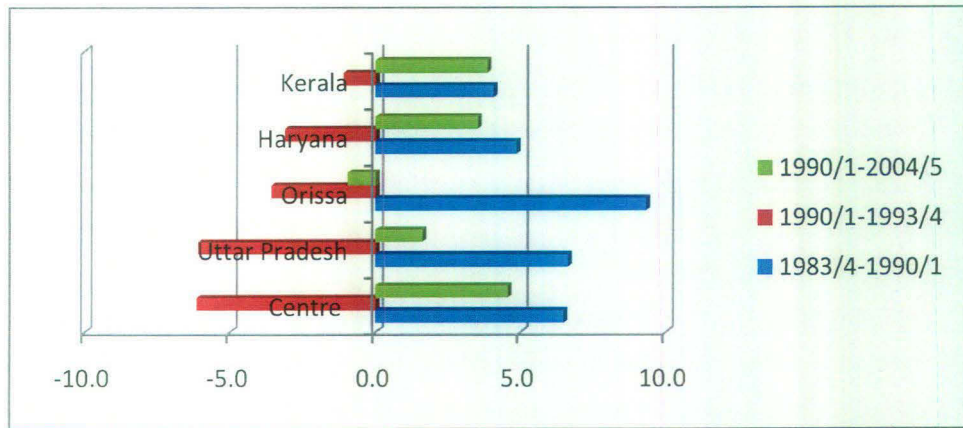
As regards Andhra Pradesh, Karnataka, Maharashtra, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh registered a lower growth rate in development expenditure between 1993-94 and 1999-2000 as compared to the period 1999-2000 to 2004-05. However, all the other states experienced reverse trend in same period. (See Table (3.2) and Figure (3.4a), (3.4b) and (3.4c))

3.5.3. Growth Rate of Expenditure on Economic Services

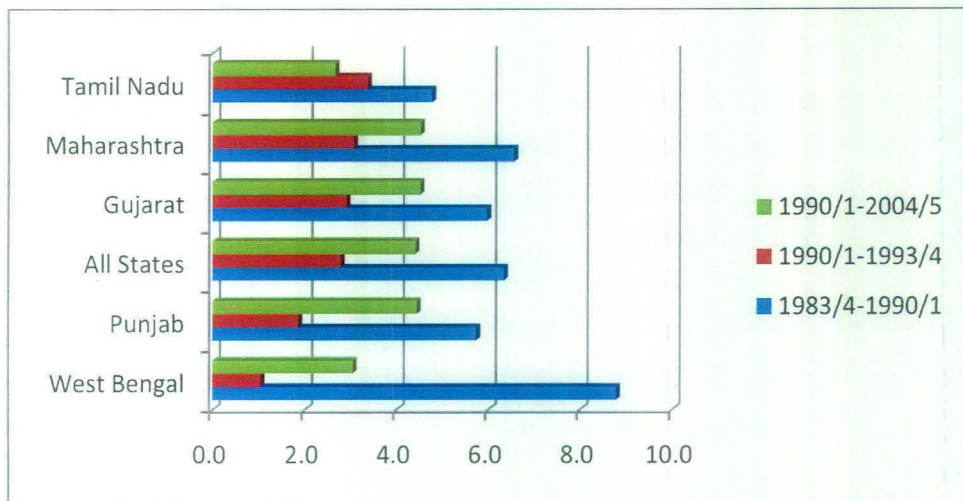
Annual growth rate of expenditure on economic services of the Central government was 6.5 percent during the pre-reform period 1983 to 1990-91 and 4.5 percent during the reform period 1990-91 to 2004-5. However within the latter period, the sub-period 1990-91 to 1993-4 saw sharp absolute reduction in real expenditure with a growth rate of (-6.1) percent. Over 3 years this meant a reduction in the level of expendi-

Figure 3.5
Annual Growth Rates of Expenditure on Economic Services over the sub-periods
1983 to 2004-05 (Based on Table 3.3)

a



b



c

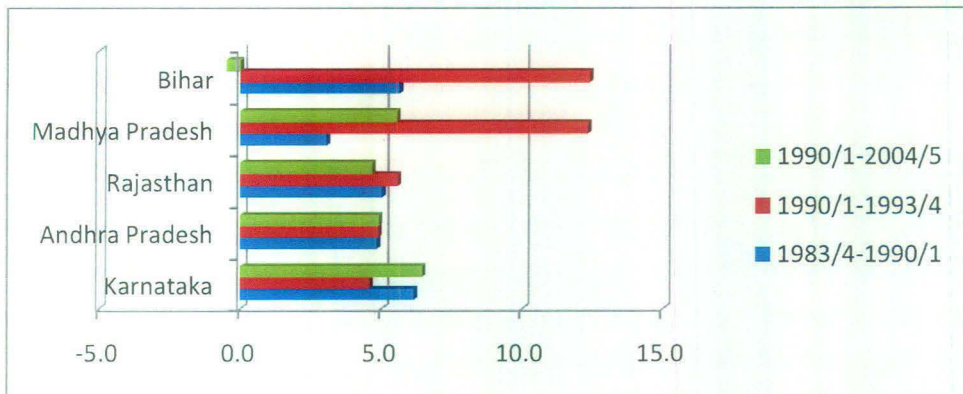


Table 3.3

Annual Growth Rate of Expenditure on Economic Services

States	1983-1987/8	1987-1993/4	1993/4-1999/0	1999/0-2004/5	1983-1993/4	1993/4-2004/5	1987/8-1990/1	1983-1990/1	1990/1-1993/4	1990/1-2004/5
Andhra Pradesh	6.5	3.8	-1.2	12.7	4.9	4.9	2.7	4.8	4.9	4.9
Bihar	8.9	6.8	-0.6	-7.4	7.6	-3.7	1.4	5.6	12.4	-0.5
Gujarat	10.2	1.7	9.5	-0.2	5.0	5.0	0.6	6.0	2.9	4.5
Haryana	4.2	1.2	6.3	4.3	2.4	5.4	5.7	4.9	-3.1	3.5
Karnataka	1.5	8.6	3.6	11.1	5.7	6.9	12.7	6.1	4.6	6.4
Kerala	-0.8	4.7	6.9	3.3	2.5	5.2	10.9	4.1	-1.1	3.8
Madhya Pradesh	3.6	7.2	0.4	7.9	5.8	3.7	2.3	3.1	12.3	5.5
Maharashtra	6.4	4.9	-0.1	11.3	5.5	4.9	6.8	6.6	3.1	4.5
Orissa	11.6	1.3	-0.9	0.5	5.3	-0.2	6.4	9.3	-3.6	-1.0
Punjab	-2.0	9.1	0.8	10.6	4.6	5.2	17.0	5.7	1.9	4.4
Rajasthan	15.7	-1.3	-1.1	11.5	5.2	4.4	-7.6	5.0	5.6	4.7
Tamil Nadu	4.5	4.2	0.2	5.3	4.3	2.5	5.1	4.8	3.4	2.7
Uttar Pradesh	7.6	-0.5	3.1	4.7	2.6	3.8	5.3	6.6	-6.1	1.6
West Bengal	6.7	6.2	3.6	3.6	6.4	3.6	11.6	8.8	1.0	3.0
All States	7.9	3.5	2.6	7.6	5.3	4.9	4.3	6.3	2.8	4.4
Centre	6.6	-0.1	6.3	9.4	2.5	7.7	6.4	6.5	-6.1	4.5

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

ture from 100 in 1990-1 to 82.8 by 1993-4. Owing to low base effect the growth rate in the next sub-period was high at 7.7 percent but recovery to the 1990-1 absolute level took place only by 1996-7. Evidently with positive population growth the per capita expenditure did not recover until several years later.

Analogously, all state governments also experienced lower growth of expenditure on economic services, during 1990-91 to 2004-05 than during 1983-84 to 1990-91. It grew at 6.3 percent during 1983 to 1990-91 and at 4.4 percent during the reform period 1990-91 to 2004-05. However unlike the case with Central government spending there was no general absolute reduction in real spending for all states taken together during the first half of the reform period 1990-1 to 1993-4. Absolute reduction is seen in only four states, namely Haryana, Kerala, Orissa and Uttar Pradesh during the sub-period 1990-91 to 1993-94 while for states taken together expenditure growth was positive though much lower than before, at 2.8 per cent.

The fact is significant that Uttar Pradesh the largest state in India saw the most substantial reduction in spending on economic services just as it had seen the largest reduction in development spending. Its real spending grew very little at only 1.6 percent annually over 1993-4 to 2004-5. This means that in per capita terms it actually declined over the entire reform period.

Two states Bihar and Madhya Pradesh were outliers in that they paradoxically saw much higher growth during 1990-1 to 1993-4 when all other states were cutting back, and these two states saw contraction or stagnation in the later sub-period of reforms, 1993-4 to 1999-00. For Bihar the sharpest contraction at -7.4 % annually is seen during the period 1999-00 to 2004-05 when all other states except Gujarat were expanding their expenditure.

Gujarat which had expanded economic services expenditure strongly during 1993-4 to 1999-00 saw absolute decline over the period 1999-00 to 2004-5. (See Table (3.3) and Figure (3.5a), (3.5b) and (3.5c))

3.6. Share of Development Expenditure and Expenditure on Economic Services in Total Expenditure during 1983-84 to 2004-05

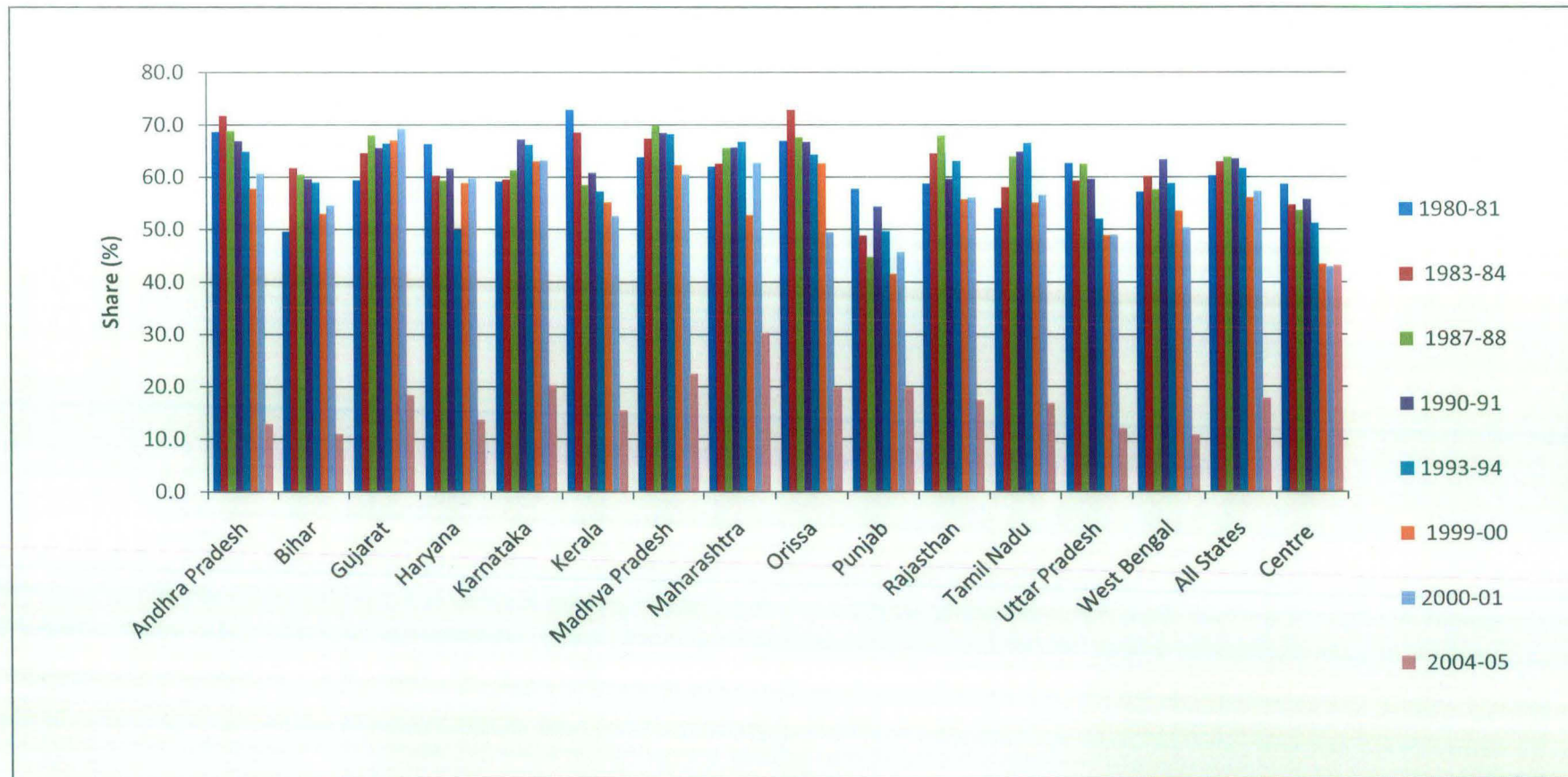
3.6.1. Share of Development Expenditure in Total Expenditure

The notable feature of Figure (3.6) which uses Appendix I Table (A.1.8) data, is that in every individual state as well as for 'All states' the share of development expenditure in total expenditure was sharply lower in the last year, 2004-05 compared to any previous year. From 45 to 55 percent being the share in previous years it dropped to around 20 percent and less. This is mainly the result, not of any absolute decline in development expenditure in real terms in the states, (except Bihar and West Bengal which did see absolute decline between 1999-00 and 2004-05), but of a very sharp rise in total expenditure as we had seen in Figure 3.1. However the centre's share of development in total expenditure does not show as sharp a decline in 2004-5 but remains at about the same level as in 1999-00 since its total expenditure rose little.

The share of development expenditure in total expenditure for the Centre declined from 58.5 percent in 1980-81 to 53.6 percent in 1987-88 and increased marginally to 55.7 percent in 1990-91. Again, it declined drastically to 51.1 percent in 1993-94 and further to 43.3 percent in 1999-2000. It remained stable thereafter during the first five years of the present century. For all the states taken together, the share of development expenditure in total expenditure remained almost unchanged at about 70 percent throughout the pre-reform decade while in the post-reform period it declined to 66.4 percent in 1993-94, 56.7 percent in 1999-2000 and 52.6 percent in 2004-05. (See Figure (3.6) and Table (A.1.8) in Appendix I)

Andhra Pradesh, Haryana, Kerala, Madhya Pradesh, Maharashtra, Orissa and Uttar Pradesh had a higher share than the share for all states together in 1980-81 and all other major states remained below the share for all states together in the same year. Andhra Pradesh, Haryana, Kerala, Orissa, Punjab and Uttar Pradesh saw a decline in the share

Figure 3.6
Share of Development Expenditure in Total Expenditure



Source: Table (A.1.8) in Appendix I

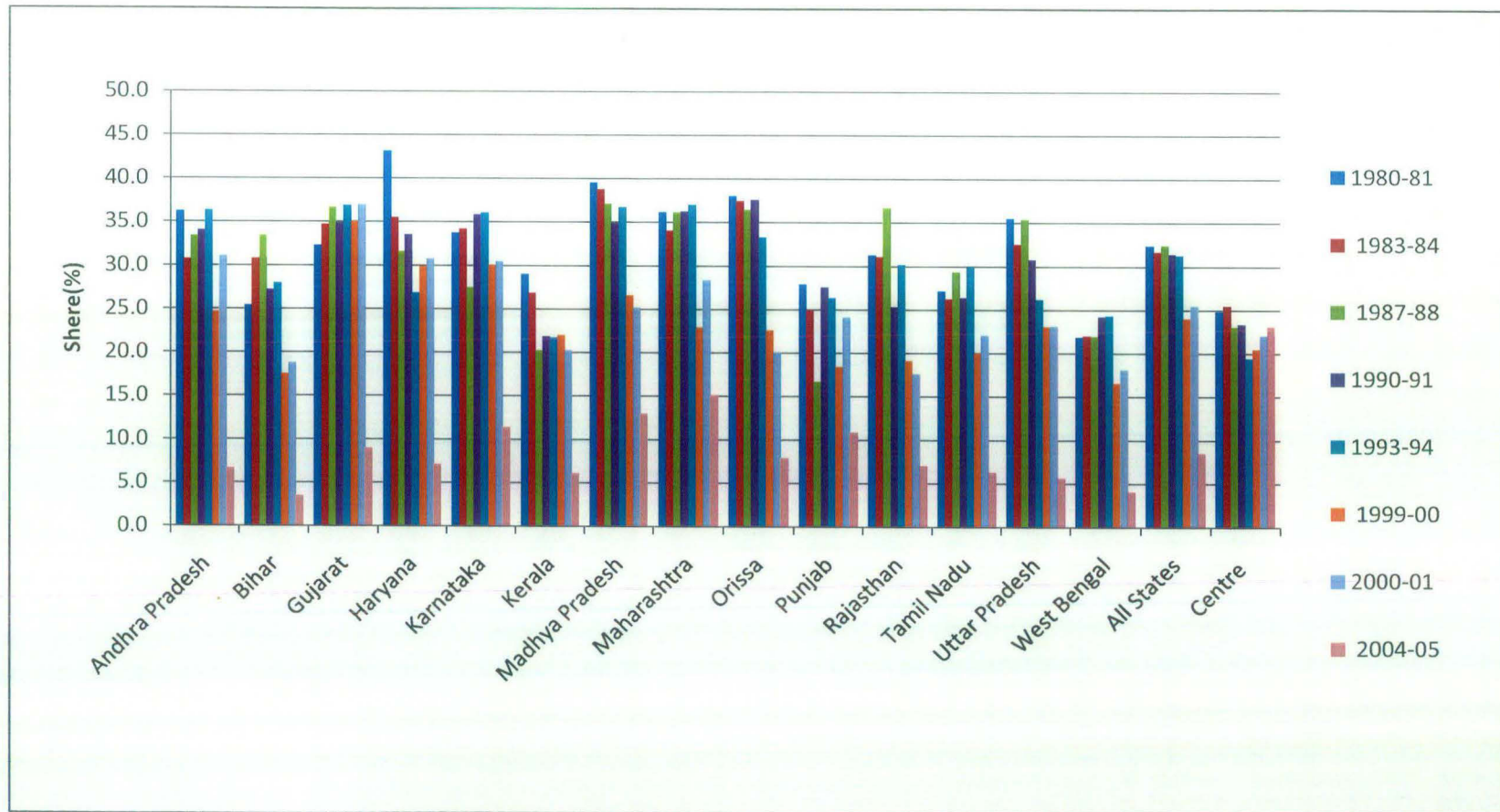
over the period 1980-81 to 1999-2000. Most of these states experienced sharper decline in the share in the post-reform decade than the pre-reform period except for Kerala. However, Gurjarat witnessed a secular increment in the share over the same period. Bihar, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and West Bengal showed an increasing trend in the share during the pre-reform decade and a declining trend in the share over the post-reform decade. While the share increased considerably in Bihar, Karnataka and Tamil Nadu between 1980-81 and 1990-91, it rose by much a lesser amount in all other states during the same period. Maharashtra and Tamil Nadu witnessed a sharper decline in the share compared to other states in the post-reform decade. All the states as a whole followed a similar pattern over the entire period 1980-81 to 1999-2000. All the major states along with the all the states as whole saw an incredible decline in the share between 1999-2000 and 2004-05. This decline was a reflection of second generation reform in the country. Moreover, the share of development expenditure in total expenditure fell much sharply if we look at the entire post-reform period. (See Figure (3.6) and Table (A.1.8) in Appendix-I)

3.6.2. Share of Expenditure on Economic Services in Total Expenditure

The Centre's share of expenditure on economic services in total expenditure increased initially from 24.8 percent in 1980-81 to 25.4 percent in 1983-84 and declined to 23 percent in 1987-88 and remained stable before a large decline to 19.4 percent in 1993-94. After that, it increased gradually to restore itself to the 1990-91 level in 2004-05. For all the state governments, it declined both in the pre and post reform period except in 2000-01, but it was considerably lower in the post reform period (See Figure (3.7) and Table (A.1.9) in Appendix I).

Eight major states saw a secular decline in the share during 1980-81 to 1999-2000. While Andhra Pradesh, Madhya Pradesh, Orissa, Punjab, Tamil Nadu and Uttar Pradesh witnessed a faster decline in the post-reform period than in the pre-reform period, Haryana experienced reverse trend and Rajasthan saw a similar decline in the share during both the pre and the post reform decade. Bihar, Karnataka, Maharashtra and West Bengal witnessed an increment in the share during 1980-81 to 1990-91 and

Figure 3.7
Share of Expenditure on Economic Services in Total Expenditure



Source: Table (A.1.9) in Appendix I

a decline during 1990-91 to 1999-2000. All these states saw a considerable rise in the share except Maharashtra in the pre-reform decade and a severe decline in the post-reform period except Karnataka. All the states as a whole showed a similar pattern over the period 1980-81 to 1999-2000. However, Gujarat saw an improvement in the share in pre-reform decade and Kerala witnessed a sharp decline in the same period. The share remained stable in both states in the post-reform period. Unlike the share of development expenditure in total expenditure, the share of expenditure on economic services in total expenditure declined severely in all the states between 1999-2000 and 2004-05. Moreover, the share of expenditure on economic services in total expenditure fell very sharply in the entire post-reform period. (See Figure (3.7) and Table (A.1.9) in Appendix I)

From the preceding discussion, we can see that the Central government's total expenditure to GDP ratio increased in the pre-reform period and after an initial decline it rose marginally in the reform period to reach to the 1983-84 level in 1999-2000. Total expenditure grew at much higher rate in the pre-reforms period than the reform period. While it increased in the pre-reform period primarily due to the expansionary macroeconomic policy, it increased in the reforms period primarily due to the low base effect a sharp decline in it in initial years of the reform period as a result of the introduction of deflationary macroeconomic policy. Actually, declining share of development expenditure in total expenditure reflected truly the contractionary macroeconomic policy of the Centre in the reform period because of rising total expenditure due to a rise in non-developmental expenditure and other expenditures which plays very limited role in output expansion.⁶⁰ While all the states had shown a rising trend for the entire two and half decades and development expenditure grew at higher higher rate in the pre-reform period than in the reform period in most of the states, Therefore, all the states had been pursuing contractionary policies in the reform period. Even when we look individually at the 14 major states, though total expenditure either

⁶⁰ Total Expenditure consists of Development and Non-Development Expenditure. While development expenditure consists of expenditure on social and community services, and economic services, non-development expenditure consists of interest payments, administrative cost, pension account, and miscellaneous general services etc.

rose (because of an initial decline and huge increase in non-developmental expenditure during 1999-2000 to 2004-05) or remain stable but the growth rate was lower than pre-reform period. Both the Centre and the states showed a similar pattern of expenditure on economic services over the two and half decades. However, development expenditure and expenditure on economic services of the 14 major states reflected the contractionary policy. The non-developmental expenditure rose primarily due to increasing interest payments which do not play any role in output expansion.

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Chapter 4

Employment and Unemployment Situation in India during 1983 to 2004-05

4.1.1 Introduction

One of the objectives of macro-economic policy is the well-being of people through an improvement in various macro aggregates like income and price level. As we know the aggregate income in an economy depends on effective demand in the economy with public and private investment determining the latter. But personal income depends on both employment and wage rate. Hence, an increase in employment with downwardly sticky wage rate improves income and thus well-being of people.

4.1.2 Data and Methodology

In this study we have taken employment and unemployment data for quinquennial rounds from 1983 to 2004-05 (1983, 1987-88, 1993-94, 1999-2000, and 2004-05) from various NSSO Reports and various issues of "*Sarvekshana*". Though we will be discussing employment and unemployment for all the activity status levels (usual status, weekly status and daily status)⁶¹, focus of this study will be mainly on employment

⁶¹ The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively longer time (i.e. major time criterion) during the 365 days preceding the date of survey is considered as the usual principal activity status of the person and if relatively a shorter time (not less than 30 days) during the reference period is considered as subsidiary status of the person.

A person was considered working (or employed) if he/she, while pursuing any economic activity, had worked for at least one hour on at least one day during the 7 days preceding the date of survey.

A person was considered 'working' (employed) for the full day if he/she had worked for 4 hours or more during the day. If the person had worked for 1 hour or more but less than 4 hours, he/she was considered

according to usual status as it a better indicator than others and on unemployment according to current daily status as it captures chronic unemployment along with underemployment. The criteria for the choice of states under this study have already been discussed in Chapter 1.

4.2 Employment situation during 1983 to 2004-05

4.2.1 Employment situation in rural areas

The number of persons/person-days employed per thousand persons /person-days is referred to as work-force participation rates (WFPR) or worker-population ratio (WPR). From Table (4.1), worker-population ratio (WPR)⁶² by usual principal status for persons in India, declined from 45.3 percent in 1983 to 31.2 percent in 1987-88. But 1987-88 was a drought year and unfortunately quinquennial survey for employment-unemployment was conducted in the same year. Hence, the decline can be considered as exogenous shock rather than impact of macroeconomic policies pursued in that period. Later it improved to 39 percent in 1993-94, but it was well below the WPR by usual principal status for persons in 1983. It declined to 38 percent in 1999-00 and was 39.1 percent in 2004-05. Though WPR by usual principal status for persons was lower in 1987-8 than in 1983 due to drought in 1987-88, it rose between 1987-88 and 1993-94. However, overall it remained lower in 1993-4 compared to 1983.

'working' (employed) for half-day and 'seeking or available for work' (unemployed). (*NSS Report No. 515: Employment and Unemployment Situation in India, 2004 -05*, pp. 13-16)

⁶² *NSS Report No. 515*, p 75.

Table 4.1**Work Participation Rate for Rural Persons (percent) as per usual principal activity status and its Compounded Annual Growth Rate**

ps	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	58.5	49.2	54.1	52.1	52.2	-4.2	1.6	-0.6	0.0	-0.8	-0.4
Bihar	38.5	30.6	32.6	31.6	28.7	-5.6	1.1	-0.5	-1.9	-1.6	-1.3
Gujarat	49.6	41.0	41.5	44.5	45	-4.6	0.2	1.2	0.2	-1.8	0.8
Haryana	35.2	29.0	26.2	26.4	32.2	-4.7	-1.7	0.1	4.1	-2.9	2.1
Karnataka	51.3	43.3	45.6	47.4	51.8	-4.2	0.9	0.6	1.8	-1.2	1.3
Kerala	34.7	32.1	32.5	33.3	34.3	-1.9	0.2	0.4	0.6	-0.6	0.5
MP	54.4	44.0	43.5	43.4	43	-5.2	-0.2	0.0	-0.2	-2.2	-0.1
Maharashtra	55.9	46.4	47.1	46	49	-4.5	0.2	-0.4	1.3	-1.7	0.4
Orissa	45.4	38.2	38.2	37	39.2	-4.2	0.0	-0.5	1.2	-1.7	0.3
Punjab	35.7	31.8	30.3	29.2	30.3	-2.8	-0.8	-0.6	0.7	-1.6	0.0
Rajasthan	51.2	44.1	41.8	38.7	38.9	-3.7	-0.9	-1.3	0.1	-2.0	-0.7
TN	54.4	48.6	49.5	49.6	51.3	-2.8	0.3	0.0	0.7	-0.9	0.4
UP	55.6	34.0	32.8	30	30.4	-11.6	-0.6	-1.5	0.3	-5.1	-0.8
WB	35.1	31.2	31.6	32.3	33.6	-2.9	0.2	0.4	0.8	-1.1	0.6
All India	45.3	31.2	39	38	39.1	-8.9	3.8	-0.4	0.6	-1.5	0.0

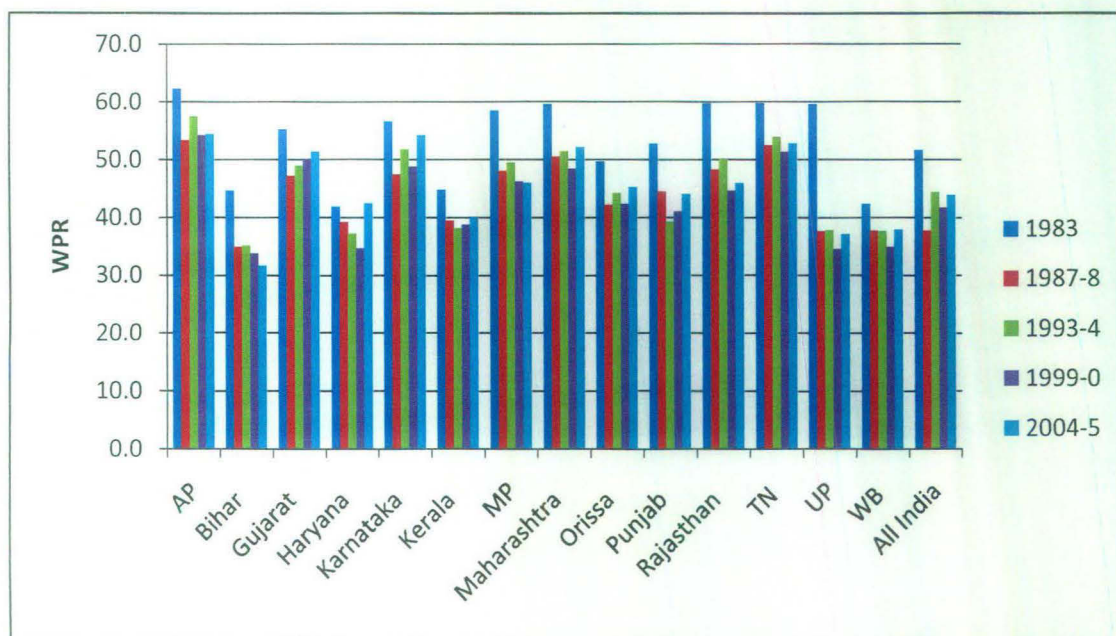
Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

It was negative during first decade of post-reform period and remained sluggish between 1999-00 and 2004-05. From Table (4.2), WPR by usual principal and subsidiary status for persons has also shown the similar trend as principal status, but former was higher (51.6 percent in 1983, 37.7 percent in 1987-88, 44.4 percent in 1993-94, 41.7 percent in 1999-00, and 49.3 percent in 2004-05) than latter. Moreover, subsidiary status employment declined more rapidly in the post-reform period.

Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan, Tamil Nadu and Uttar Pradesh had higher WPR by usual principal status for person than national average, while Bihar, Haryana, Kerala, Punjab and West Bengal had the lower WPR by usual principal status for person than all India average and only Orissa had WPR by usual principal status for person almost similar to the all India average. These facts are clearly depicted in Table (4.1) and Table (4.2). Though most of the 14 major states

Figure 4.1

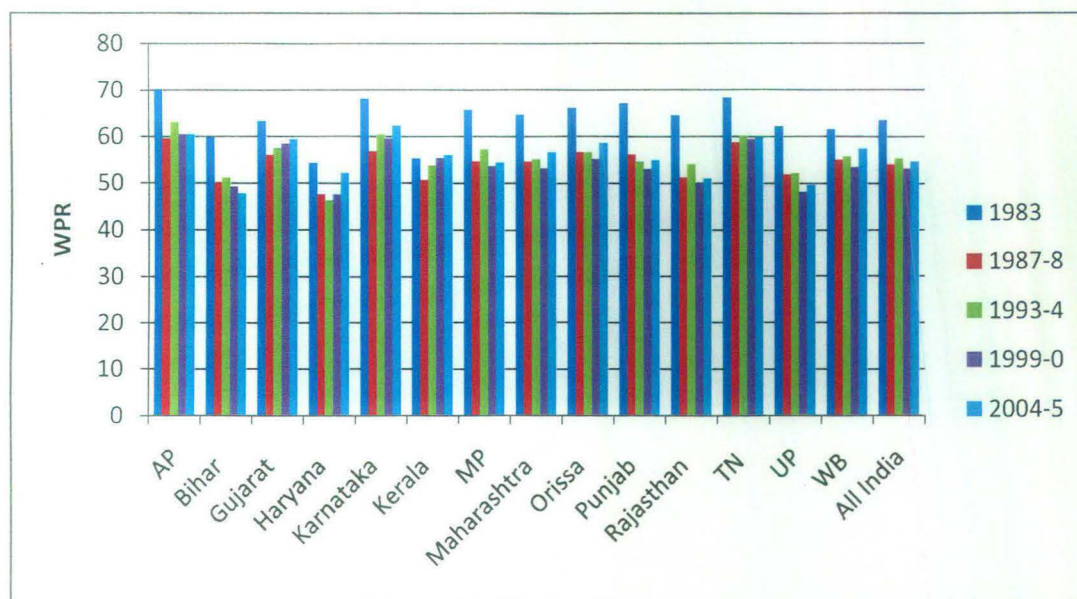
Work Participation Rate for Rural Person as per usual principal and subsidiary activity status



Source: Table (4.2)

Figure 4.2

Work Participation Rate for Rural Person (percent) as per usual principal and subsidiary activity status



Source: Table (4.3)

Table 4.2

Work Participation Rate for Rural Persons (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

psss State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	62.3	53.3	57.5	54.2	54.4	-3.8	1.3	-1.0	0.1	-0.8	-0.6
Bihar	44.5	34.9	35.1	33.8	31.6	-5.9	0.1	-0.6	-1.3	-2.3	-1.0
Gujarat	55.2	47.1	48.8	49.9	51.3	-3.9	0.6	0.4	0.6	-1.2	0.5
Haryana	41.8	39.1	37.2	34.6	42.4	-1.6	-0.8	-1.2	4.1	-1.2	1.3
Karnataka	56.6	47.3	51.7	48.7	54.2	-4.3	1.5	-1.0	2.2	-0.9	0.5
Kerala	44.8	39.4	38.1	38.7	40	-3.1	-0.6	0.3	0.7	-1.6	0.5
MP	58.4	48.0	49.4	46.2	45.9	-4.8	0.5	-1.1	-0.1	-1.7	-0.7
Maharashtra	59.5	50.4	51.4	48.4	52.1	-4.1	0.3	-1.0	1.5	-1.5	0.1
Orissa	49.6	42.2	44.2	42.3	45.2	-4.0	0.8	-0.7	1.3	-1.2	0.2
Punjab	52.6	44.5	39.2	41	44	-4.1	-2.1	0.8	1.4	-2.9	1.2
Rajasthan	59.7	48.2	50	44.6	45.9	-5.2	0.6	-1.9	0.6	-1.8	-0.9
TN	59.7	52.4	53.9	51.3	52.8	-3.2	0.5	-0.8	0.6	-1.0	-0.2
UP	59.5	37.6	37.8	34.5	37.1	-10.8	0.1	-1.5	1.5	-4.4	-0.2
WB	42.3	37.7	37.6	34.9	37.9	-2.8	-0.1	-1.2	1.7	-1.2	0.1
All India	51.6	37.7	44.4	41.7	43.9	-7.5	2.8	-1.0	1.0	-1.5	-0.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

experienced a negative change in WPR by usual principal status for persons between 1983 and 1987-88, but it fell at a much lower rate in most of the states than all India, except in Uttar Pradesh. The national average of WPR by usual principal status for person improved substantially between 1987-88 and 1993-94, while most of the states experienced positive growth (much lower than all India) except Haryana (-1.7%), Madhya Pradesh (-0.2 %), Punjab (-0.8 %), Rajasthan (-0.9%), and Uttar Pradesh (-0.6%) during the same period. In the post-reform period, most of the 14 major states except Gujarat (1.2%) experienced either negative or sluggish growth between 1993-94 and 1999-00 and while some states experienced sluggish growth between 1999-00 and 2004-05, others experienced negative growth in this period.

Table (4.3) clearly depicts that Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu and Uttar Pradesh had WPR for male by usual principal status above the national average between 1983 and 1987-88 while

Table 4.3

Work Participation Rate for Rural Males (percent) as per usual principal activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	69.06	57.5	62.1	59.9	59.6	-4.5	1.3	-0.6	-0.1	-1.1	-0.4
Bihar	57.77	48.2	50.2	48.6	46.9	-4.4	0.7	-0.5	-0.7	-1.4	-0.7
Gujarat	61.27	53	56.5	57.7	58.6	-3.6	1.1	0.4	0.3	-0.8	0.4
Haryana	52.34	44.8	44.6	47	51.3	-3.8	-0.1	0.9	1.8	-1.6	1.4
Karnataka	66.74	55.5	58.5	59.3	61.7	-4.5	0.9	0.2	0.8	-1.3	0.5
Kerala	51.05	46.9	51.5	52.6	52.4	-2.1	1.6	0.4	-0.1	0.1	0.2
MP	64.39	53.3	55.9	53.1	53.8	-4.6	0.8	-0.9	0.3	-1.4	-0.4
Maharashtra	62.79	52	53.7	52.3	55.3	-4.6	0.5	-0.4	1.1	-1.6	0.3
Orissa	65.01	55.2	55.3	54	57.4	-4.0	0.0	-0.4	1.2	-1.6	0.4
Punjab	63.4	53.7	54.2	52.6	54.2	-4.1	0.2	-0.5	0.6	-1.6	0.0
Rajasthan	61.98	49.2	52.7	49.6	50.4	-5.6	1.2	-1.0	0.3	-1.6	-0.4
TN	66.78	57	58.8	58.9	59.1	-3.9	0.5	0.0	0.1	-1.3	0.1
UP	58.99	49.8	50.6	46.9	47.7	-4.1	0.3	-1.3	0.3	-1.5	-0.6
WB	58.88	51.3	53.8	52.4	56.3	-3.4	0.8	-0.4	1.4	-0.9	0.5
All India	61.3	51.7	53.8	52.2	53.5	-4.2	0.7	-0.5	0.5	-1.3	-0.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

these states experienced negative growth in the same period. All the states witnessed sluggish growth after 1987-88 till 2004-05, particularly in the post-reform period. From Table (4.4), we can see that the usual principal and subsidiary status showed a similar pattern in the entire period under consideration.

According to usual principal status, WPR for female for all India in Table (4.5) was less than half of that of male (Table (4.3)) for the entire two decades (28.73 percent in 1983, 24.5 percent in 23.4 percent in 1993-94, 23.1 percent in 1999-00 and 24.2 percent in 2004-05). However, it registered a negative growth rate from 1987-88 to 1999-00 and was sluggish till 2004-05. According to usual principal and subsidiary status, WPR for female was showing slightly different pattern from principal status, it also registered negative growth between 1983 and 1987-88, but it improved in 1993-94 and declined notably till 1999-00. Finally, it increased substantially during 1999-00 to 2004-05.

Table 4.4

Work Participation Rate for Rural Males (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	70.12	59.5	63.1	60.5	60.5	-4.0	1.0	-0.7	0.0	-1.0	-0.4
Bihar	59.81	50	51.1	49.2	47.7	-4.4	0.4	-0.6	-0.6	-1.6	-0.7
Gujarat	63.23	55.9	57.4	58.4	59.3	-3.0	0.4	0.3	0.3	-1.0	0.3
Haryana	54.26	47.5	46.3	47.5	52.2	-3.3	-0.4	0.4	1.9	-1.6	1.2
Karnataka	68.07	56.8	60.4	59.5	62.3	-4.4	1.0	-0.2	0.9	-1.2	0.3
Kerala	55.16	50.6	53.7	55.3	55.9	-2.1	1.0	0.5	0.2	-0.3	0.4
MP	65.59	54.6	57.2	53.6	54.4	-4.5	0.8	-1.1	0.3	-1.4	-0.5
Maharashtra	64.62	54.6	55.1	53.1	56.6	-4.1	0.2	-0.6	1.3	-1.6	0.3
Orissa	66.04	56.6	56.6	55.1	58.6	-3.8	0.0	-0.4	1.2	-1.5	0.3
Punjab	67.04	56	54.6	53	54.9	-4.4	-0.4	-0.5	0.7	-2.0	0.1
Rajasthan	64.51	51.2	54	50	51	-5.6	0.9	-1.3	0.4	-1.8	-0.6
TN	68.26	58.7	60.2	59.4	59.7	-3.7	0.4	-0.2	0.1	-1.2	-0.1
UP	62.16	51.8	52.2	48.1	49.6	-4.5	0.1	-1.4	0.6	-1.7	-0.5
WB	61.55	55	55.7	53.4	57.4	-2.8	0.2	-0.7	1.5	-1.0	0.3
All India	63.45	53.9	55.3	53.1	54.6	-4.0	0.4	-0.7	0.6	-1.4	-0.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

While Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu had higher WPR by usual principal status for female than national average, Bihar, Haryana, Kerala, Orissa, Punjab, Uttar Pradesh and West Bengal had the lower WPR for female than all India average. Andhra Pradesh registered highest WPR for female at 47.91 percent in 1983 and Punjab registered lowest WPR by principal status for female at merely 4.7 percent, followed by West Bengal (10.34 percent). Most of the states experienced a negative growth between 1983 and 1987-88 except Punjab (because of lower initial WPR), but it was significantly positive in Bihar (9.7 percent) and Haryana (8.2 percent). Although most of the states witnessed an improvement in the between 1987-88 and 1993-94, most of the states experienced either negative or sluggish growth between 1993-94 and 1999-00 except Punjab (because of lower initial WPR). During 1999-00 to 2004-05, WPR by usual principal status for female registered negative growth. Moreover, WPR by usual principal status for female showed more or less similar pattern in the entire period under consideration.

Table 4.5

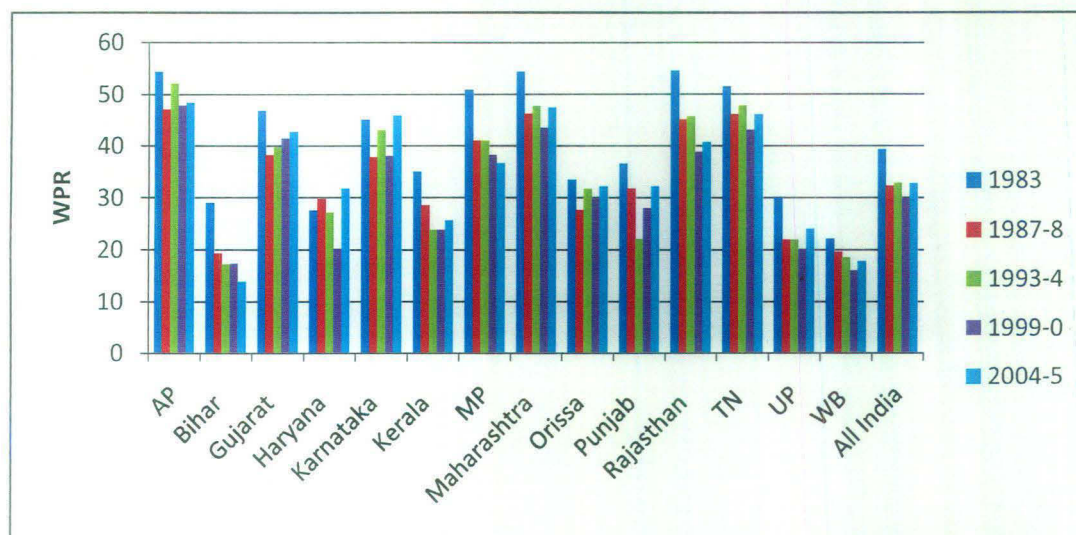
Work Participation Rate for Rural Females (percent) as per usual principal activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	47.91	40.9	46.2	44.3	44.8	-3.9	2.1	-0.7	0.2	-0.4	-0.3
Bihar	18.92	12.4	13.1	13.2	8.8	-10.0	0.9	0.1	-7.8	-3.6	-3.9
Gujarat	37.35	28.7	25.4	31.1	30.5	-6.4	-2.0	3.4	-0.4	-3.8	1.8
Haryana	15.6	11.1	5.6	3.3	11.4	-8.2	-10.8	-8.4	28.1	-9.7	7.4
Karnataka	35.93	30.8	32.6	35.4	41.7	-3.8	1.0	1.4	3.3	-1.0	2.5
Kerala	19.34	17.7	15.2	15.9	17.8	-2.2	-2.5	0.8	2.3	-2.4	1.6
MP	43.94	34.2	30.1	33.1	31.1	-6.1	-2.1	1.6	-1.2	-3.7	0.3
Maharashtra	49.11	40.8	40.4	39.3	42.3	-4.5	-0.2	-0.5	1.5	-1.9	0.5
Orissa	25.97	21.1	21	20.3	21.4	-5.1	-0.1	-0.6	1.1	-2.1	0.2
Punjab	4.69	7.5	3.7	4	4.2	12.5	-11.1	1.3	1.0	-2.3	1.3
Rajasthan	39.68	38.6	29.9	27.2	26.9	-0.7	-4.2	-1.6	-0.2	-2.8	-1.1
TN	42.23	40	40.5	40.1	43.8	-1.3	0.2	-0.2	1.8	-0.4	0.8
UP	17.26	16.5	13.1	12.2	12.3	-1.1	-3.8	-1.2	0.2	-2.7	-0.6
WB	10.34	10.1	8.4	11.6	10.2	-0.6	-3.0	5.5	-2.5	-2.1	2.0
All India	28.73	24.5	23.4	23.1	24.2	-3.9	-0.8	-0.2	0.9	-2.0	0.3

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Figure 4.3

Work Participation Rate for Rural Female (percent) as per usual principal and subsidiary activity status



Source: Table (4.6)

Table 4.6

Work Participation Rate for Rural Female (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	54.37	47	52.1	47.8	48.3	-3.6	1.7	-1.4	0.2	-0.4	-0.8
Bihar	28.97	19.3	17.2	17.3	13.8	-9.7	-1.9	0.1	-4.4	-5.1	-2.2
Gujarat	46.68	38.1	39.6	41.3	42.7	-5.0	0.6	0.7	0.7	-1.6	0.8
Haryana	27.5	29.7	27.1	20.2	31.7	1.9	-1.5	-4.8	9.4	-0.1	1.6
Karnataka	45.03	37.7	43	38	45.9	-4.3	2.2	-2.0	3.8	-0.5	0.7
Kerala	35	28.6	23.8	23.8	25.6	-4.9	-3.0	0.0	1.5	-3.8	0.7
MP	50.87	41	41	38.2	36.6	-5.2	0.0	-1.2	-0.9	-2.1	-1.1
Maharashtra	54.42	46.2	47.7	43.4	47.4	-4.0	0.5	-1.6	1.8	-1.3	-0.1
Orissa	33.43	27.6	31.7	29.9	32.2	-4.7	2.3	-1.0	1.5	-0.5	0.2
Punjab	36.52	31.7	22	28	32.2	-3.5	-5.9	4.1	2.8	-4.9	3.9
Rajasthan	54.56	45	45.7	38.8	40.7	-4.7	0.3	-2.7	1.0	-1.8	-1.2
TN	51.42	46.1	47.8	43	46.1	-2.7	0.6	-1.7	1.4	-0.7	-0.4
UP	30.1	21.9	21.9	20.1	24	-7.6	0.0	-1.4	3.6	-3.1	0.9
WB	22.16	19.6	18.5	16	17.8	-3.0	-1.0	-2.4	2.2	-1.8	-0.4
All India	39.3	32.3	32.8	29.9	32.7	-4.8	0.3	-1.5	1.8	-1.8	0.0

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

For completeness of our study, we are also looking very briefly at employment by current weekly status and current daily status. The WPR by both current weekly status and current daily status shows a similar pattern as WPR by usual status for person, male, and female between 1983 and 2004-05, but WPR by usual status was much higher than that by both current weekly status and current daily status. Moreover, WPR by current weekly status was higher than that by current daily status. These facts are depicted in Table (A.2.1), (A.2.2), (A.2.3), (A.2.4), (A.2.5) and (A.2.6) in Appendix II.

4.2.2 Employment situation in urban areas

From Table (4.7), WPR by usual principal status for person in urban India was 36.3 percent in 1983 and declined to 32.6 percent in 1987-88. After that it remained sticky till 1999-00 and improved marginally to 34.6 percent in 2004-05. Thus we can

clearly see that the growth rate of WPR for person in urban India was negative between 1983 and 1987-88, and was sluggish during 1987-88 to 1999-00. However, it grew at 1.3 percent in the period between 1999-00 to 2004-05. While it grew at a negative rate between 1983 and 1993-94 due to considerable fall in WPR in the drought year (1987-88), the positive growth between 1993-94 and 2004-05 can be attributed to the substantial improvements in WPR by usual principal status in the last five years of the concerned period. From Table (4.8), it can be seen that WPR for person by usual principal and subsidiary status in India in 1983 was slightly higher as compared to WPR by usual principal status for person. Though the former registered a similar growth pattern to latter, but the former was falling at a lower rate than the latter between 1983 and 1987-88, because of increment in subsidiary status employment and again the former was falling at faster rate in the subsequent periods as compared to latter primarily due to larger fall in

Table 4.7

Work Participation Rate for Urban Persons (percent) as per usual principal activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	38.3	33.1	35.5	33.7	38.3	-3.6	1.2	-0.9	2.6	-0.7	0.8
Bihar	32.1	26.3	26.1	25.8	25.9	-4.9	-0.1	-0.2	0.1	-2.0	-0.1
Gujarat	35.6	30.5	32.3	33.3	36	-3.8	1.0	0.5	1.6	-1.0	1.1
Haryana	37.1	32.1	31.2	29.6	31	-3.6	-0.5	-0.9	0.9	-1.7	-0.1
Karnataka	38.4	33.0	34.1	35.9	37.8	-3.7	0.6	0.9	1.0	-1.2	1.0
Kerala	32.7	31.2	34.2	33.7	32.9	-1.2	1.5	-0.2	-0.5	0.5	-0.4
MP	35.6	30.4	30.3	31.1	33.1	-3.9	-0.1	0.4	1.3	-1.6	0.9
Maharashtra	37.1	32.2	33.8	33.6	36.5	-3.5	0.8	-0.1	1.7	-0.9	0.8
Orissa	34.9	29.4	32	30	32.1	-4.2	1.4	-1.1	1.4	-0.9	0.0
Punjab	37.3	31.0	31.8	32.5	34.5	-4.5	0.4	0.4	1.2	-1.6	0.8
Rajasthan	35.5	31.2	30.7	30.1	31.6	-3.2	-0.3	-0.3	1.0	-1.5	0.3
TN	39.7	37.3	38.4	38.2	40.9	-1.5	0.5	-0.1	1.4	-0.3	0.6
UP	33.4	29.0	28.6	28.8	30.5	-3.4	-0.2	0.1	1.2	-1.5	0.6
WB	36.1	32.6	33.8	34	35.4	-2.5	0.6	0.1	0.8	-0.7	0.5
All India	36.3	32.6	32.7	32.4	34.6	-2.7	0.0	-0.2	1.3	-1.0	0.6

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

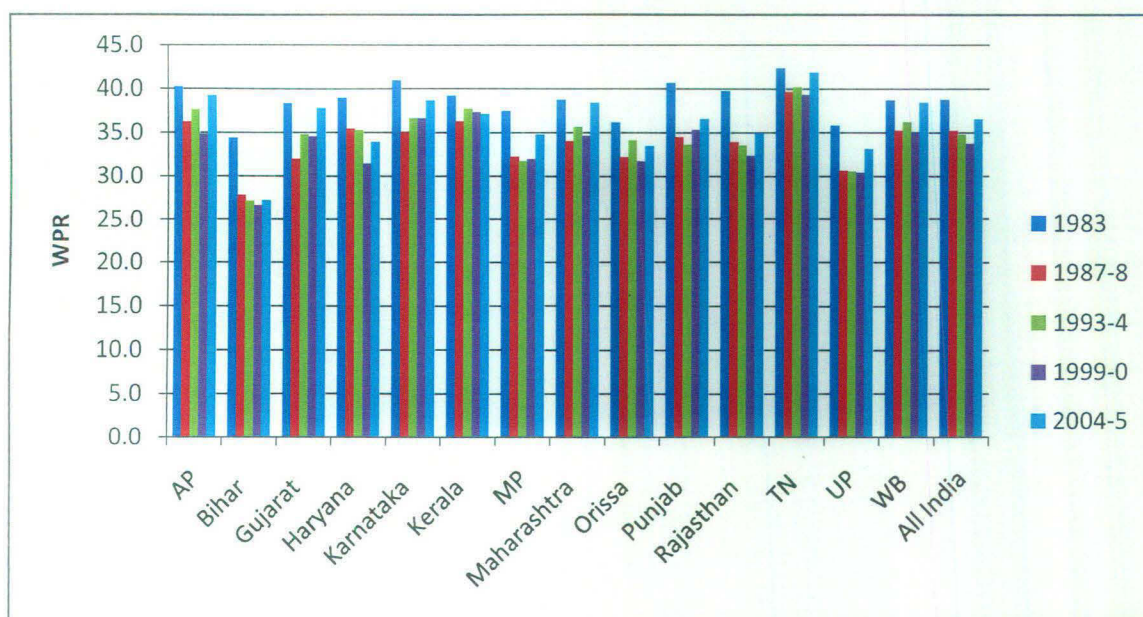
subsidiary status employment in urban areas. WPR for person by usual principal and subsidiary status again grew at faster rate than principal status due to same subsidiary

status employment in the subsequent years. It is noteworthy that the decline in WPR by usual principal status for persons was much higher in the rural areas than that in urban areas between 1983 and 1987-88. One of the main reasons behind this was that drought adversely affected the agriculture sector output which provided larger proportion of employment in rural areas, while in urban areas, larger proportion of employment was in manufacturing and service sector which were less affected by drought as manufacturing and services sector do not directly depend upon monsoon, but indirectly depend upon agricultural output.

Andhra Pradesh, Karnataka, Maharashtra, Punjab and Tamil Nadu had higher WPR by usual principal status for person than all India for the entire period i.e. 1983 to 2004-05 in rural areas. Gujarat, Kerala, and West Bengal were the late joiners in the group, i.e., after 1993-94. Though Haryana was initially in the group, but later dropped out in 1987-88.

Figure 4.4

Work Participation Rate for Urban Persons (percent) as per usual principal and subsidiary activity status



Source: Table (4.8)

Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh remained in the group below all India average throughout the entire period. While most of the states experienced negative growth of WPR by usual principal for person between 1983 and 1987-88, Andhra Pradesh, Kerala and Orissa witnessed considerable positive growth of WPR by usual principal status for person between 1987-88 and 1993-94 and all other states witnessed either sluggish or negative growth during the same period. Most of the states experienced negative or sluggish growth of WPR by usual principal status for person between 1993-94 and 1999-00. Andhra Pradesh, Haryana and Orissa witnessed highest decline in it during the same period. Most of the states showed significant positive growth in it between 1999-00 and 2004-05, except Bihar (0.1 percent) and Kerala (-0.5 percent). While all the states had negative growth between 1983 and 1993-94, all the states had seen negative or sluggish growth between 1993-94 and 1999-00. Similarly, WPR by usual principal and subsidiary status for person showed almost similar trend for all the states in the entire period under consideration, i.e., 1983 to 2004-05. But Kerala

Table 4.8

Work Participation Rate for Urban Persons (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

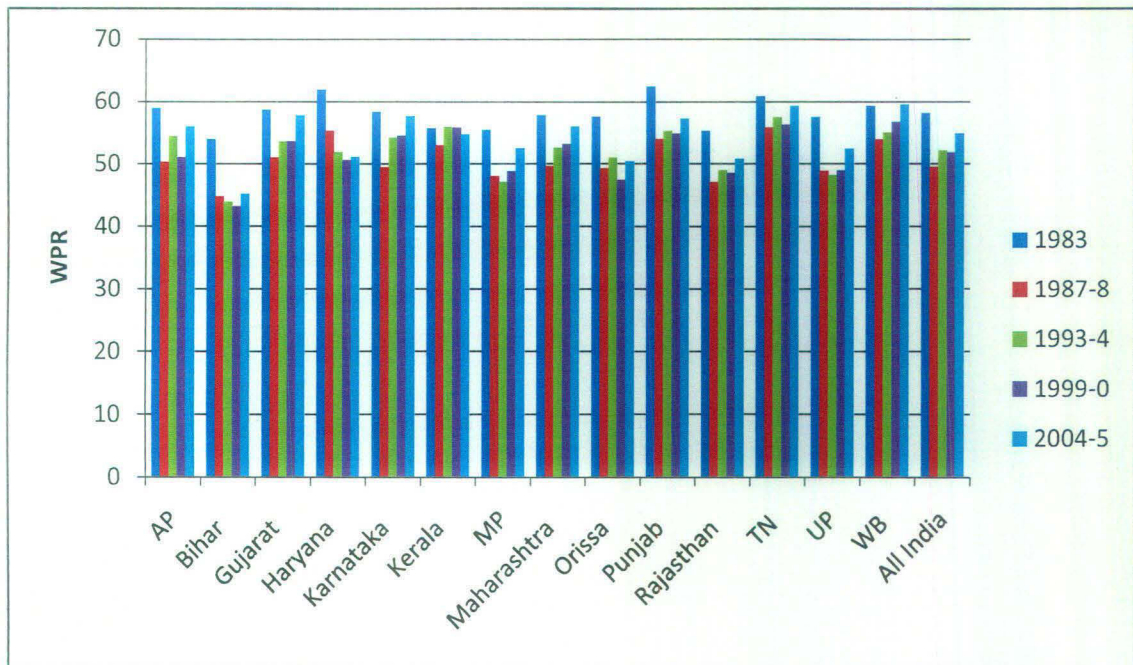
State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	40.2	36.2	37.6	34.8	39.2	-2.6	0.6	-1.3	2.4	-0.7	0.4
Bihar	34.3	27.8	27.1	26.6	27.2	-5.2	-0.4	-0.3	0.4	-2.3	0.0
Gujarat	38.3	31.9	34.7	34.5	37.7	-4.4	1.4	-0.1	1.8	-1.0	0.8
Haryana	38.9	35.4	35.2	31.4	33.9	-2.3	-0.1	-1.9	1.5	-1.0	-0.4
Karnataka	40.9	35.0	36.6	36.6	38.6	-3.8	0.7	0.0	1.1	-1.1	0.5
Kerala	39.2	36.2	37.7	37.3	37.1	-2.0	0.7	-0.2	-0.1	-0.4	-0.2
MP	37.4	32.2	31.7	31.9	34.7	-3.7	-0.2	0.1	1.7	-1.6	0.9
Maharashtra	38.7	34.0	35.6	34.6	38.4	-3.2	0.8	-0.5	2.1	-0.8	0.8
Orissa	36.1	32.1	34.1	31.7	33.4	-2.9	1.0	-1.2	1.1	-0.6	-0.2
Punjab	40.7	34.4	33.6	35.3	36.5	-4.1	-0.4	0.8	0.7	-1.9	0.8
Rajasthan	39.7	33.9	33.5	32.3	34.9	-3.9	-0.2	-0.6	1.6	-1.7	0.4
TN	42.3	39.6	40.2	39.3	41.8	-1.6	0.3	-0.4	1.2	-0.5	0.4
UP	35.8	30.6	30.5	30.4	33.1	-3.8	-0.1	-0.1	1.7	-1.6	0.8
WB	38.7	35.2	36.2	35	38.4	-2.3	0.5	-0.6	1.9	-0.7	0.6
All India	38.7	35.2	34.7	33.7	36.5	-2.4	-0.2	-0.5	1.6	-1.1	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

and Rajasthan became the member of the group which had WPR by usual principal and subsidiary status for person above the all India average in the same period. However, all the other states remained below the national average. Due to fluctuation in subsidiary status employment, some states experienced higher while some other had lower growth than principal status throughout the entire period. But the pattern of growth of work participation rate was almost similar as that of principal status.

Figure 4.5

Work Participation Rate for Urban Males (percent) as per usual principal activity status



Source: Table (4.8)

stagnant in between 1987-88 and 1993-94. While it remained unchanged during 1993-94 to 1999-00, that for person declined in same period. During 1999-00 to 2004-05, WPR by principal status for male was much less pronounced as compared to person.

Table (4.9) clearly shows that Andhra Pradesh, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Punjab, Timil Nadu and West Bengal had WPR by usual principal status for male above the national average for most of the time period under consideration. While Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh had lower WPR by usual principal status for male than the national average between 1983 and 1987-88, but these states were not far away from the national average. All the states witnessed sluggish growth of WPR by usual principal status for male between 1987-88 and 1999-00 and most of the states experienced marginal improvement in WPR by usual principal status for male in later years except Haryana and Kerala. Similar trend for principal and subsidiary status was observed during the entire period in Table (4.10), but sometimes the magnitude of variation, between the two measures, differed because of fluctuation in subsidiary status employment.

Table 4.9

Work Participation Rate for Urban Males (percent) as per usual principal activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	57.58	48.6	53.4	50.8	55.6	-4.2	1.6	-0.8	1.8	-0.8	0.4
Bihar	52.01	43.9	43.3	42.8	44.6	-4.1	-0.2	-0.2	0.8	-1.8	0.3
Gujarat	56.12	50.4	52.8	53.2	57.3	-2.7	0.8	0.1	1.5	-0.6	0.8
Haryana	61.32	54	51.3	50.5	50.6	-3.1	-0.9	-0.3	0.0	-1.8	-0.1
Karnataka	56.82	48.6	53	54.3	57.2	-3.8	1.5	0.4	1.0	-0.7	0.8
Kerala	52.51	49.2	54.2	53.4	51.4	-1.6	1.6	-0.2	-0.8	0.3	-0.5
MP	54.28	47.1	46.5	48.3	51.8	-3.5	-0.2	0.6	1.4	-1.5	1.1
Maharashtra	56.69	48.5	52	52.8	54.8	-3.8	1.2	0.3	0.7	-0.9	0.5
Orissa	56.41	48.1	50.3	47.2	50	-3.9	0.7	-1.1	1.2	-1.1	-0.1
Punjab	61.52	53.2	55.1	54.1	56.9	-3.6	0.6	-0.3	1.0	-1.1	0.3
Rajasthan	53.62	46.2	48.3	48.3	50.2	-3.7	0.7	0.0	0.8	-1.0	0.4
TN	59.78	54.8	56.7	56	58.8	-2.2	0.6	-0.2	1.0	-0.5	0.4
UP	55.95	48.2	47.5	48.4	51.6	-3.7	-0.2	0.3	1.3	-1.6	0.8
WB	57.79	52.3	53.8	56.1	58.3	-2.5	0.5	0.7	0.8	-0.7	0.8
All India	56.75	48.5	51.3	51.3	54.1	-3.9	0.9	0.0	1.1	-1.0	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

In Table (4.11) we can see that WPR for female by usual principal status for all India was almost 3-4 times less than that for male during the entire period of 1983 to 2004-05. It was 13.76 percent in 1983 and declined to 11.8 percent in 1987-88. However, it increased to 12.1 percent in 1993-94 and again declined to 11.7 percent in 1999-00. It again marginally improved to 13.5 percent in 2004-05. Again from Table (4.12), subsidiary status employment by usual principal status for female remained sticky between 1983 and 1987-88 and declined marginally between 1987-88 and 1993-94. Again it declined in 1999-00, but it increased in 2004-05. It grew at negative rate between 1983 and 1987-88 and growth of WPR by usual principal status for female improved marginally between 1987-88 and 1993-94. Growth rate of WPR by usual principal status for female remained negative till 1999-00 before it became substantially positive during 1999-00 to 2004-05. One of the reasons for this trend may be the drought between 1983 and 1987-88 and contractionary macroeconomic policy in the later periods.

Table 4.10

Work Participation Rate for Urban Males (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	58.9	50.3	54.4	51.1	56	-3.9	1.3	-1.0	1.8	-0.8	0.3
Bihar	53.91	44.8	43.9	43.2	45.2	-4.5	-0.3	-0.3	0.9	-2.0	0.3
Gujarat	58.68	51	53.5	53.6	57.8	-3.4	0.8	0.0	1.5	-0.9	0.8
Haryana	61.86	55.3	51.9	50.6	51.1	-2.8	-1.1	-0.4	0.2	-1.7	-0.2
Karnataka	58.31	49.4	54.2	54.5	57.6	-4.1	1.6	0.1	1.1	-0.7	0.6
Kerala	55.65	53	55.9	55.8	54.7	-1.2	0.9	0.0	-0.4	0.0	-0.2
MP	55.39	48	47.1	48.8	52.5	-3.5	-0.3	0.6	1.5	-1.6	1.1
Maharashtra	57.78	49.6	52.6	53.2	56	-3.7	1.0	0.2	1.0	-0.9	0.6
Orissa	57.52	49.3	51	47.5	50.4	-3.8	0.6	-1.2	1.2	-1.2	-0.1
Punjab	62.37	54	55.3	54.9	57.2	-3.5	0.4	-0.1	0.8	-1.2	0.3
Rajasthan	55.28	47.1	49	48.6	50.8	-3.9	0.7	-0.1	0.9	-1.2	0.4
TN	60.86	55.8	57.5	56.3	59.3	-2.1	0.5	-0.4	1.0	-0.6	0.3
UP	57.5	48.9	48.2	49	52.4	-4.0	-0.2	0.3	1.4	-1.7	0.8
WB	59.31	53.9	55	56.7	59.5	-2.4	0.3	0.5	1.0	-0.8	0.8
All India	58.13	49.5	52.1	51.8	54.9	-3.9	0.9	-0.1	1.2	-1.1	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

From Table (4.11), we can see that Andhra Pradesh, Karnataka, Kerala, Maharashtra, Rajasthan and Tamil Nadu were the states which had higher WPR by usual principal status for female than national average throughout entire period of the study. In Madhya Pradesh it kept on fluctuating near the national average. While in some periods it was above the national average, in other periods it was below the national average. While Gujarat, Orissa and West Bengal had WPR by usual principal status for female marginally below the national average, Bihar, Haryana, Punjab and Uttar Pradesh were well below the national average. While most of the states experienced a negative growth rate between 1983 to 1987-88, Bihar, Gujarat, Haryana, Orissa and Punjab witnessed substantial negative growth in WPR by usual principal status for female during the same period. All the states witnessed either sluggish or negative growth in WPR by usual principal status for female between 1987-88 and 1993-94. While most of the states

Table 4.11

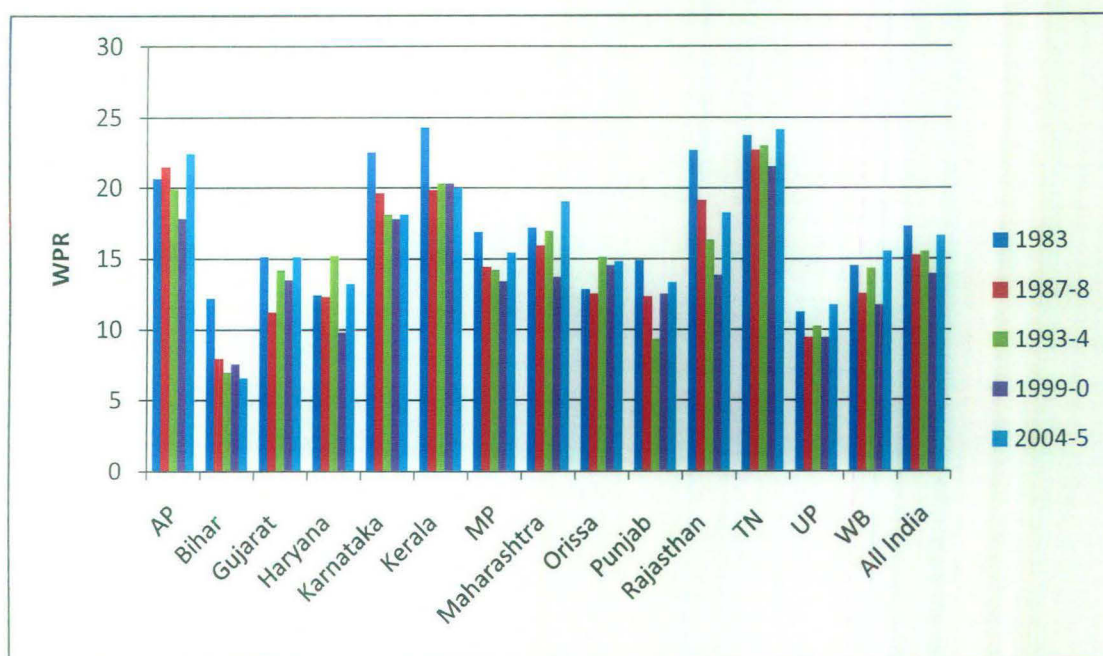
Work Participation Rate for Urban Females (percent) as per usual principal activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	18.04	17	16.9	15.9	21.1	-1.5	-0.1	-1.0	5.8	-0.7	2.2
Bihar	9.5	5.7	5.6	6.4	4.6	-12.0	-0.3	2.3	-6.4	-5.1	-1.9
Gujarat	12.33	8.8	9.8	11.4	11.9	-8.1	1.8	2.6	0.9	-2.3	2.0
Haryana	9.19	6.6	7	5.8	7.5	-7.9	1.0	-3.1	5.3	-2.7	0.7
Karnataka	18.99	16.3	14.2	16.7	16.9	-3.7	-2.3	2.7	0.2	-2.9	1.8
Kerala	14.76	13.6	15.2	15.6	14.9	-2.0	1.9	0.4	-0.9	0.3	-0.2
MP	14.2	11.7	12	12.2	12.7	-4.7	0.4	0.3	0.8	-1.7	0.6
Maharashtra	15	13.2	13.7	12.2	16.2	-3.1	0.6	-1.9	5.8	-0.9	1.7
Orissa	11.56	8	11.5	11.2	12.5	-8.8	6.2	-0.4	2.2	-0.1	0.8
Punjab	8.43	5.8	5.8	7.3	9.4	-8.9	0.0	3.9	5.2	-3.7	4.9
Rajasthan	15.7	14.4	10.9	9.3	12.1	-2.1	-4.5	-2.6	5.4	-3.6	1.0
TN	19.47	19.1	20.1	19.7	22.7	-0.5	0.9	-0.3	2.9	0.3	1.2
UP	7.8	6.8	6.9	6.6	7.2	-3.4	0.2	-0.7	1.8	-1.2	0.4
WB	10.8	8.8	10.4	10.2	10.3	-5.0	2.8	-0.3	0.2	-0.4	-0.1
All India	13.76	11.8	12.1	11.7	13.5	-3.8	0.4	-0.6	2.9	-1.3	1.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Figure 4.6

Work Participation Rate for Urban Females (percent) as per usual principal activity status



Source: Table (4.12)

Table 4.12

Work Participation Rate for Urban Females (percent) as per usual principal and subsidiary activity status and its Compounded Annual Growth Rate

State	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	20.62	21.5	19.9	17.8	22.4	1.1	-1.3	-1.8	4.7	-0.4	1.2
Bihar	12.18	7.9	6.9	7.5	6.5	-10.3	-2.2	1.4	-2.8	-5.5	-0.6
Gujarat	15.11	11.2	14.2	13.5	15.1	-7.2	4.0	-0.8	2.3	-0.6	0.6
Haryana	12.42	12.3	15.2	9.8	13.2	-0.2	3.6	-7.1	6.1	2.0	-1.4
Karnataka	22.51	19.6	18.1	17.8	18.1	-3.4	-1.3	-0.3	0.3	-2.2	0.0
Kerala	24.3	19.8	20.3	20.3	20	-5.0	0.4	0.0	-0.3	-1.8	-0.1
MP	16.83	14.4	14.2	13.4	15.4	-3.8	-0.2	-1.0	2.8	-1.7	0.8
Maharashtra	17.16	15.9	16.9	13.7	19	-1.9	1.0	-3.4	6.8	-0.2	1.2
Orissa	12.82	12.5	15.1	14.5	14.8	-0.6	3.2	-0.7	0.4	1.7	-0.2
Punjab	14.87	12.3	9.3	12.5	13.3	-4.6	-4.6	5.1	1.2	-4.6	3.6
Rajasthan	22.69	19.1	16.3	13.8	18.2	-4.2	-2.6	-2.7	5.7	-3.3	1.1
TN	23.7	22.7	23	21.5	24.1	-1.1	0.2	-1.1	2.3	-0.3	0.5
UP	11.22	9.4	10.2	9.4	11.7	-4.3	1.4	-1.4	4.5	-0.9	1.4
WB	14.48	12.5	14.3	11.7	15.5	-3.6	2.3	-3.3	5.8	-0.1	0.8
All India	17.25	15.2	15.5	13.9	16.6	-3.1	0.3	-1.8	3.6	-1.1	0.7

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

experienced either sluggish or negative growth rate between 1993-94 and 1999-00, Bihar, Gujarat, Karnataka, Punjab had substantially higher positive growth rate in this period. Most of the states experienced notably higher positive growth between 1999-00 and 2004-05 except Bihar, Gujarat, Karnataka, Kerala and West Bengal, which experienced sluggish in the same period.

Similarly in the urban areas, WPR by current weekly status and current daily status for person, male and female showed a similar pattern during the entire period i.e, 1983 to 2004-05. But WPR by both current weekly status and current status were exceptionally low for person in 1999-00 for all the states as well as India. This is clearly visible from table (A.2.7), (A.2.8), (A.2.9), (A.2.10), (A.2.11) and (A.2.12) in Appendix II.

In rural India, the WPR remains below the 1983 level in every subsequent years in most of the states and Haryana is the only exception (due sharp increase in subsidiary status female employment). The drought results in the sharp deceleration in the growth rate between 1983 and 1987-88. A negligible improvement was observed in subsequent year because of lower value in the base year and the WPR remained stagnant between 1993-94 and 2004-05. Unlike Rural India the WPR in urban area for every state remains below the 1983 level for every year after 1983. The WPR for female in some states was higher in 2004-05 than that in 1983. In order to retain real family income, females may start to work and rising female literacy rate also leads to such trend. The growth of WPR in most of the states showed a similar pattern to urban area.

4.3 Unemployment situation during 1983 to 2004-05

“A comparison between the different estimates of unemployment indicates that the CDS estimate of unemployment rate being the broadest is the highest. The higher unemployment rates according to the CDS approach compared to the weekly status and usual status approaches indicates a high degree of intermittent unemployment. It captures the unemployed days of the chronically unemployed, the unemployed days of the usually

employed who become intermittently unemployed during the reference week and unemployed days of those classified as employed according to the criterion of current weekly status.”⁶³

4.3.1 Unemployment situation in rural areas

From Table (4.13) we can see that unemployment rate by current weekly status for person in rural area in India was high at 7.9 percent in 1983 and declined substantially to 4.9 percent in 1987-88. This was quite unexpected in a drought year. But it happened due to a sharp decline in labour force participation rate⁶⁴ (from 60.4 percent in 1983 to 43.5 percent in 1987-88). One of the possible reasons for the decline in the labour force participation rate might be that people had migrated from rural areas to urban areas with the hope of getting employment in manufacturing and service sector due to agricultural failure in drought year.⁶⁵ After that unemployment rate by current daily status for person, rose continuously to 5.6 percent in 1993-94, 7.1 percent in 1999-00, and 8.2 percent in 2004-05. This might be due to contractionary macroeconomic policy (particularly in development expenditure). Though unemployment rate by current daily status for person declined between 1983 and 1987-88 as notable decline in labour force participation rate, but it grew at significantly positive rate between 1987-88 and 2004-05, and grew at relatively higher rate precisely between 1993-94 and 1999-00.

Andhra Pradesh, Kerala, Orissa, Tamil Nadu and West Bengal had higher unemployment rate than national average for the entire period of 1983 to 2004-05. Particularly three states (Kerala, Tamil Nadu and West Bengal) had much higher unemployment rate among all the 14 major states in the same period. While most of the states experienced declining unemployment rate between 1983 and 1987-88 as result of a sharp decline in

⁶³ Government of India (2010): *Economic Survey, 2009-10*, Page 275.

⁶⁴ The labour force participation rate (LFPR) is defined as the number of persons / person days in the labour force per 1000 persons/person-days in *NSS Report No. 515*, page 64.

⁶⁵ Sundari, S (2005): “Migration as a Livelihood Strategy”, *Economic and Political Weekly*, May 28 – June 4.

labor force participation rate⁶⁶ due to rural urban migration in drought year⁶⁷, Haryana, Madhya Pradesh and Rajasthan witnessed rise in unemployment during the same period. This can be attributed to the lower growth of output in other sectors which was indirectly affected by drought⁶⁸. In the period of 1987-88 to 1993-94, all the states witnessed worsening unemployment situation except Haryana, Kerala, Punjab and Rajasthan.

Table 4.13
Unemployment Rate for Rural Persons (percent) as current daily activity status and its Compounded Annual Growth Rate

State	Unemployment Rate					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	8.9	6.2	6.3	8.1	10.9	-8.6	0.3	4.3	6.1	-3.4	5.6
Bihar	7.9	3.6	6	7	6.8	-17.6	8.7	2.6	-0.6	-2.7	1.3
Gujarat	5.0	5.1	5.6	4.8	4.1	0.4	1.6	-2.5	-3.1	1.1	-3.1
Haryana	6.1	8.2	6.6	4.7	6.2	7.7	-3.5	-5.5	5.7	0.8	-0.6
Karnataka	7.2	3.0	4.4	4.3	6.7	-19.4	6.4	-0.4	9.3	-4.8	4.3
Kerala	26.2	18.2	14.7	21.7	25.6	-8.7	-3.5	6.7	3.4	-5.6	5.7
MP	2.0	2.3	2.6	3.8	5.6	3.3	2.4	6.5	8.1	2.8	8.0
Maharashtra	6.6	3.1	4.3	6.5	9.3	-17.4	5.7	7.1	7.4	-4.2	8.0
Orissa	8.9	5.4	6.9	7.1	10.2	-11.5	4.1	0.5	7.5	-2.5	4.0
Punjab	7.2	3.9	2.7	3.7	9.7	-14.5	-5.8	5.4	21.3	-9.3	13.6
Rajasthan	2.7	5.7	1.1	2.8	4.4	19.8	-23.9	16.8	9.5	-8.8	14.9
TN	18.7	9.1	12.2	13.5	15.1	-16.5	5.1	1.7	2.3	-4.2	2.2
UP	3.6	3.0	3.1	3.6	3.7	-4.4	0.4	2.5	0.5	-1.5	1.8
WB	15.9	5.0	9.1	17	11.2	-25.0	10.5	11.0	-8.0	-5.4	2.1
All India	7.9	4.9	5.6	7.1	8.2	-11.3	2.2	4.0	2.9	-3.4	3.9

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Similarly, unemployment rate further worsened in all the states during 1993-94 to 2004-05 except Gujarat, Haryana and Karnataka. While Bihar, Gujarat and even West Bengal witnessed an improvement in unemployment situation during 1999-00 to 2004-05, all the other states experienced further increment in the unemployment rate during the same period. Moreover, Punjab registered highest growth in unemployment rate by current daily status for person between 1999-00 and 2004-05, at 21.3 percent.

⁶⁶ Key Results of Employment and Unemployment Survey All India, Special Report No.1, January, 1990.

⁶⁷ Sundari, S (2005): "Migration as a Livelihood Strategy", *Economic and Political Weekly*, May 28 – June 4

⁶⁸ Government of India(1988): , *Economic Survey*, 1987-88

4.3.2 Unemployment situation in urban areas

Table (4.14) shows that unemployment rate for person by current daily status in urban India showed a similar pattern to that in rural areas and declined from 9.5 percent to 8.2 percent between 1983 and 1987-88. However, magnitude of decline in unemployment rate for person by current daily status was much less than in the rural areas in the same period. Though former should have increased due to rural to urban migration, it declined. One of the primary reason for this might be migrated population in urban area may not identified as household. Thus, migrated population were excluded from the survey as NSSO conducted surveys for household entities. Again, unemployment rate for person by current daily status declined to 7.4 in 1993-94 percent and further worsened to 7.7 percent in 1999-00 and again rose to 8.3 percent in 2004-05. It improved in 1987-88 and continued to improve till 1993-94. After that it grew at 0.7 percent between 1999-00 and became more than double in the period, 1999-00 to 2004-05.

Table 4.14

Unemployment Rate for Urban Persons (percent) as current daily activity status and its Compounded Annual Growth Rate

State	Unemployment Rate					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	10.0	9.8	8	7.6	7.9	-0.5	-3.3	-0.9	0.8	-2.2	-0.1
Bihar	6.6	6.8	8.7	9.3	10	0.7	4.2	1.1	1.5	2.8	1.4
Gujarat	7.4	7.1	6	4.2	4.7	-0.9	-2.8	-5.8	2.3	-2.0	-2.4
Haryana	7.8	6.5	6.6	4.5	6.9	-4.4	0.2	-6.2	8.9	-1.7	0.4
Karnataka	9.0	8.0	6.3	5.4	6	-3.1	-3.8	-2.5	2.1	-3.5	-0.5
Kerala	24.3	23.7	17.7	19.1	25.2	-0.6	-4.8	1.3	5.7	-3.1	3.6
MP	5.6	4.5	6.8	7	6.4	-5.4	7.2	0.5	-1.8	2.0	-0.6
Maharashtra	9.3	6.5	6.3	8.1	8.8	-8.6	-0.5	4.3	1.7	-3.8	3.4
Orissa	8.8	8.7	9.8	9.5	15	-0.3	2.0	-0.5	9.6	1.1	4.3
Punjab	7.4	6.8	4.1	4.9	7.5	-2.0	-8.0	3.0	8.9	-5.7	6.2
Rajasthan	5.2	6.3	2.4	4.5	6.1	4.7	-14.9	11.0	6.3	-7.5	9.8
TN	15.3	11.7	9.7	8.9	8.6	-6.5	-3.0	-1.4	-0.7	-4.5	-1.2
UP	7.2	4.7	4.8	6.2	6.3	-10.0	0.2	4.4	0.3	-4.0	2.8
WB	13.5	12.3	12.1	10.6	10.5	-2.3	-0.3	-2.2	-0.2	-1.1	-1.4
All India	9.5	8.2	7.4	7.7	8.3	-3.8	-1.6	0.7	1.5	-2.5	1.2

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Kerala, Tamil Nadu and West Bengal had higher unemployment rate than the all India average throughout the entire period of 1983 to 2004-05. Andhra Pradesh was in the same pool between 1983 and 1999-00 while Orissa and Bihar were the late joiners in 1987-88 and 1993-94 respectively. Apart from Bihar and Rajasthan, all the other states experienced negative growth in unemployment rate between 1983 and 1987-88, but unemployment rate by current daily status for person in most of the states in rural areas, was much lesser in urban areas. Between 1987-88 and 1993-94, unemployment rate was growing either at negative or sluggish rate in all the states excluding Bihar, Madhya Pradesh and Orissa. While Andhra Pradesh, Gujarat, Haryana, Karnataka, Orissa, Tamil Nadu and West Bengal witnessed negative growth in unemployment rate between 1993-94 and 2004-05, most of other states witnessed higher positive growth of unemployment rate. During 1999-00 to 2004-05, all the states excluding Madhya Pradesh, Tamil Nadu and West Bengal had positive growth of unemployment rate.

4.4 Conclusion

From the above discussion WPR by all activity status for persons, male and female declined both in rural and urban areas in India between 1983 and 1987-88. But the decline was much more pronounced in rural areas than urban areas. Because agriculture was the largest employment providing sector in rural areas and agricultural output was adversely affected by drought in 1987-88.⁶⁹ Though there was marginal improvement WPR between 1987-88 and 1993-94, but WPR in 1993-94 was well below that in 1983. And it declined marginally even between 1993-94 and 1999-00. Between 1999-00 and 2004-05, it improved marginally, but it was unable to reach the levels of WPR in 1983. Therefore, WPR in the post-reform was sticky both in rural and urban areas. Though most of the states witnessed a similar pattern of WPR as all India, but few states had shown different pattern of WPR.

Unemployment rate by current daily status for persons, male, and female declined both in rural and urban areas in India between 1983 and 1987-88. But the decline was

⁶⁹ *Economic Survey*, 1987-88.

much more pronounced in rural areas than urban areas. Despite the drought year, the decline in unemployment rate in rural areas observed because of sharp decline in labour force participation rate during the same period because of rural-urban migration. In urban areas, despite the rural-urban migration, unemployment rate declined between 1983 and 1987-88 because of most of the migrated labourer was excluded from sample of NSSO survey (NSSO includes only households in their sample survey, but most of the migrated labour might not be identified as households) and higher growth in manufacture and infrastructure⁷⁰. In the post-reform period it worsened and went below the 1983 level in 2004-05. Similarly, most of the states experienced a similar pattern of unemployment rate. Contractionary macroeconomic policy might be a reason behind such worsening situation of both employment and unemployment. After looking at the pattern of government spendings and employment unemployment situation in India, we shall examine the relation between them in the next chapter.

⁷⁰ Ibid

Chapter 5

Relation between Total Employment and Public Expenditure in India

In Chapter 3 and Chapter 4, we have seen the pattern of public expenditures during 1980-81 to 2004-05 and the pattern of employment and unemployment during 1983 to 2004-05 respectively. In this chapter, we shall try to look at the relation between them. We have seen that employment by usual principal and subsidiary status is the best measure among all measures of employment by NSSO. NSSO provides data on employment for rural and urban areas, but we do not have data on rural-urban break-up for public expenditure. So, we had to take total employment which is estimated from the available data as follows:

Total number of employed = \sum (the estimated population)_i × (worker population ratio)_i, where i = rural area and urban area.

Estimated population is provided by NSSO. Both development expenditure and expenditure on economic services are good measures of public investment as shown in Chapter 3. Moreover, we have club the data on both employment and various expenditures in 2004-05 for Bihar, Madhya Pradesh and Uttar Pradesh with their respective newly created states Jharkhand, Chhattisgarh and Uttaranchal in 2000 to make the date comparable with that of other years.

Despite the data on public expenditure being available for all the years between 1983 and 2004-05, we choose those years when employment data is available as we would like to look at association between the percentage change in employment by

principal and subsidiary status for persons, on the one hand, and the following three variables on the other:

- A) percentage change in total expenditure,
- B) percentage change in development expenditure,
- C) percentage change in expenditure on economic services.

We shall also estimate the correlation coefficients between the total number of employed and all the expenditures individually. Moreover, we have taken data on various expenditures at constant prices (1993-94 prices) and employment for the major 14 states (Andhra Pradesh, Bihar, Gujarat, Hariyana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal) for 1983, 1987-88, 1993-94, 1999-2000 and 2004-05⁷¹. As data on public expenditure is not available for 1983, we have taken the data for 1983-84 because it covers larger part of 1983.

We shall look at the relationship in following two methods, (a) graphical method, and (b) statistical method.

(a) Graphical method

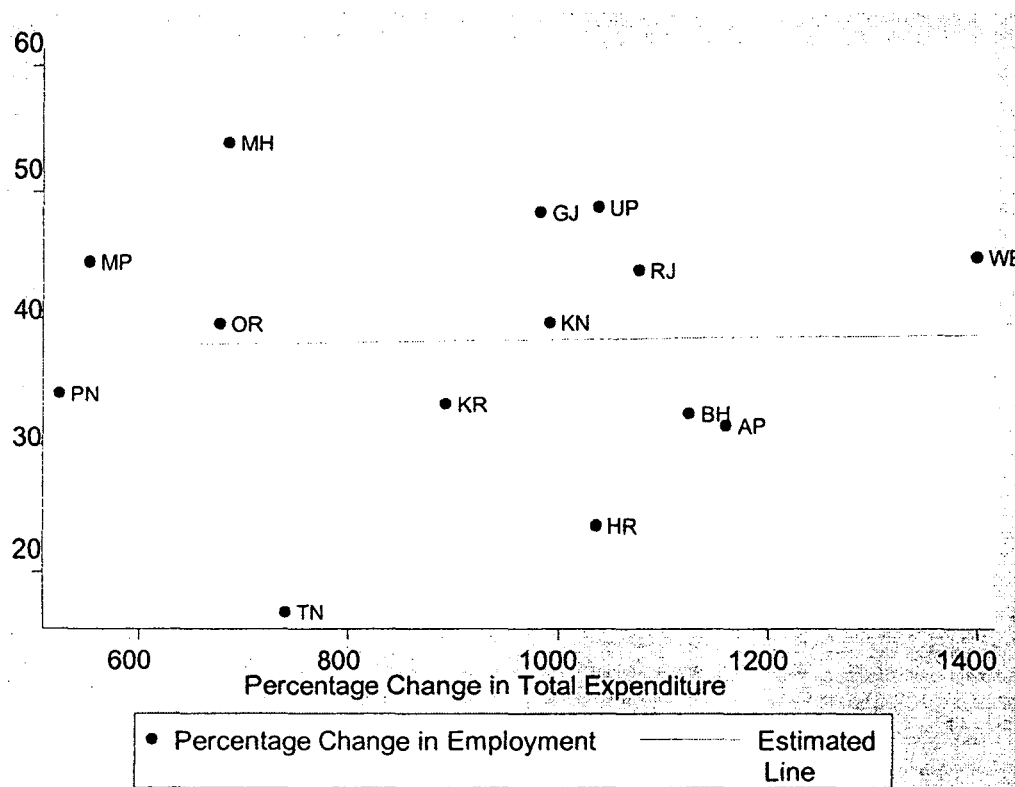
In the graphical method, we plot the percentage change in employment by principal and subsidiary status for persons against percentage change in total expenditure, that in development expenditure and that in expenditure on economic services for the period 1983 to 2004-05. Since the data is available for 1983 and 1987-88 in the pre-reform period and 1987-88 was drought year, it would be misleading to look at association between percentage change in employment and that in the expenditures in the same period. Again, economic reforms were introduced in India in 1991 and employment data is available from 1993-94 after 1991, but public expenditure declined substantially between 1990-91 and 1993-94. Therefore, it is misleading to look at the association

⁷¹ These are the years of quinquennial survey on employment and unemployment by N SSO.

during 1993-94 to 2004-05 as the post-reform period. Hence, we are looking at the entire period, 1983 to 2004-05.

In the Figure 5.1, percentage change in employment by principal and subsidiary status for person is represented along the vertical axis and percentage change in total expenditure is represented along the horizontal axis. From Figure (5.1), we can clearly

Figure 5.1
Relation between Percentage Change in Employment and Percentage Change in Total Expenditure during 1983 to 2004-05



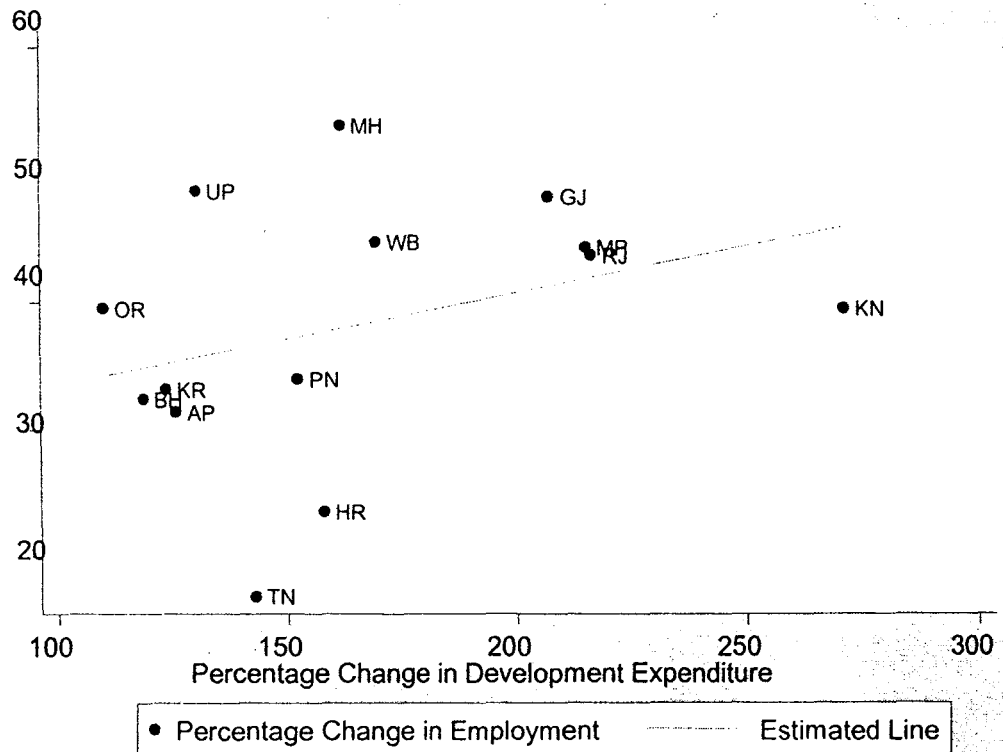
Source: Table (A.3.1)

see that they are positively correlated during 1983 to 2004-05. However, degree of association between them is low. While Punjab, Madhya Pradesh, Orissa witnessed higher degree of association between them, Gujarat, Uttar Pradesh, Karnataka, Rajasthan

witnessed lower degree of association than the above mentioned states and the association was very low in Bihar, Andhra Pradesh, Tamil Nadu, Haryana, Kerala and West Bengal.

In Figure 5.2, percentage change in employment by principal and subsidiary status for persons is represented along the vertical axis and percentage change in development expenditure is represented along the horizontal axis. The association between the former and the latter was quite high and positive during 1983 to 2004-05. The association was very high in the most of the states except Tamil Nadu, Haryana and Karnataka.

Figure 5.2
Relation between Percentage Change in Employment and Percentage Change in Development Expenditure during 1983 to 2004-05

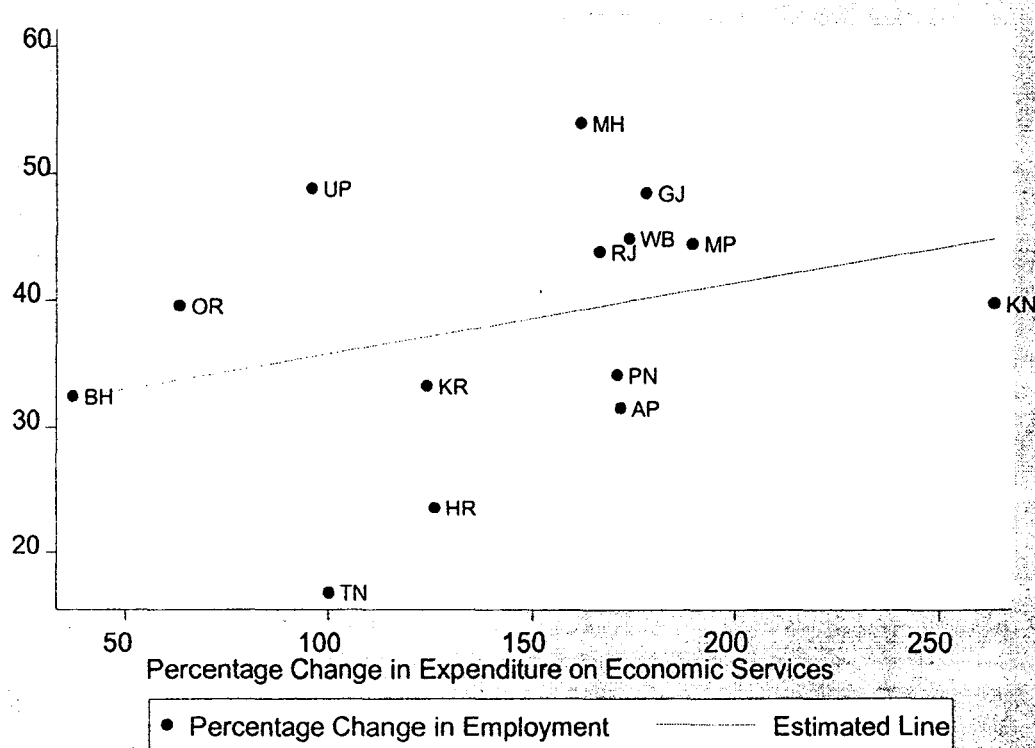


Source: Table (A.3.1)

In Figure (5.3), the percentage change in employment by principal and subsidiary status for persons is represented along the vertical axis and the percentage change in expenditure on economic services is represented along the vertical axis. Here, we can see that the two variables are positively correlated between 1983 to 2004-05. The degree of association is very high as a whole.

The association is very low in Tamil Nadu, Haryana, Andhra Pradesh and Karnataka. However, most other states witnessed very high degree of association between the percentage change in employment by principal and subsidiary status for persons and the percentage change in expenditure on economic services.

Figure 5.3
Relation between Percentage Change in Employment and Percentage Change in Expenditure on Economic Services during 1983 to 2004-05



Source: Table (A.3.1)

From the above discussion, we can see that total expenditure has negligible effect on employment. While both development expenditure and expenditure on economic services have positive effect on employment, the effect of the latter on employment is larger than that of the former. We know that total expenditure consists of development expenditure, non-development expenditure and others. Non-development and other expenditures do not have any direct effect on employment generation i.e., on primary employment generation and also very limited indirect effect on employment generation i.e., on secondary employment because the constituents of non-development expenditure are interest payments, administrative cost, pension account, miscellaneous general services etc. Interest payments and most of other expenditures do not generate either direct or indirect employment. However, both pension account and miscellaneous general services have very limited effect on employment generation through increase in consumption demand.

Moreover, the share of the non-development expenditure and other expenditures in the total expenditure is rising over time and is reasonably large in 2004-05. Therefore, as a whole total expenditure plays a very limited role in employment generation. Again development expenditure consists of expenditure on social services and that on economic services. Impact of expenditure on economic services on employment generation is much more than that of social services. Thus, change in expenditure on economic services affects employment much more than a change in development expenditure. Therefore, it is wise to choose the development expenditure and expenditure on economic services as proxy of public expenditure/ investment.

(b) Statistical Method

In this method we shall estimate the Pearson's correlation coefficient between total number of employment and various expenditures. The correlation coefficient between X and Y is given by

$$\text{corr}(X, Y) = \frac{\text{cov}(X, Y)}{\sigma_X \cdot \sigma_Y}$$

$$= \frac{\sum_{i=1}^n (X_i - \bar{X})(Y_i - \bar{Y})}{\left[\sqrt{\sum_{i=1}^n (X_i - \bar{X})^2} \sqrt{\sum_{i=1}^n (Y_i - \bar{Y})^2} \right]}$$

Where $i = 1, 2, \dots, n$. and n is number of observation.

The estimated correlation coefficients between number of employment and various expenditures are given in the following Table (5.1).

Table 5.1
Correlation coefficient between number of employment and various expenditures during 1983 to 2004-05⁷²

	All years	All years excluding 1987/8	All years excluding 2004/5	All years excluding 1987/8 and 2004/5
	Number of Employed Persons			
Total Expenditure	0.50	0.52	0.76	0.78
Development Expenditure	0.73	0.73	0.77	0.77
Expenditure on Economic Services	0.71	0.70	0.77	0.76

In Table (5.1), the coefficient of correlation between number of employed persons and total expenditure was 0.5 during 1983 to 2004-05, was 0.52 for the same period excluding the drought year 1987-88, was 0.76 during 1983 to 1999-2000. It was 0.78 during 1983 to 1999-2000 excluding the drought year 1987-88. Number of employed

⁷² Based on NSSO (various rounds) and various RBI publications.

persons was lower than usual and total expenditure was high to counter the drought situation in 1987-88. The coefficient of correlation between number of employed and development expenditure was 0.73 during 1983 to 2004-05. The correlation coefficient was 0.73, 0.77 and 0.77 in the other three periods respectively as shown in Table (5.1). Now the coefficient of correlation between the number of employed persons and expenditure on economic services was 0.71 during 1983 to 2004-05. Again, the correlation coefficient was 0.7, 0.77 and 0.76 in other three periods respectively as shown in Table (5.1).

From the above discussion we can see that the weight of the components of the total expenditure had changed drastically. As a result, the correlation between total number of employed persons and total expenditure declined over the period. However, the correlation between number of employed persons and development expenditure as well as expenditure on economic services had also declined, but the extent of decline was marginal.

Thus, both the graphical and statistical methods confirm the much higher degree of positive association between the development expenditure and economic services expenditure on the one hand, and the number of employed persons and total expenditure, on the other, as compared to the association between total expenditure and number of employed persons. Moreover, we know that an autonomous increase in employment for any reason cannot induce higher public spending. Therefore, we can state that an increase in government spending creates new employment.

Concluding Remarks

It is important to bear in mind the overall economic context of any study of employment. The average food consumption and cloth consumption has fallen in the post-reform period owing largely to falling purchasing power for a major portion of the population in India. This has happened because of the pursuit of demand deflationary macroeconomic policies by different governments over the last two decades which has resulted in reduction in employment with sticky real wage rate and contraction in public services.

The well-being of people in a country is reflected partially in the proportion of people living in impoverishment in that country. In India, official estimates showed a decline in the poverty ratio over the pre-reform period as well as post-reform period but this was the result of silently abandoning the official definition of poverty line expenditure adopted in 1973. Applying the same official definition of 1973, the percentage of persons in poverty is found to have remained nearly stable in the pre-reform period but increased in the post-reform period from 74.5 percent to 87 percent in rural areas and from 57 percent to 64.5 percent in urban areas between 1993-94 and 2004-05. This is also supported by other indicators like mal-nourishment among children.

The total investment in an economy consists of private investment and public investment. Public investment is found to have declined in the post-reform period and private productive investment increase was not very encouraging in the same period. As a result, total investment in the economy was also not buoyant in the post-reform period. Moreover, an increase in investment in any industry results in an increase in primary employment in that industry and secondary employment in other industries in the economy. Thus, an increase in investment would raise total employment in the economy. Since the volume of employment is determined by the total investment in the economy, the fall in total investment will affect adversely the volume of employment. As total investment consists of private investment and public investment and investment is autonomous, the volume of employment is primarily determined by the level of public

investment. Although conventional theory tries to argue a starkly opposite situation namely that total employment cannot be increased by raising government spending because an increase in employment by raising government spending is counterbalanced by fall in private investment at the full employment level of output. But an economy can not always be at full employment and if it is, the problem of combating unemployment does not arise. If there is unemployment on the other hand, the validity of the conventional argument is undermined. This is explored through the theoretical work of some leading macro-economists in Chapter 2.

The source of growth in GDP in India over the last two decades lay mainly in the services sector with a strong injection of incomes from abroad through export of services. But the sectors producing material output, apart from construction, have done less well especially so the primary sector which went into depression. There is no doubt that both the Centre and the State governments pursued expansionary macroeconomic policy in the pre-reform period and followed contractionary macroeconomic policy in the post-reform period as discussed in Chapter 3. This fact is supported by the pattern of development expenditure as well as expenditure on economic services on which we focus, rather than total expenditure because total expenditure also includes wasteful non-development and other expenditures.

The total government spending to GDP ratio for the Centre is found to have increased considerably during the 1980s and declined in the economic reform period, the decline being particularly sharp in the initial years of the 1990s decade with the subsequent rise not able to compensate fully the initial decline. All state governments also showed a similar trend of decline in total government spending to GSDP ratio in the post-reform period with recovery only in the first few years of the twenty first century. However, Bihar, Madhya Pradesh and West Bengal witnessed a different trend of total expenditure to GSDP ratio during 1990-91 to 1999-2000. The tremendous increase in non-development and other expenditure (also called wasteful expenditure) resulted in sharp increase in total expenditure over that period.

The Centre and most of the major State governments showed a rise in development expenditure and expenditure on economic services between 1980-81 and 1990-91. Most of the states saw the deceleration in the growth of these expenditures with respect to GSDP during 1987-88 to 1990-91 because all these state government raised these expenditures profoundly to counter the drought situation in 1987-88. Madhya Pradesh and Rajasthan were the exception. However, development expenditure to GDP ratio as well as expenditure on economic services to GDP ratio for the Centre and the states has declined in the post-liberalization period.

There is no ambiguity about the fact that employment and unemployment situation by usual principal and subsidiary status for persons deteriorated significantly in the 14 major states as well as at the national level between 1983 and 2004-05 as we have documented in Chapter 4. We saw in that chapter that the employment scenario deteriorated from 1987, continuing into the post-reform periods, excluding the years 1987-88 (as there were drought conditions in that year) and 1993-94 (as the contractionary fiscal policy were introduced three years before in 1991).

There is thus a clear picture of deteriorating employment situation and falling productive public expenditure in the post-reform period. We explored in Chapter 5 the degree of association between the relative change in the number of employed and relative change in public expenditure over the period 1983 to 2004-05, which covers both in the post and pre-reform period. This exercise confirmed that government spending plays a significant role in employment creation, though we can also think of factors other than government spending which have an effect on employment. They are state of technology, education, skill, level of infrastructure (which is again a function of government spending as private investment is limited by the low rate of return and long gestation period etc.). However, these are given in the short run. On the other hand, private investment domestically is not encouraging in an overall income-deflationary situation, as the market and induced investment is thereby limited. (Hence we see private investment going mainly into areas serving the well-to-do or going outside the country). Autonomous

Government spending thus continues primarily to determine the level of activity and volume of employment in the economy.

In this study, we started by examining the role of government spending in employment creation in the Indian context. We have found that both the Centre as well as the State governments spending in India considerably declined in the post-reform period as compared to that in the pre-reform period. Continuously falling productive government expenditures are a reflection of contractionary macroeconomic policies, one of the principal components of Structural Adjustment Policies implemented in 1991. Moreover, employment situation in India has also deteriorated in the post-reform period than in the pre-reform period. This study establishes a fact that there is a high positive correlation between productive public expenditure and employment, which was observed irrespective of the policy regime. Thus, we can conclude that public investment is one of the principal determinants of employment.

This study can be further extended by incorporating other determinants of employment like level of education, skill, employment-output elasticity, gender, social status, openness in the economy, and so on. Examining the pattern of those determinants and their impact on employment both in the pre reform period and the reform period to date, could bring out a clearer picture. The present study excludes the recent period of global crisis from 2007, on which the employment data will become available only by 2011, and can be expected to show some deterioration in the situation. One can examine the impact of the recent crisis on employment in the Indian context and compare it with the experience of other developing countries in the world.

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Appendix I

Table A.1.1
Total Expenditure (Capital and Revenue) at constant prices (1993-94)

(In Rs. Lakhs)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
Andhra Pradesh	626956	775321	916678	974631	1054120	1447138	1736165	9767277
Bihar	365912	340798	440952	565800	781738	1203041	1244758	4176558
Gujarat	482476	546547	762546	815160	840788	1524852	1902378	5911362
Haryana	198189	245054	324732	361228	410902	533730	555591	2784292
Karnataka	421903	491353	647654	710418	808911	1197947	1313791	5357576
Kerala	308340	325276	417830	527062	513824	754908	717188	3229710
Madhya Pradesh	423969	480426	577920	659710	887763	1258954	1131719	3769793
Maharashtra	778940	1017862	1228703	1490247	1598312	2563220	2768889	6633057
Orissa	281795	236492	376234	439305	445550	623460	676477	1834279
Punjab	255488	353571	486712	471739	522072	784728	885014	2201018
Rajasthan	390037	435383	658594	752805	742674	1095151	1146689	5126575
Tamil Nadu	589941	749800	799207	1031915	1006164	1515008	1576214	6291913
Uttar Pradesh	797819	1009372	1244258	1674465	1627531	2215916	2265262	11487158
West Bengal	439168	472951	615317	776156	797296	1442464	1641038	7093763
All States	6983752	7965740	10549383	12351849	13464855	20459291	21868059	83759751
Centre	7015796	8439249	12027552	14278767	14185300	19427111	20507208	26922452

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

Table A.1.2
Development Expenditure at constant prices (1993-94)

(In Rs. Lakhs)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
Andhra Pradesh	429606	555414	630056	651166	682424	835295	1052347	1254543
Bihar	180988	210059	266337	336765	460021	636653	678605	459134
Gujarat	286109	352485	517934	533638	557352	1021494	1316171	1081983
Haryana	131247	147555	192592	222283	204735	313868	331466	380291
Karnataka	248981	292245	396881	476821	534429	753834	829761	1083416
Kerala	224449	222587	244112	320154	293855	416132	376589	497849
Madhya Pradesh	269901	323237	402901	450771	604741	783656	683999	845607
Maharashtra	482476	635886	804814	977869	1064549	1348884	1733410	2002507
Orissa	188271	172152	254147	292662	285930	390201	334129	361272
Punjab	147254	172176	217480	256147	258625	325153	404105	434221
Rajasthan	228540	280671	447176	447881	467416	609489	642575	887325
Tamil Nadu	318238	434563	510358	668200	668240	833513	891084	1056147
Uttar Pradesh	499249	597588	777000	996787	845719	1082641	1108522	1378226
West Bengal	250556	284398	354164	491139	467784	771413	825342	765740
All States	4204116	5006768	6728309	7839942	8288959	11452901	12517668	14878858
Centre	4106619	4609121	6444143	7952461	7246400	8418069	8779140	11614837

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

Table A.1.3
Expenditure on Economic Services at constant prices (1993-94)

(In Rs. Lakhs)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
Andhra Pradesh	227016	238077	305803	331558	382550	356591	538815	647765
Bihar	92712	104864	147373	153860	218440	210318	233332	143508
Gujarat	155714	189467	279375	284299	309807	534126	702465	527536
Haryana	85371	86979	102504	121175	110195	159237	170775	196585
Karnataka	142322	167865	177993	254721	291373	360109	400113	609618
Kerala	89403	87171	84501	115200	111435	166124	144997	195408
Madhya Pradesh	167519	186312	214512	229981	325923	334609	284632	488306
Maharashtra	281354	346493	444044	540498	591719	587335	784090	1003874
Orissa	107102	88561	137175	165246	148154	140707	135786	144483
Punjab	71244	87987	81242	129988	137362	144480	213109	238750
Rajasthan	122001	135180	241835	190539	224067	209523	202074	360953
Tamil Nadu	159999	196393	234591	272147	300565	303611	347577	393101
Uttar Pradesh	283290	328270	440281	514582	426222	510737	523160	642891
West Bengal	95956	104090	134894	187654	193586	238903	296839	285474
All States	2261559	2522332	3419436	3877689	4209830	4905652	5573279	7090896
Centre	1739158	2147693	2770208	3334216	2757100	3973116	4517932	6215509

Source: Finances of State Governments RBI Bulletin (various issues), Handbook of State Government Finances, State Finances: A Study of Budgets, 2007-08 and Hand Book of Statistics on Indian Economy.

Table A.1.4
Gross State Domestic Product/Gross Domestic Product at constant prices (1993-94)

(In Rs. Lakhs)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
AP	3190692	3869921	4229379	5127402	5786664	7960474	8651330	10919300
Bihar	1502654	1740052	1987023	2405448	2281198	2891397	3450098	3688196
Gujarat	2484462	3181904	3047156	4172201	4919429	7735400	7594500	10703300
Haryana	1104956	1247911	1511440	2055234	2213130	3123033	3336716	4350162
Karnataka	2012483	2358363	2856694	3324743	4107905	6385110	6984700	8572406
Kerala	1544783	1543558	1777851	2200706	2632602	3659371	3806796	5093522
MP	2077321	2371438	2703963	3407955	3797098	5461425	4929379	6032446
Maharashtra	4958226	5625705	6694761	8913772	11331964	16302287	15661976	20825322
Orissa	1191873	1354122	1439827	1569872	1853666	2385102	2376761	3170577
Punjab	1571528	1805855	2273832	2620261	3024814	4000299	4140127	4853217
Rajasthan	1615235	2159687	2126312	3297715	3296970	5292020	5177032	6685283
TN	2827062	3172873	3941180	4884225	5754902	8457452	9101065	10324839
UP	4651074	5369333	6193959	7593231	8045109	10583309	10687908	12756027
WB	2926803	3318906	3915555	4480385	5342414	8067630	8583184	11320592
All States	42507300	47174200	55677800	69287100	78134500	114836700	119859200	152940800
Centre	42507300	47174200	55677800	69287100	78134500	114836700	119859200	152940800

Source: National Accounts Statistics, CSO (Website)

Table A.1.5
Total Expenditure-GSDP/GDP Ratio

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
AP	19.6	20.0	21.7	19.0	18.2	18.2	20.1	89.4
Bihar	24.4	19.6	22.2	23.5	34.3	41.6	36.1	113.2
Gujarat	19.4	17.2	25.0	19.5	17.1	19.7	25.0	55.2
Haryana	17.9	19.6	21.5	17.6	18.6	17.1	16.7	64.0
Karnataka	21.0	20.8	22.7	21.4	19.7	18.8	18.8	62.5
Kerala	20.0	21.1	23.5	23.9	19.5	20.6	18.8	63.4
MP	20.4	20.3	21.4	19.4	23.4	23.1	23.0	62.5
Maharashtra	15.7	18.1	18.4	16.7	14.1	15.7	17.7	31.9
Orissa	23.6	17.5	26.1	28.0	24.0	26.1	28.5	57.9
Punjab	16.3	19.6	21.4	18.0	17.3	19.6	21.4	45.4
Rajasthan	24.1	20.2	31.0	22.8	22.5	20.7	22.1	76.7
TN	20.9	23.6	20.3	21.1	17.5	17.9	17.3	60.9
UP	17.2	18.8	20.1	22.1	20.2	20.9	21.2	90.1
WB	15.0	14.3	15.7	17.3	14.9	17.9	19.1	62.7
All States	16.4	16.9	18.9	17.8	17.2	17.8	18.2	54.8
Centre	16.5	17.9	21.6	20.6	18.2	16.9	17.1	17.6

Source: Computed from Table (A.1.1) and (A.14)

Table A.1.6
Development Expenditure-GSDP/GDP Ratio

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
AP	13.5	14.4	14.9	12.7	11.8	10.5	12.2	11.5
Bihar	12.0	12.1	13.4	14.0	20.2	22.0	19.7	12.4
Gujarat	11.5	11.1	17.0	12.8	11.3	13.2	17.3	10.1
Haryana	11.9	11.8	12.7	10.8	9.3	10.1	9.9	8.7
Karnataka	12.4	12.4	13.9	14.3	13.0	11.8	11.9	12.6
Kerala	14.5	14.4	13.7	14.5	11.2	11.4	9.9	9.8
MP	13.0	13.6	14.9	13.2	15.9	14.3	13.9	14.0
Maharashtra	9.7	11.3	12.0	11.0	9.4	8.3	11.1	9.6
Orissa	15.8	12.7	17.7	18.6	15.4	16.4	14.1	11.4
Punjab	9.4	9.5	9.6	9.8	8.6	8.1	9.8	8.9
Rajasthan	14.1	13.0	21.0	13.6	14.2	11.5	12.4	13.3
TN	11.3	13.7	12.9	13.7	11.6	9.9	9.8	10.2
UP	10.7	11.1	12.5	13.1	10.5	10.2	10.4	10.8
WB	8.6	8.6	9.0	11.0	8.8	9.6	9.6	6.8
All States	9.9	10.6	12.1	11.3	10.6	10.0	10.4	9.7
Centre	9.7	9.8	11.6	11.5	9.3	7.3	7.3	7.6

Source: Computed from Table (A.12) and (A.14)

Table A.1.7
Expenditure on Economic Services-GSDP/GDP Ratio

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
AP	7.1	6.2	7.2	6.5	6.6	4.5	6.2	5.9
Bihar	6.2	6.0	7.4	6.4	9.6	7.3	6.8	3.9
Gujarat	6.3	6.0	9.2	6.8	6.3	6.9	9.2	4.9
Haryana	7.7	7.0	6.8	5.9	5.0	5.1	5.1	4.5
Karnataka	7.1	7.1	6.2	7.7	7.1	5.6	5.7	7.1
Kerala	5.8	5.6	4.8	5.2	4.2	4.5	3.8	3.8
MP	8.1	7.9	7.9	6.7	8.6	6.1	5.8	8.1
Maharashtra	5.7	6.2	6.6	6.1	5.2	3.6	5.0	4.8
Orissa	9.0	6.5	9.5	10.5	8.0	5.9	5.7	4.6
Punjab	4.5	4.9	3.6	5.0	4.5	3.6	5.1	4.9
Rajasthan	7.6	6.3	11.4	5.8	6.8	4.0	3.9	5.4
TN	5.7	6.2	6.0	5.6	5.2	3.6	3.8	3.8
UP	6.1	6.1	7.1	6.8	5.3	4.8	4.9	5.0
WB	3.3	3.1	3.4	4.2	3.6	3.0	3.5	2.5
All States	5.3	5.3	6.1	5.6	5.4	4.3	4.6	4.6
Centre	4.1	4.6	5.0	4.8	3.5	3.5	3.8	4.1

Source: Computed from Table (A.13) and (A.14)

Table A.1.8
Share of Development Expenditure in Total Expenditure (at 1993-94 Prices)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
Andhra Pradesh	68.5	71.6	68.7	66.8	64.7	57.7	60.6	12.8
Bihar	49.5	61.6	60.4	59.5	58.8	52.9	54.5	11.0
Gujarat	59.3	64.5	67.9	65.5	66.3	67.0	69.2	18.3
Haryana	66.2	60.2	59.3	61.5	49.8	58.8	59.7	13.7
Karnataka	59.0	59.5	61.3	67.1	66.1	62.9	63.2	20.2
Kerala	72.8	68.4	58.4	60.7	57.2	55.1	52.5	15.4
Madhya Pradesh	63.7	67.3	69.7	68.3	68.1	62.2	60.4	22.4
Maharashtra	61.9	62.5	65.5	65.6	66.6	52.6	62.6	30.2
Orissa	66.8	72.8	67.6	66.6	64.2	62.6	49.4	19.7
Punjab	57.6	48.7	44.7	54.3	49.5	41.4	45.7	19.7
Rajasthan	58.6	64.5	67.9	59.5	62.9	55.7	56.0	17.3
Tamil Nadu	53.9	58.0	63.9	64.8	66.4	55.0	56.5	16.8
Uttar Pradesh	62.6	59.2	62.4	59.5	52.0	48.9	48.9	12.0
West Bengal	57.1	60.1	57.6	63.3	58.7	53.5	50.3	10.8
All States	60.2	62.9	63.8	63.5	61.6	56.0	57.2	17.8
Centre	58.5	54.6	53.6	55.7	51.1	43.3	42.8	43.1

Source: Computed from Table (A.11) and (A.12)

Table A.1.9
Share of Economic Services Expenditure in Total Expenditure (at 1993-94 Prices)

States	1980-81	1983-84	1987-88	1990-91	1993-94	1999-00	2000-01	2004-05
Andhra Pradesh	36.2	30.7	33.4	34.0	36.3	24.6	31.0	6.6
Bihar	25.3	30.8	33.4	27.2	27.9	17.5	18.7	3.4
Gujarat	32.3	34.7	36.6	34.9	36.8	35.0	36.9	8.9
Haryana	43.1	35.5	31.6	33.5	26.8	29.8	30.7	7.1
Karnataka	33.7	34.2	27.5	35.9	36.0	30.1	30.5	11.4
Kerala	29.0	26.8	20.2	21.9	21.7	22.0	20.2	6.1
Madhya Pradesh	39.5	38.8	37.1	34.9	36.7	26.6	25.2	13.0
Maharashtra	36.1	34.0	36.1	36.3	37.0	22.9	28.3	15.1
Orissa	38.0	37.4	36.5	37.6	33.3	22.6	20.1	7.9
Punjab	27.9	24.9	16.7	27.6	26.3	18.4	24.1	10.8
Rajasthan	31.3	31.0	36.7	25.3	30.2	19.1	17.6	7.0
Tamil Nadu	27.1	26.2	29.4	26.4	29.9	20.0	22.1	6.2
Uttar Pradesh	35.5	32.5	35.4	30.7	26.2	23.0	23.1	5.6
West Bengal	21.8	22.0	21.9	24.2	24.3	16.6	18.1	4.0
All States	32.4	31.7	32.4	31.4	31.3	24.0	25.5	8.5
Centre	24.8	25.4	23.0	23.4	19.4	20.5	22.0	23.1

Source: Computed from Table (A.11) and (A.13)

Appendix II

Table A.2.1
Work Participation Rate for Rural Person (percent) as current weekly activity
status and its Compounded Annual Growth Rate

CWS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	52.9	45.4	51.9	49.5	50	-3.7	2.3	-0.8	0.2	-0.2	-0.4
Bihar	37.1	29.6	32.8	32.2	30	-5.5	1.7	-0.3	-1.4	-1.2	-0.9
Gujarat	48.7	38.5	45.1	46.4	48.9	-5.7	2.7	0.5	1.1	-0.8	0.8
Haryana	33.8	29.2	33.1	32.8	39.6	-3.5	2.1	-0.2	3.8	-0.2	1.8
Karnataka	48.8	40.7	47.3	46.1	50.8	-4.4	2.5	-0.4	2.0	-0.3	0.7
Kerala	32.7	30.6	35	33.5	35.4	-1.6	2.3	-0.7	1.1	0.7	0.1
MP	50.3	40.3	43.5	41.3	40.7	-5.4	1.3	-0.9	-0.3	-1.4	-0.7
Maharashtra	49.7	43.0	46.2	44.7	47.3	-3.6	1.2	-0.5	1.1	-0.7	0.2
Orissa	42.4	36.2	37.6	37.9	38.3	-3.9	0.6	0.1	0.2	-1.2	0.2
Punjab	37.7	31.7	37.9	40.2	43.2	-4.3	3.0	1.0	1.4	0.0	1.3
Rajasthan	52.0	42.1	45.9	40.9	41.5	-5.2	1.5	-1.9	0.3	-1.2	-1.0
TN	48.8	45.2	48.8	47.4	50.6	-1.9	1.3	-0.5	1.3	0.0	0.4
UP	55.0	33.0	34.5	31.7	33.9	-12.0	0.7	-1.4	1.4	-4.6	-0.2
WB	34.1	30.6	34.1	31.3	35.1	-2.6	1.8	-1.4	2.3	0.0	0.3
All India	43.1	36.5	40.3	38.4	40.2	-4.1	1.7	-0.8	0.9	-0.7	0.0

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.2
Work Participation Rate for Rural Person (percent) as current daily activity status
and its Compounded Annual Growth Rate

CDS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	47.9	43.6	47.1	44.5	43.9	-2.3	1.3	-0.9	-0.3	-0.2	-0.7
Bihar	34.9	29.5	30.8	29	26.8	-4.1	0.7	-1.0	-1.6	-1.3	-1.4
Gujarat	42.9	36.8	40	40.7	42.5	-3.7	1.4	0.3	0.9	-0.7	0.6
Haryana	33.2	28.2	28.7	28.8	34.5	-4.0	0.3	0.1	3.7	-1.4	1.9
Karnataka	44.0	39.6	42.6	41.7	44.6	-2.6	1.2	-0.4	1.4	-0.3	0.5
Kerala	26.7	29.2	29.3	27.5	29	2.3	0.1	-1.1	1.1	0.9	-0.1
MP	48.2	39.8	40.9	38.7	37.4	-4.7	0.5	-0.9	-0.7	-1.6	-0.9
Maharashtra	45.4	41.8	42.5	40.3	42.8	-2.0	0.3	-0.9	1.2	-0.7	0.1
Orissa	39.3	35.7	34.4	33.6	34	-2.4	-0.6	-0.4	0.2	-1.3	-0.1
Punjab	34.6	31.2	33.6	33.9	34.6	-2.5	1.2	0.1	0.4	-0.3	0.3
Rajasthan	50.3	41.3	43.2	38.4	38.1	-4.8	0.7	-1.9	-0.2	-1.5	-1.2
TN	41.1	43.4	41.2	39.9	42.6	1.4	-0.9	-0.5	1.3	0.0	0.3
UP	53.1	32.7	31.9	29	30.1	-11.4	-0.4	-1.6	0.7	-5.0	-0.6
WB	30.1	30.1	30	26.8	30.2	0.0	0.0	-1.9	2.4	0.0	0.1
All India	39.7	35.7	36.6	34.4	35.5	-2.6	0.4	-1.0	0.6	-0.8	-0.3

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.3
Work Participation Rate for Rural Male (percent) as current weekly activity status
and its Compounded Annual Growth Rate

CWS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	64.88	55.2	60	57.8	58.2	-4.0	1.4	-0.6	0.1	-0.8	-0.3
Bihar	56.55	47.2	49.9	48.2	46.7	-4.4	0.9	-0.6	-0.6	-1.2	-0.7
Gujarat	60.74	51.3	55.7	57.1	58.1	-4.1	1.4	0.4	0.3	-0.9	0.4
Haryana	51.93	44.4	44.1	46.2	50.5	-3.8	-0.1	0.8	1.8	-1.6	1.4
Karnataka	64.26	54.2	58.3	58.1	60.8	-4.2	1.2	-0.1	0.9	-1.0	0.4
Kerala	48.36	45	51.7	50.4	51.2	-1.8	2.3	-0.4	0.3	0.7	-0.1
MP	62.24	51.3	54.5	51.2	51.9	-4.7	1.0	-1.0	0.3	-1.3	-0.5
Maharashtra	59.85	50.9	52.5	51.4	53.9	-4.0	0.5	-0.4	1.0	-1.3	0.3
Orissa	62.75	53.8	53.4	52.7	54.3	-3.8	-0.1	-0.2	0.6	-1.6	0.2
Punjab	62.32	53.1	54.1	52.3	53.9	-3.9	0.3	-0.6	0.6	-1.4	0.0
Rajasthan	60.46	47.8	52.6	48.6	49	-5.7	1.6	-1.3	0.2	-1.4	-0.7
TN	61.69	54	56.7	56.6	58.2	-3.3	0.8	0.0	0.6	-0.8	0.3
UP	58.31	49.2	50.2	46.3	47.5	-4.2	0.3	-1.3	0.5	-1.5	-0.6
WB	56.7	50.7	53.2	49.5	54.9	-2.8	0.8	-1.2	2.1	-0.6	0.3
All India	59.29	50.4	53.1	51	52.4	-4.0	0.9	-0.7	0.5	-1.1	-0.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.4

Work Participation Rate for Rural Male (percent) as current daily activity status
and its Compounded Annual Growth Rate

CDS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	60.52	54.5	56.7	53.5	52.8	-2.6	0.7	-1.0	-0.3	-0.6	-0.7
Bihar	53.81	47.2	47.5	45	43.6	-3.2	0.1	-0.9	-0.6	-1.2	-0.9
Gujarat	56.71	51.1	53.2	53.1	54.9	-2.6	0.7	0.0	0.7	-0.6	0.3
Haryana	51.57	44	42.3	44.8	48.9	-3.9	-0.7	1.0	1.8	-2.0	1.5
Karnataka	59.19	53.9	55	54.2	55.8	-2.3	0.3	-0.2	0.6	-0.7	0.1
Kerala	40.44	43.5	45.6	42.6	43.2	1.8	0.8	-1.1	0.3	1.2	-0.5
MP	60.68	51.1	53	49.4	49.5	-4.2	0.6	-1.2	0.0	-1.3	-0.7
Maharashtra	56.23	50.6	49.9	48	50.3	-2.6	-0.2	-0.6	0.9	-1.2	0.1
Orissa	59.18	53.5	50.3	49	50.2	-2.5	-1.0	-0.4	0.5	-1.6	0.0
Punjab	59.01	52.9	53.3	51	50.1	-2.7	0.1	-0.7	-0.4	-1.0	-0.6
Rajasthan	59.49	47.5	51.9	48	47.9	-5.5	1.5	-1.3	0.0	-1.4	-0.8
TN	53.69	53.3	50.1	49.3	50.1	-0.2	-1.0	-0.3	0.3	-0.7	0.0
UP	56.43	49	48.6	44.4	45.6	-3.5	-0.1	-1.5	0.5	-1.5	-0.6
WB	50.64	50.3	49.6	44.6	49.4	-0.2	-0.2	-1.8	2.1	-0.2	0.0
All India	55.86	50.1	50.4	47.8	48.8	-2.7	0.1	-0.9	0.4	-1.0	-0.3

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.5

**Work Participation Rate for Rural Female (percent) as current weekly activity
status and its Compounded Annual Growth Rate**

CWS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	40.76	35.5	43.8	41.2	41.9	-3.4	3.6	-1.0	0.3	0.7	-0.4
Bihar	17.31	11.5	13.9	15.2	11.6	-9.7	3.2	1.5	-5.3	-2.2	-1.8
Gujarat	36.04	25.3	33.6	35.5	39	-8.5	4.8	0.9	1.9	-0.7	1.5
Haryana	13.06	12.1	20.8	17.7	27.7	-1.9	9.4	-2.7	9.4	4.8	2.9
Karnataka	33.31	26.9	36.3	34.1	40.6	-5.2	5.1	-1.0	3.6	0.9	1.1
Kerala	17.95	16.7	19.7	18.2	21.1	-1.8	2.8	-1.3	3.0	0.9	0.7
MP	37.86	28.8	31.6	30.7	28.3	-6.6	1.6	-0.5	-1.6	-1.8	-1.1
Maharashtra	39.7	35	39.8	37.7	40.4	-3.1	2.2	-0.9	1.4	0.0	0.1
Orissa	22.24	18.4	21.7	23.3	22.5	-4.6	2.8	1.2	-0.7	-0.2	0.4
Punjab	10.23	7.9	19.9	27.2	31.5	-6.3	16.6	5.3	3.0	6.9	4.7
Rajasthan	43.04	36	38.7	32.7	33.7	-4.4	1.2	-2.8	0.6	-1.1	-1.4
TN	36.26	36.2	40.9	38.1	43.3	0.0	2.1	-1.2	2.6	1.2	0.6
UP	18.09	15.1	17	16.4	19.7	-4.4	2.0	-0.6	3.7	-0.6	1.5
WB	10.41	9.6	14.1	12.6	14.8	-2.0	6.6	-1.9	3.3	3.1	0.5
All India	26.27	22	26.7	25.3	27.5	-4.3	3.3	-0.9	1.7	0.2	0.3

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.6

**Work Participation Rate for Rural Female (percent) as current daily activity status
and its Compounded Annual Growth Rate**

CDS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	35.13	32.7	37.7	35.5	35	-1.8	2.4	-1.0	-0.3	0.7	-0.7
Bihar	15.76	11.3	12.2	11.7	8.3	-8.0	1.3	-0.7	-6.6	-2.5	-3.8
Gujarat	28.32	22.1	25.8	28.1	29.3	-6.0	2.6	1.4	0.8	-0.9	1.3
Haryana	12.17	10.3	13.4	10.8	18.8	-4.1	4.5	-3.5	11.7	1.0	3.4
Karnataka	28.74	25.1	30.1	29.2	33.1	-3.3	3.1	-0.5	2.5	0.5	1.0
Kerala	13.77	15.3	14.5	13.9	16.1	2.7	-0.9	-0.7	3.0	0.5	1.1
MP	35.23	27.9	27.7	27.2	24.2	-5.7	-0.1	-0.3	-2.3	-2.4	-1.3
Maharashtra	34.62	33	34.9	32.2	35	-1.2	0.9	-1.3	1.7	0.1	0.0
Orissa	19.76	17.8	18.4	18.6	18.2	-2.6	0.6	0.2	-0.4	-0.7	-0.1
Punjab	7.16	7.1	11.7	15.5	17.7	-0.2	8.7	4.8	2.7	5.0	4.2
Rajasthan	40.59	34.8	33.7	28.2	28	-3.8	-0.5	-2.9	-0.1	-1.8	-1.8
TN	28.87	33.4	32.5	30.4	35.2	3.7	-0.5	-1.1	3.0	1.2	0.8
UP	15.88	14.7	13.5	12.6	13.8	-1.9	-1.4	-1.1	1.8	-1.6	0.2
WB	8.6	8.9	9.6	8.6	10.5	0.9	1.3	-1.8	4.1	1.1	0.9
All India	22.9	20.7	21.9	20.4	21.6	-2.5	0.9	-1.2	1.1	-0.4	-0.1

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.7

**Work Participation Rate for Urban Person (percent) as current weekly activity
status and its Compounded Annual Growth Rate**

CWS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	36.8	32.8	35.3	33.5	37.9	-2.9	1.2	-0.9	2.5	-0.4	0.7
Bihar	32.3	26.0	26.2	26	26.4	-5.3	0.1	-0.1	0.3	-2.1	0.1
Gujarat	35.5	30.3	33.5	33.6	36.8	-3.9	1.7	0.0	1.8	-0.6	0.9
Haryana	36.9	32.5	33.1	31.3	33.1	-3.1	0.3	-0.9	1.1	-1.1	0.0
Karnataka	38.0	17.0	35	35.8	37.8	-18.2	12.8	0.4	1.1	-0.8	0.8
Kerala	31.2	30.9	34.5	33.3	33.5	-0.3	1.8	-0.6	0.1	1.0	-0.3
MP	34.5	29.8	30.2	30.5	32.9	-3.6	0.2	0.2	1.5	-1.3	0.9
Maharashtra	35.9	31.7	34.1	33.8	36.8	-3.1	1.2	-0.1	1.7	-0.5	0.8
Orissa	33.9	29.9	32.1	29.3	30.9	-3.1	1.2	-1.5	1.1	-0.6	-0.4
Punjab	37.9	31.5	33.4	33.8	36	-4.5	1.0	0.2	1.3	-1.3	0.8
Rajasthan	35.4	31.2	32.3	30.4	33.2	-3.1	0.6	-1.0	1.8	-0.9	0.3
TN	38.5	37.1	38.8	38.1	40.8	-0.9	0.8	-0.3	1.4	0.1	0.5
UP	33.3	28.8	29.5	29.4	31.9	-3.6	0.4	-0.1	1.6	-1.2	0.8
WB	36.3	33.5	35.3	34.4	37.5	-2.0	0.9	-0.4	1.7	-0.3	0.6
All India	35.8	31.6	33.4	32.7	35.3	-3.0	0.9	-0.4	1.5	-0.7	0.6

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.8

**Work Participation Rate for Urban Person (percent) as current daily activity status
and its Compounded Annual Growth Rate**

CDS	WPR					CAGR					
	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4	1993/4-2004/5
AP	34.4	30.6	33	14.4	35.8	-2.9	1.2	-12.9	20.0	-0.4	0.8
Bihar	31.7	25.4	25.7	6.1	25.2	-5.3	0.2	-21.3	32.8	-2.1	-0.2
Gujarat	33.5	29.0	31.5	10.6	35.3	-3.5	1.4	-16.6	27.2	-0.6	1.1
Haryana	36.0	31.5	31	7.4	31.2	-3.3	-0.2	-21.2	33.3	-1.5	0.1
Karnataka	35.5	30.3	33.1	15.6	35.9	-3.9	1.5	-11.8	18.1	-0.7	0.8
Kerala	26.9	27.4	30.4	14	29.2	0.4	1.8	-12.1	15.8	1.2	-0.4
MP	33.3	29.6	29.3	10.9	31.4	-2.8	-0.2	-15.2	23.6	-1.3	0.7
Maharashtra	34.3	30.8	33	11.6	35	-2.6	1.1	-16.0	24.7	-0.4	0.6
Orissa	32.8	28.8	30.6	10.2	29.5	-3.2	1.0	-16.7	23.7	-0.7	-0.4
Punjab	36.4	30.7	32.3	8.5	34.5	-4.2	0.9	-19.9	32.3	-1.2	0.7
Rajasthan	34.3	30.1	31.1	9.4	31.2	-3.2	0.5	-18.1	27.1	-1.0	0.0
TN	35.1	34.8	35.9	17.8	38.4	-0.2	0.5	-11.0	16.6	0.2	0.7
UP	32.0	28.4	28.3	7	30.2	-2.9	-0.1	-20.8	34.0	-1.2	0.7
WB	34.5	32.3	33.3	9.7	34.5	-1.7	0.5	-18.6	28.9	-0.4	0.4
All India	34.0	30.4	31.7	11.1	33.4	-2.7	0.7	-16.0	24.6	-0.7	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.9

Work Participation Rate for Urban Male (percent) as current weekly activity status
and its Compounded Annual Growth Rate

CWS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	56.37	48.1	52.7	50.2	54.7	-3.9	1.5	-0.8	1.7	-0.7	0.4
Bihar	52.56	43.5	42.9	42.8	44.2	-4.6	-0.2	0.0	0.6	-2.0	0.3
Gujarat	55.72	50.1	52.5	52.9	56.8	-2.6	0.8	0.1	1.4	-0.6	0.8
Haryana	60.7	54.2	50.2	50.2	50.4	-2.8	-1.3	0.0	0.1	-1.9	0.0
Karnataka	56.39	18	53	53.6	57.1	-24.8	19.7	0.2	1.3	-0.6	0.7
Kerala	49.91	48.8	52.9	51.3	51	-0.6	1.4	-0.5	-0.1	0.6	-0.4
MP	53.12	46.5	45.9	47.3	51.1	-3.3	-0.2	0.5	1.6	-1.5	1.1
Maharashtra	55.69	48	51.6	52.6	54.4	-3.6	1.2	0.3	0.7	-0.8	0.5
Orissa	55.91	48	49.5	45.7	48	-3.7	0.5	-1.3	1.0	-1.2	-0.3
Punjab	61.16	53.1	55	53.7	56.5	-3.5	0.6	-0.4	1.0	-1.1	0.3
Rajasthan	52.9	45.4	48.4	47.7	49.7	-3.8	1.1	-0.2	0.8	-0.9	0.3
TN	57.87	54.1	56.5	55.2	58.1	-1.7	0.7	-0.4	1.0	-0.2	0.3
UP	55.31	47.7	47.4	47.9	51.2	-3.6	-0.1	0.2	1.3	-1.5	0.8
WB	57.47	52.8	54	56	58.5	-2.1	0.4	0.6	0.9	-0.6	0.8
All India	55.93	49.2	51.1	50.9	53.7	-3.2	0.6	-0.1	1.1	-0.9	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.10

Work Participation Rate for Urban Male (percent) as current daily activity status
and its Compounded Annual Growth Rate

CDS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	53.67	45.6	50.5	48	52.3	-4.0	1.7	-0.8	1.7	-0.6	0.4
Bihar	51.75	42.7	42.3	41.8	42.9	-4.7	-0.2	-0.2	0.5	-2.0	0.1
Gujarat	53.78	48.4	50.9	50.4	56.1	-2.6	0.8	-0.2	2.2	-0.5	1.0
Haryana	59.25	52.6	49	48.7	49.4	-2.9	-1.2	-0.1	0.3	-1.9	0.1
Karnataka	53.17	45.7	51.1	51.7	54.9	-3.7	1.9	0.2	1.2	-0.4	0.7
Kerala	43.22	43.6	47.9	45.6	45	0.2	1.6	-0.8	-0.3	1.0	-0.6
MP	51.66	45.7	44.9	45.5	49.4	-3.0	-0.3	0.2	1.7	-1.4	1.0
Maharashtra	53.95	47.1	50.7	50.9	52.8	-3.3	1.2	0.1	0.7	-0.6	0.4
Orissa	54.24	46.8	48	44.3	46.5	-3.6	0.4	-1.3	1.0	-1.2	-0.3
Punjab	59.06	52	54.6	52.9	55.5	-3.1	0.8	-0.5	1.0	-0.8	0.2
Rajasthan	51.86	44.8	47.9	47.1	48.3	-3.6	1.1	-0.3	0.5	-0.8	0.1
TN	53.45	51.1	53.5	51.8	55.3	-1.1	0.8	-0.5	1.3	0.0	0.3
UP	53.53	47.2	46.4	46.7	50	-3.1	-0.3	0.1	1.4	-1.4	0.8
WB	54.88	51	52.1	54.1	55.4	-1.8	0.4	0.6	0.5	-0.5	0.6
All India	53.68	47.7	49.6	49	51.9	-2.9	0.7	-0.2	1.2	-0.8	0.5

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.11

Work Participation Rate for Urban Female (percent) as current weekly activity
status and its Compounded Annual Growth Rate

CWS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	16.42	16.9	17.1	16.1	21	0.7	0.2	-1.0	5.5	0.4	2.1
Bihar	9.42	5.6	6.2	6.9	6	-12.2	1.7	1.8	-2.8	-4.1	-0.3
Gujarat	12.55	8.8	12.7	12.5	14.1	-8.5	6.3	-0.3	2.4	0.1	1.1
Haryana	9.46	7.3	12.7	10	12.2	-6.3	9.7	-3.9	4.1	3.0	-0.4
Karnataka	18.56	16	16.1	17.2	17.1	-3.6	0.1	1.1	-0.1	-1.4	0.6
Kerala	14.31	13.4	17.1	16.9	16.5	-1.6	4.1	-0.2	-0.5	1.8	-0.4
MP	13.05	11	12.5	12.1	13	-4.2	2.2	-0.5	1.4	-0.4	0.4
Maharashtra	13.51	12.7	14.8	12.9	17.2	-1.5	2.6	-2.3	5.9	0.9	1.5
Orissa	10.01	9.3	12.6	11.6	12.1	-1.8	5.2	-1.4	0.8	2.3	-0.4
Punjab	10.33	7	9.2	10.6	13	-9.3	4.7	2.4	4.2	-1.2	3.5
Rajasthan	16.23	15.3	14.2	10.8	15.9	-1.5	-1.2	-4.5	8.0	-1.3	1.1
TN	19.03	19.3	21.3	20.1	23.3	0.4	1.7	-1.0	3.0	1.1	0.9
UP	8.51	6.9	9.1	8.4	10.5	-5.1	4.7	-1.3	4.6	0.7	1.4
WB	11.52	10.1	13.5	11.3	14.6	-3.2	5.0	-2.9	5.3	1.6	0.8
All India	13.52	11.9	13.9	12.8	15.2	-3.1	2.6	-1.4	3.5	0.3	0.9

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Table A.2.12

Work Participation Rate for Urban Female (percent) as current daily activity status
and its Compounded Annual Growth Rate

CDS	WPR					CAGR					
	State	1983	1987-8	1993-4	1999-0	2004-5	1983-87/8	1987/8-93/4	1993/4-99/0	1999/0-2004/5	1983-93/4
AP	14.33	15.1	14.8	14.4	19.2	1.3	-0.3	-0.5	5.9	0.3	2.6
Bihar	9.03	5.3	5.6	6.1	5	-12.5	0.9	1.4	-3.9	-4.7	-1.1
Gujarat	10.35	7.9	10.3	10.6	11.9	-6.5	4.5	0.5	2.3	0.0	1.5
Haryana	9.19	6.9	9.5	7.4	9.5	-6.9	5.5	-4.1	5.1	0.3	0.0
Karnataka	16.81	13.9	14.1	15.6	15.4	-4.6	0.2	1.7	-0.3	-1.7	0.9
Kerala	12.14	11.5	13.9	14	13.9	-1.3	3.2	0.1	-0.1	1.4	0.0
MP	12.15	11.6	11.5	10.9	11.7	-1.2	-0.1	-0.9	1.4	-0.5	0.2
Maharashtra	12.09	11.9	13.3	11.6	15.4	-0.4	1.9	-2.3	5.8	1.0	1.5
Orissa	9.53	8.3	11.1	10.2	10.8	-3.4	5.0	-1.4	1.1	1.5	-0.3
Punjab	9.47	6.5	7.5	8.5	11.1	-9.0	2.4	2.1	5.5	-2.3	4.0
Rajasthan	15.09	13.7	12.2	9.4	13.3	-2.4	-1.9	-4.3	7.2	-2.1	0.9
TN	16.78	17.8	18.4	17.8	21.3	1.5	0.6	-0.6	3.7	0.9	1.5
UP	7.64	6.7	7.6	7	8.3	-3.2	2.1	-1.4	3.5	-0.1	0.9
WB	10.66	9.6	11.3	9.7	11.7	-2.6	2.8	-2.5	3.8	0.6	0.3
All India	12.15	11	12	11.1	13.3	-2.5	1.5	-1.3	3.7	-0.1	1.0

Source: NSSO (38th, 43rd, 50th, 55th and 61st round)

Appendix III

Table A.3.1

Percentage change in number of total employment, total Expenditure, development expenditure and expenditure on economic Services during 1983 and 2004-05

State	Percentage Change			
	Number of Total Employment (UPSS)	Total Expenditure	Development Expenditure	Expenditure on Economic Services
Andhra Pradesh	31.5	1159.8	125.9	172.1
Bihar	32.5	1125.5	118.6	36.9
Gujarat	48.4	981.6	207.0	178.4
Haryana	23.6	1036.2	157.7	126.0
Karnataka	39.7	990.4	270.7	263.2
Kerala	33.3	892.9	123.7	124.2
Maharastra	53.9	684.7	161.6	162.1
Madhya Pradesh	44.4	551.7	214.9	189.7
Orissa	39.6	675.6	109.9	63.1
Punjab	34.1	522.5	152.2	171.3
Rajasthan	43.8	1077.5	216.1	167.0
Tamil Nadu	16.8	739.1	143.0	100.2
Uttar Pradesh	48.8	1038.0	130.6	95.8
West Bengal	44.8	1399.9	169.2	174.3

Source: Computed from NSSO publications and Table (A.1.1), (A.1.2) and (A.1.3).