A STUDY OF STATE FINANCES AND FISCAL REFORMS IN ASSAM: POST REFORM EXPERIENCES AND CHALLENGES

A thesis submitted to Indian Institute of Technology Guwahati in partial fulfilment of the requirements for the degree of Doctor of Philosophy

By
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Dedicated to
My Family Members and Teachers

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Declaration

I, hereby, declare that the thesis entitled "**A Study of State Finances and Fiscal Reforms in Assam: Post Reform Experiences and Challenges**" is the result of investigation carried out by me in the Department of Humanities and Social Sciences, Indian Institute of Technology Guwahati, India under the supervision of Dr. M.K Dutta.

In keeping with the general practice of reporting observations, due acknowledgement has been made wherever the work described is based on the findings of other investigations.

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This is to certify that the thesis entitled "**A Study of State Finances and Fiscal Reforms in Assam: Post Reform Experiences and Challenges**" submitted by Mr. Parag Dutta for the degree of Doctor of Philosophy in Economics in the Department of Humanities and Social Sciences of Indian Institute of Technology Guwahati, embodies bonafide record of research work carried out under my supervision and guidance. The collection of materials from the secondary sources has also been done by Mr Parag Dutta himself.

The present thesis or any part thereof has not been submitted to any other University for award of any degree or diploma.

All assistance received by the researcher has been duly acknowledged.

Dr. M. K. Dutta
Supervisor

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Abstract

Fiscal policy plays an important role both in fostering economic growth and in ensuring human development through a number of channels such as macroeconomic (influence of the budget deficit on growth) and microeconomic (influence on the efficiency of resource use). The significance of fiscal policy has increased in the post Keynesian period and has remained so as government intervention through appropriate fiscal policy is still considered as an instrument of economic development particularly in developing countries.

The issue of fiscal reform and stability has assumed importance particularly in developing countries in recent decades for overall economic development of those countries. The worldwide changes in fiscal policy in recent decades such as reduced importance of trade taxes, well known spread of VAT and broad based trend reduction of direct taxes reflect the willingness of the governments to carry out those reforms. Government of India also undertook a series of fiscal reform measures in 1990s to revive the national economy plagued by massive deficit in the balance of payments and subsequent pressure from international organisations for economic reforms. The significance of fiscal reforms at the sub-national level in India has increased in the later part of 1990s when state governments faced massive deterioration in their fiscal indicators due to greater expenditure commitments for meeting the increased revenue expenditure. The recent Finance Commissions of India also stressed on the importance of fiscal reforms both at the centre and in the states.

For an economically backward state like Assam in North Eastern region of India, any imbalance between the revenue and expenditure responsibilities may further push the state into deep fiscal crisis resulting in slowing down the process of economic growth in the state. As fiscal reforms to restore or maintain fiscal balance is a complex issue, the government needs to design an appropriate fiscal policy to discharge its obligations efficiently taking into considerations both present and future implications. Based on secondary data, the present study is an attempt to make a detailed analysis of the state finance encompassing all the above issues during the time period from 1990-91 to 2009-10.

The study has mainly dealt with three dimensions of the state finance, namely, the pattern of revenue generation and revenue effort of the government; the pattern of expenditure and expenditure performance; and fiscal and debt sustainability of the state. While the pattern and composition of revenue scenario of the state is analysed with the help of simple statistical tools like ratio and proportion, etc., the revenue effort of the state government has been examined with the help of the indicators such as buoyancy of different fiscal variables, accumulated arrear of revenue, cost of collection of different taxes and duties and cost recovery of different social and economic services. A panel regression analysis is carried out to examine the impact of GSDP and other factors on tax revenue of the state. Composite revenue and expenditure indices have been computed to examine overall revenue and expenditure performance of the state. To determine the sustainable level of debt and deficits of the state, Domar model of sustainability has been applied. Both co-integration and error correction mechanism have been used to examine the relationship between crucial fiscal variables such as revenue receipt, revenue expenditure and total expenditure etc.

The study has empirically established the dependence of the state government on central transfers. Asymmetries in the contribution of different taxes have been noticed as sales tax is found to be the only significant source of revenue during the period of study. The contribution of non-tax revenue is found to be negligible except the royalty on petroleum. Large arrears of uncollected tax and non-tax revenue during the period of study confirm low revenue effort on the part of the state government. Cost of collection of different taxes and duties are also found to be high compared to all-states average. Low cost recovery of different services implies that there is a need for rationalization of the user charges of different services. The panel regression analysis has established a significant and positive relationship between per-capita GSDP and per-capita tax revenue implying that growth in GSDP has led to an increase in tax revenue of the state. But the coefficient of the variable, per-capita GSDP is found to be less than 1 indicating that extra effort is needed to mobilise more tax revenue. The coefficient of the variable, revenue expenditure of the previous year is found to be positive and significant implying that the state has taken immediate measures to control the excessive growth of expenditure in a particular year to prevent frequent fiscal imbalances. The value of the revenue mobilization index is found to be high during the later

part of the first decade of the present century indicating an improvement in revenue position of the state in recent years. The composition of total expenditure reveals that revenue expenditure has a dominant share in total expenditure of the state leaving fewer resources available for capital expenditure and for advancement of loans and advances for developmental purposes. The average ratio of revenue expenditure to total expenditure of the state is found to be higher than all states average during the period under study. But the average ratio of capital outlay to total expenditure as well as loans and advances to total expenditure of the state is found to be low compared to all states average during the study period. Low fiscal priority towards developmental expenditure has been noticed as compound growth of development expenditure is found to be lower than the compound growth of total and aggregate expenditure of the state during the period of study. The low expenditure management index of the state vis-à-vis other developed states and all-state average shows that the state is not yet prudent in its expenditure management.

High and fluctuating fiscal deficit with higher proportion of revenue deficit noticed in later part of 1990s shows reduction in loan repayment capacity of the state resulting in fiscal imbalances. The debt-GSDP ratio of the state is found to decline during the period of study due to positive rate spread between GSDP growth rate and growth rate of average interest payments on public debt. Cointegration has been noticed between revenue receipt and revenue expenditure as well as revenue receipt and total expenditure implying that there is a long run association between various fiscal variables which helped the state to maintain fiscal sustainability during the period of study.

Based on the above findings, the study argues for creation of a monitoring agency to identify revenue leakages, framing of stringent rules for proper prioritisation of expenditure, more market discipline in lending operations and use of the borrowing options for investment in infrastructure in the state.

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Chapter 1

Introduction

1.1 Background of the Study:

Fiscal policy plays an important role in economic development and stability of a country. It can foster growth and human development through a number of different channels. These channels include the macroeconomic (for example, through the influence of the budget deficit on growth) as well as the microeconomic (through its influence on the efficiency of resource use) (Clements et al., 2004). A well designed fiscal strategy helps to move an economy towards a higher growth path without high inflation or intergenerational transfers of the burden of public debt. Appropriate and timely framed fiscal policy measures can promote growth by setting efficient and effective use of scarce resources and by creating the right incentive signals (Heller and Rao, 2006). Perhaps the most fundamental achievement of Keynesian revolution was the re-orientation of the way the economists view the influence of government activity in the private economy. Before Keynes, it was believed that government spending and taxation were powerless to affect the aggregate level of spending and employment in the economy (Blinder and Solow, 1973). The renewed importance of fiscal policy has been continued in the post Keynesian period as government intervention through appropriate fiscal policy is still considered as an instrument of economic development particularly in developing countries (Bagchi, 2002).

Fiscal policy of the government assumes importance in policy deliberations as continuous fiscal imbalances and rising levels of public debt pose risks to the prospects for accelerating and sustaining growth. Deterioration in the fiscal health disrupts the normal functioning of the economy and creates macroeconomic instability (Cashin et al., 1998; Lledoh, 2009). Frequent fiscal imbalances result in reduction of expenditure on development activities and social sector. Weak financial acumen, inaccurate forecasting and complete failure to set realistic targets lead to deterioration in the fiscal health of the governments. Again, poor tax administration in the form of tax evasion, low tax base, low buoyancy of tax and inadequate non-tax revenue due to inappropriate user charges lead to fiscal deterioration. A sudden increase in expenditure in the form of pay revision, war expenditure, natural calamities, etc.

may also lead to deterioration in fiscal health. To restore sound fiscal health, governments have to adopt fiscal consolidation measures. Fiscal consolidation measures may be in the form of revenue maximization or expenditure reduction. A fiscal strategy based on revenue maximization provides the necessary flexibility to shift the pattern of expenditure towards developmental purposes. Revenue maximisation may be in the form of improvement in tax administration, reduction in tax distortion and appropriate user charges for public goods. Expenditure reduction may be in the form of placing limits on certain expenditure, reducing non-productive expenditure and prioritization of expenditure. Prudent fiscal management requires that durable fiscal consolidation is attempted through fiscal empowerment, i.e., by expanding the scope and size of revenue flows (RBI, 2008).

Considering the importance of fiscal reforms, all the countries around the world (including developed, developing and transitional countries) laid emphasis on fiscal reforms particularly since the eighties of the previous century. Several global fiscal development has taken place over the last three decades such as reduced importance of trade taxes, well known spread of value added taxes (VAT) and broad based trend towards reduction in direct tax rates to attract foreign investment (Nooreguard, 2007). These changes affect the developing countries more as trade taxes constitute major portion of the developing countries' total revenue. According to Bird and Zolt (2003), trade taxes accounted for about 24 percent of tax revenue of developing countries, compared to only 1 percent in the higher income countries. The problem was further aggravated by the worldwide trend towards deregulation of interest rate due to economic reforms. As domestic markets liberalized, the cost of domestic borrowing increased (Cashin et al., 1998). Among the developing countries in Asia, Indonesia realized the importance of fiscal reforms quite early. It could sense that high import tariff rates had to be scaled down and in that context there would be need to make domestic taxes more productive to compensate for the loss of revenue through reduction of import duties. Indonesia was perhaps the only country in Asia that undertook and carried out comprehensive tax reform programmes according to a well thought out blueprint, and within a fairly short period of time. The three major elements of tax reforms in Indonesia initiated in 1989 were introduction of value added tax (VAT), the restructuring of direct taxes broadly in conformity with current international thinking on this matter and plan to improve tax

administration and enforcement (Chelliah, 2002). Among the other Asian countries, fiscal reforms in Thailand were unique in the sense that tax reforms in the country were undertaken at a time when the treasury of the country was in a strong position and the rate of growth was fairly high. The Government of India also undertook a series of fiscal reform programmes in the nineties of the previous century when there was massive external deficit followed by pressure from international organisations for economic reforms (Rao, 1999; Lahiri, 2000).

By common consent, the most serious weakness of the Indian macroeconomics in recent decades consisted of the continuing and growing imbalances in the fiscal sphere (Rao, 2002). This view is also reiterated by the recent Finance Commissions of Government of India, which under their terms of reference have given importance on fiscal adjustment and fiscal restructuring for fiscal stability of both central and sub-national governments. India is a federal country with constitutional demarcation of financial powers and responsibilities between the centre and the states. Fiscal federalism is a popular form of organization of governments for the provision of public goods. It entails the provision of public goods by sub-national governments so that public consumption levels are tailored to suit the preferences of a heterogeneous population (Rangarajan and Srivastava, 2011). In federal forms of government, ensuring and sustaining economic development of a country at a higher level requires improvement in government effectiveness not only at the centre but also at the state level (Lahiri, 2000; Lahiri and Kannan, 2003). To perform its function effectively, state governments need sufficient amount of revenues which depend on the fiscal health of the states. This is more relevant in developing countries, where governments have to incur large expenditure on developmental activities and social sector.

State Governments in India have extensive expenditure responsibilities particularly for infrastructure and human development. The Constitution has given a pre-eminent role to states in agricultural development, poverty alleviation and human development and co-equal position in the provision of physical infrastructure. The predominant role in allocation and cooperative role in distribution make states' fiscal operation critical for macroeconomic stabilization (Rao, 1999). Indian states are responsible for a higher proportion of government spending than any other developing country except China. In 2000-01, 57 percent of India's

total government capital expenditure was financed by the states, as was 97 percent of irrigation maintenance, 39 percent of road maintenance, 90 percent of public health expenditure and 86 percent of public education expenditure (World Bank, 2005). Deterioration in the fiscal health weakens the developmental effectiveness of the states. There was not much concern about fiscal health of states in India up to the eighties of the previous century. This was because, in three decades between 1951-52 to 1981-82, only in three years i.e., 1955-56, 1971-72 and 1972-73, current expenditure of the state governments exceeded current revenues (Srinivasan, 2006). It was only in the late nineties of the previous century that sharp deterioration in the fiscal health of the states took place. The fiscal deficit, which was around 3 per cent of GDP until 1997-98, increased sharply to 4.2 per cent in 1998-99 and further to 4.6 per cent in 1999-2000 (Rao, 1999). It was noticed that revenue and primary deficit of the states had shown a sharp deterioration, since 1998-99. The fiscal adjustment programme succeeded in reducing revenue deficits till 1995-96. After that, revenue deficits started increasing gradually till the year 1997-98, but thereafter, it increased sharply to 2.5 per cent in 1998-99 (Lahiri, 2000). It implied that even borrowed funds were used for current consumption leaving little fiscal space for developmental activities. This crisis was termed as fiscal crisis because India had never experienced fiscal deterioration of such magnitude. The main contributing factor to this was the implementation of the Fifth Central Pay Commission recommendations (Rao, 2002; Srivastava, 2003; Lahiri, 2000). The additional fiscal burden for all the states on account of pay revision was roughly estimated at about ₹ 20,000 crores per year. Some of the major states in India faced an uphill task of paying wages to their employees as entire state revenues were not enough for the purpose. Several states indeed became "government of the employees, by the employees and for the employees only" (Saxena, 1999). States were left with very little fund and there was deceleration in central assistance. All the states were also hit by the high interest rates on two counts: the interest rate on loans from the government of India to the states was raised to the level of market rates and states started becoming increasingly dependent on small savings loan, a relatively expensive form of debt. As a result, interest burden on the states started mounting (Sawhney, 2005). Again, there was competition among the states for private investments in the wake of economic reforms. This had led to competitive tax concessions and incentives leading to huge revenue loss to the states without commensurate gains in

terms of private investment and associated economic gains. Along with that, populist policies like free power and irrigation further compounded the problem (Lahiri, 2000). The states were neither able to increase the tax ratio nor improve the productivity of non-tax revenue. The aggregate guarantees outstanding for seventeen major states in India was ₹ 40,318 crore in 1992, which rose to ₹ 1,05,739 crores by March 2000, an average annual growth of 12.2 per cent (Thorat, 2004). There was increase in state budgetary subsidies since 1994-95 because of revised salary payments in public sector undertakings (PSUs) without any increase in user charges (Rao, 2004). All these factors led to deterioration in the fiscal health of the states. As a result, state governments had to rely more and more on public debt to meet the ongoing obligations. State governments were able to increase their borrowings largely by drawing on sources over which Government of India exercises no active control such as small savings collections. This resulted in increase in the public debt at an unprecedented proportion. All the states in India were affected by this fiscal crisis. The state governments even struggled to pay the salary they had agreed to. The Reserve Bank of India undertook emergency overdraft facility for state governments. In 1997-98, the average number of days in overdraft for a state was 32. This rose to 88 in 2000-01 and 117 in 2001-02. There were numerous reports in the late 1990s of state governments 'closing the treasuries' since they no longer had the cash to pay bills. The distress of the state governments was also evident from their borrowings from their employees through the impounding of salary increase to provident fund. Borrowings from this provident funds tripled in nominal terms between 1997-98 and 1999-00 (reaching 0.9 percent of GDP). Just as the balance of payments crisis of 1991 gave rise to decade of central government reforms push, so the state level fiscal crisis gave an enormous impetus to reforms at the state level (World Bank, 2005). Many governments issued white paper informing the people about the financial conditions of the states as the Tamil Nadu Government did in August 2001, to inform the legislators and the public 'of the extent and causes of the serious financial crises confronting the state'.

Considering the gravity of the situation, the central government stressed on fiscal consolidation measures. Being a federal country, fiscal reform in India needs to be introduced both at central and sub-national level. To bring the state government to the path of fiscal reforms, the central government introduced different incentive schemes provided that

state governments undertook fiscal reforms. The idea was to encourage the fiscally efficient states and penalize the inefficient ones. The central government was willing to help the states provided that states were ready to introduce reform measures. The Fiscal Responsibility and Budget Management Bill, 2000 was introduced in Lok Sabha in December; 2000. The purpose of the Bill was to provide impetus to the process of attaining fiscal consolidation by reduction in key fiscal indicators such as revenue deficit and fiscal deficit which were critical for controlling the mounting level of debt of the states. The act was influenced by Maastricht Treaty[1] and U. K. Golden rule[2] (RBI, 2007). As an incentive scheme for fiscal reforms, the Eleventh Finance Commission had introduced the "fiscal reform facility", available to all the states over a five year period. It was conditional on achieving an average 5 percentage points per year reduction in the ratio of revenue deficits to revenue receipts. The Twelfth Finance Commission introduced 'Debt Swap Scheme' and 'Debt Relief Scheme' conditional upon the fact that states enact the Fiscal Responsibility and Budget Management Act with required features. All the states except West Bengal and Tripura enacted the Fiscal Responsibility and Budget Management Act (RBI, 2008).

Following the above fiscal consolidation measures, fiscal indicators of the state governments had witnessed improvement in the later part of the first decade of the present century. However, the problem is far from over. Implementation of the recommendations of the Sixth Pay Commission has imposed additional fiscal burden on the state governments and deficit targets are likely to again come under pressure in near future. The problem with the states was that instead of implementing the reform measures in true spirit, they wanted to achieve the fiscal targets somehow to get benefits from the central government's incentive schemes. They had even taken the help of off-budget liabilities to achieve the targets. The exclusion of off-budget liabilities in the budgetary process helped the states to contain the fiscal targets artificially. This was possible through creative accounting[3] on the part of the government in the budget making process (Rao and Amarnath, 2000). There was lack of transparency on the part of the state governments. No serious attempt was made to introduce competitive environment in public sector enterprises. There was not much attempt to reduce subsidies and increase user charges as well (Rajaraman, 2005). Under the circumstances, the state governments require a long term analysis of their fiscal policy. There is a need to make an

assessment of fiscal sustainability and solvency of the states in near future and if possible for a long period. It can help the states to make future projection and accordingly steps can be taken in advance.

1.2 Statement of the Problem:

Assam in the North Eastern part of India is an economically backward state. The state's fiscal needs and responsibilities are very much governed by the exogenous factors such as difficult geographical terrain, long international border, turbulent rivers, etc. (Sarma, 1971; Srivastava et. al, 1999). The per-capita income of the state is one of the lowest among all the states in India. In fact, it has the dubious distinction of having the lowest per-capita income among the North Eastern states in the year 2009-10 (CSO, 2011). At the time of independence, per capita income of Assam was marginally above the All India average as the state's per capita income was 4 percent higher than the national average. It came down below the national average by 1960-61 and has persisted with the downward trend since then. In the year 2009-10, per capita income of Assam became only 58.5 percent of the national average (Government of Assam, 2011). In other words, instead of narrowing down, the developmental deficit of the state has been widening over the years. Had the pace of economic development in Assam in post independence period been the same as the rest of the country, the GSDP (at current price) of Assam in 2006-07 would have been ₹ 1,00,024 crore in stead of ₹ 65,033 crore. The difference, i.e., ₹ 34,991 crore can be considered as a measure of the development deficit in terms of GSDP (Government of Assam, 2008). Similarly, development deficit persists and is growing in terms of various other indicators like infrastructure, human development index, etc. (Government of Assam, 2009). The economic plight of Assam was recognized by the Central Government when it declared the state as a special category state in 1991 (Srivastava et al., 1999). Due to economic backwardness and poor infrastructural facilities, private investors are reluctant to invest in the state. As such, economic development of the state is very much dependent on government investment. As a result, state government has to invest in all those crucial sectors that are considered significant for the state. But as is the case with economically backward states, Assam has limited resources to discharge its expenditure responsibilities. Any imbalance between the revenue and expenditure responsibilities may push the state into deep fiscal

crisis. Fiscal deterioration is not the result of fiscal operation in one or two years, but is a culmination of problems accumulated over the years. The occurrence of fiscal crisis may force the state to undertake different reform measures. Fiscal reforms as undertaken by different governments to restore fiscal balance is not a simple issue of enhancing revenues and controlling expenditure, rather it is a much more complex issue. Reforms or commitments on the part of the governments need to be considered - not just in the current year, but in future years as well. Thus, a road-map for corrective measures will have to be drawn up carefully in the medium term or long term. These issues are very relevant for a state like Assam as reduction of expenditure in priority sectors may have serious implications on quality of expenditure of the state. At the same time, continuation of fiscal imbalances may create the problem of fiscal and debt unsustainability. The government of Assam has to design an appropriate fiscal plan to discharge its obligations efficiently considering both present and future implications. Under these circumstances, there is a need to make a detailed analysis of the state finances encompassing all the above issues. With this objective in mind, the present study is taken up to examine the overall fiscal health of the state during the time period from 1990-91 to 2009-10.

1.3 Objectives of the Study:

The specific objectives of the study are:

1. To assess the fiscal scenario of Assam for the period from 1990-91 to 2009-10. The selection of the period was guided by the fact that Assam was declared as a special category state in 1990-91 which resulted in drastic change in the grant to loan composition of plan assistance from 30: 70 to 90: 10. Special attention has been given to examine

(a) The revenue generation efforts of the government during this period.

(b) The pattern of public expenditure and expenditure implications of fiscal reform measures in the state.

2. To make an assessment of fiscal and debt sustainability of the state.
3. To suggest measures for improving revenue collection as well as utilization of funds.

1.4 Hypotheses of the Study:

The Hypotheses of the study are formulated as**,**

H1: Low own revenue in Assam is due to inefficient and improper fiscal administration.

H2: Massive increase in government expenditure during the period 1990-91 to 2009-10 has not led to proportionate increase in development expenditure.

H3: Fiscal consolidation measures adopted by the State Government to correct fiscal imbalances have ensured fiscal stability in the state.

1.5 Data Source and Methodology:

The study is based on secondary data. Data pertaining to the study are collected from various reports and publications of different government and other organisations such as the Directorate of Economics and Statistics, Government of Assam, Central Statistical Organisation, Comptroller and Auditor General, Government of India, National Income Statistics, Reserve Bank of India, Ministry of Finance, Government of India, Budget Reports of the Government of the Assam, Office of the Registrar General and Census Commissioner, India etc. While collecting secondary data, due attention has been given on reliability and authenticity of the data. Reliability of the data is tested by applying suitable statistical tools.

In studying the fiscal health of the states, comparison is made with other state governments as well as states as aggregates. Selective comparison with some of the advanced states of the country has been made so as to have a better idea of fiscal health and fiscal management. The annual and compound growth rates of different variables have been computed for the study period. Decade wise compound growth rates of variables concerned have been computed to have an idea about the relative performance of the state in the two decades. It also gives an idea about the impact of the reform measures on performance of the state which was carried out in the later part of the 1990s.The buoyancy coefficients of selected revenue and expenditure categories have been computed by dividing the growth rate of total expenditure by growth rate of GSDP. A panel regression analysis has been carried out to study the revenue effort of the state government including the relevant capacity factors that are likely to have an impact on revenue generation of the state. To analyse the relative growth of development expenditure with respect to both total and aggregate expenditure of the state, two regression analyses have been carried out by regressing development expenditure to total and aggregate expenditure of the state.

For studying fiscal and debt sustainability, trend and composition of different deficit indicators have been analysed for the study period. The Domar gap and debt stabilisation index are computed to study the stability of the debt-GSDP ratio of the state. Suitable econometric techniques such as cointegration technique have been used to examine the long term association between different relevant fiscal variables. Other suitable econometric and mathematical methods are applied as per requirement of the study. The detailed methodology has been provided in respective chapters.

1.6 Layout of the Dissertation:

The dissertation is comprised of six chapters including the present one.

The second chapter is a review of available literature on different issues of state finances. Several instances of fiscal crisis and reforms as experienced by different governments have been reviewed to observe the reasons of fiscal crisis and expenditure implication of fiscal reform measures. The chapter has also made an attempt to review the available literature on revenue effort and fiscal and debt sustainability of the different tiers of governments.

The core of the dissertation begins with the third chapter which examines the pattern and nature of revenue receipts of the state. A proper revenue effort on the part of the government is essential for sufficient revenue mobilization which provides the necessary flexibility to increase expenditure on priority sectors. Keeping this fact in mind, revenue effort of the government is examined by encompassing the factors such as arrears of own revenue receipt, cost of collection of different taxes, cost recovery of different social and economic services and buoyancy of different taxes, etc. A panel regression model is incorporated in this chapter to study the relative revenue effort of the state government. Along with that, a composite revenue mobilization index is computed by including the variables such as own tax-GSDP ratio, own non-tax GSDP ratio, own revenue receipt to total revenue receipt and per-capita revenue receipt etc.

The quantum and the quality of government expenditure have significant impact on economic development of a state. The changing pattern of state government expenditure on

different sectors has been studied in the fourth chapter to know the allocation and prioritization of expenditure. As the occurrences of fiscal crisis or imbalances and subsequent reform measures have a profound influence on expenditure reallocation, the expenditure implication of fiscal crisis and reforms has been examined in this chapter. An expenditure management index is also computed for the state to have an idea about the comparative picture of the state vis-à-vis other states.

The fifth chapter of the dissertation examines the issues of both fiscal and debt sustainability of the state. Any mismatch of the state finances in terms of low and inadequate revenue and excessive expenditure has implication for future fiscal stability of the state. This brings the issue of fiscal and debt sustainability. The variation in the deficit indicators and their composition is analysed to have an idea about the sustainability of the state. The year wise debt-GSDP ratio is computed to analyze the burden of public debt of the state. The famous Domar model is used to analyse the issues of fiscal and debt sustainability. A cointegration analysis is also carried out in this chapter to examine the long run relationship between the variables which may have impact on fiscal sustainability of the state.

In the concluding chapter of the dissertation, findings have been summarised, conclusions have been inferred and on the basis of the findings and conclusions, some policy suggestions have been outlined.

Notes:

1. The Maastricht Treaty which was signed on 7 February, 1992 has two convergence conditions for the members of the European Monetary Union. A country's stock of public debt must be equal to or less than 60 percent of the GDP and the country's overall budget deficit for each fiscal year must be equal to or less than 3 percent of GDP.

2. The U.K. has been operating a Golden rule since 1997 whereby borrowing has been made only to finance capital spending.

3. Creative accounting means manipulation of accounts to show the most favourable results.

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Chapter 2

Review of Literature

Review of literature plays a significant role in any kind of scientific research. It assumes importance in formulating the research gap and research problem. Any kind of scientific research requires a detailed review of existing literature. Keeping this fact in mind, a review of existing literature on government finances and policies for fiscal stability and growth has been made in this chapter. An attempt is also made here to explore the reasons for fiscal crisis and implications of different reforms measures on expenditure. This includes the studies on fiscal crisis and resultant fiscal reforms, revenue efforts of different tiers of government, expenditure implications of fiscal reform measures and fiscal and debt sustainability of the government. With the help of existing literature, the chapter has been arranged in four sections. The first section deals with different experiences and reasons of fiscal crisis and reform measures adopted by different tiers of government. The second section of the review of literature deals with implication of the fiscal crisis and reform measures on reallocation and prioritization of expenditure. Literature relating to revenue efforts of the government has been included in third section of the chapter. In the fourth section, literature relating to the fiscal and debt sustainability of the governments has been incorporated.

2.1 Experiences of Fiscal Crisis and Reform Measures:

As different studies on experiences of fiscal crisis and reforms provide a good insight into the reasons of the crisis and required reform measures, a detailed review of various works on fiscal crisis and resultant fiscal reforms measures has been carried out in this section.

World Bank (2005) had compiled a number of studies on international experiences with fiscal reforms. The review of those studies provides guidelines about types of fiscal reform required to bring fiscal stability in a state. These include studies by Alesina and Perotti (1995), Alesina and Ardagna (1998) etc. According to them, fiscal-reform strategies used to

bring fiscal stability could be broadly divided into two categories; type I primarily relies on cuts in recurrent spending and type II primarily relies on tax increase with spending cuts mostly limited to public investments. They found that type I reform measures were more effective in fiscal adjustment compared to the type II. Following Alesina and Perotti (1995), in a study of 20 OECD countries for the period of 1960-94, 60 episodes of fiscal consolidation were identified. Of these episodes, only 16 were lasting, and, among these successful cases, 73 percent were based at least in part on recurrent spending cuts. They came out with the conclusion that, although most fiscal adjustment efforts relied on tax increases to lower the deficit and debt burden, those successful in addressing fiscal imbalances relied heavily on cuts in current expenditure than increase in taxes.

McDermott and Westcott (1996) carried a study on effectiveness of fiscal reforms in 20 industrial countries during 1970-95. Before carrying out fiscal reforms, it is necessary to examine the effectiveness of different kinds of reform strategy. In this aspect, this study has its importance in devising appropriate fiscal policy. They were of the view that industrial countries with serious deficit and debt problems should pursue a strict fiscal consolidation strategy, with focus on expenditure cuts. If policies were credible, interest rate could decline, economic growth could be maintained, and public debt could be reduced. New Zealand was a success case that seemed to confirm their message as the country's fiscal position improved from a deficit of 5 percent of GDP in 1992 to a surplus of 3 percent of GDP in 1997 due to reduction of selected expenditure. The revenue position of the country remained more or less stable and expenditure as a share of GDP dropped by 10 percentage points over these years. They had also provided the example of Denmark and Ireland. Denmark resorted to same fiscal consolidation measures in 1980s and as a result of which structural primary deficit (as a share of GDP) of the country fell by 10 percentage points during the time period 1992-1997. Ireland had resorted to both types of fiscal adjustment and found that both measures were effective in reducing deficits. But their results showed it clearly that fiscal adjustment through expenditure reduction resulted in expansionary boost to output while the fiscal consolidation through increased taxation resulted in fall in output. Although their study revealed that expenditure reduction was more effective than revenue enhancement, but

reduction of expenditure may create problem particularly in developing countries due to social responsibility of the respective governments.

Allan (2003) found that the Australian Government had faced the problem of fiscal crisis in the early part of 1990s mainly due to unsustainable long term fiscal commitments of previous policies. Australia is a federal country with demarcation of financial power and responsibilities among the constituent states. As India also has a federal structure, the experiences of the fiscal reforms in Australia may be useful for formulating the fiscal policies in India. The economic recession in Australia in 1991-92 reduced the revenues of the state governments, especially stamp duty receipt from real estate transactions. Several state-owned banks ran up huge bad debts and had to be bailed out by the Central Government. His study found that the crisis was mainly due to financial mis-management, losses of the public trading enterprises and lack of competitiveness of the public sector enterprises. The people of the country ousted the governments that mismanaged their finances and thus provide a green signal to the governments to carry out economic reforms. Newly elected state governments had stressed on the need for lower deficits and debt, and better financial reporting and enshrined these objectives in their Fiscal Responsibility Act. He observed a significant improvement in state finances, which according to him, was not just the result of restraint on expenditure. Several other factors such as strong surge in tax revenues, increased demands on public trading enterprises to become efficient and privatizing selected public enterprises (especially those engaged in banking, insurance, and funds management) helped significantly towards the improvement of fiscal position of the states.

Edward (2003) based on his study on England found that the country had experienced serious fiscal imbalances in 1970s. As reforms introduced by the government at that time became the conventional wisdom and were found to be imitated by other countries, it is necessary to review the measures taken by the government to deal with the crisis. The crisis cropped up mainly due to large public borrowings and inefficient public enterprises. The adoption of restrictive practices by the trade unions such as closed shops and frequent strikes also contributed towards deterioration in fiscal health. Deficits of the country due to large and accumulated public borrowings were found to be unsustainable and prices and wages were

also found to be out of control of the government. They also observed crisis in foreign exchange market and the country came to be known as the sick man of Europe. As a reform measure, the economy, efficiency and effectiveness campaign was extended to all tiers of governments. Along with that, the government came out with lots of reforms such as reduced frontiers of public sector, reorganized slimmed public sector on private sector lines, reduction of public ownership and borrowings and reduction of tax rate on higher incomes.

Botman and Danninger (2007) in their paper concentrated on fiscal reform measures adopted by the German government that was initiated in the year 2005. This study has special significance as it highlights a very special issue, i.e. age related fiscal liabilities. The authors observed that chronic fiscal deficits and rising aging related future liabilities posed a serious threat to the welfare system of the government. In the year 2005, Germany violated the Maastricht deficit target for the fourth consecutive years, and the public debt had grown to almost 70 percent of GDP. The fiscal pressure from population aging was found to be very high for the government. Again, international competition and domestic adjustment had kept the growth of employment and income at a low level and eroded the main tax base. Under those circumstances, the German coalition government reached an agreement on three tax reforms in the form of a VAT increase from 16 to 19 percent, partly offset by a reduction in payroll taxes for unemployment insurance and a reduction in corporate income tax. From their study, they found that the government planned tax policy measures in 2007-08 helped the government to develop an efficient tax system that significantly improved the debt position of the country. But to achieve fiscal stability, they were in favour of more extensive reform measures on the part of the government. They were of the view that the proposed tax reform would create labour demand and the incentive to save and investment by moving from direct to indirect taxation. They found that expenditure cuts and entitlement reforms in combination with the measures to broaden the tax base and raising indirect taxes were more effective than raising direct taxes.

Ahmed and Brosio (2008) based on their study on Latin American countries found that less importance on taxation at sub-national level was the main reason for fiscal imbalances in those countries. This study has special implication as less revenue raising power of the sub-

national governments is considered to be a reason for fiscal imbalances of Indian states. They were of the view that the main weakness of decentralization and overall fiscal reform in Latin American countries was the lack of attention to adequate taxation at the sub-national level. They were of the view that reliance on shared taxes with extensive earmarking led to weak sub-national accountability and created soft budget constraints at the sub-national level. They found that problems with the sub-national finances were two-fold. The main problem was the rigidity in macro-fiscal management. The sharing rates between the central and local governments were determined by law or constitution and cannot be easily adjusted. The second problem was the reduced incentives for the central government to exert effort to collect shared taxes such as Brazilian federal government had focused its collection effort on taxes not shared with the states and municipalities. The inefficient taxation on exports in Argentina was another example. The authors were of the view that, although there was extensive decentralization of political power and expenditure responsibilities in most Latin American countries, the issue of assignment of new taxing power to sub-national governments was generally neglected and it resulted fiscal imbalances at the sub-national level. They gave importance on adequate collection of revenue by the sub-national governments through expanding the tax base.

Lledoh (2005) was of the view that reducing macro-economic instability through fiscal reform was one of the main issues that influence the tax system in Latin American countries over the last two decades. Reforms in taxation during the eighties and early nineties of the previous century helped those counties to raise tax revenue and tax-GDP ratio through efficiency enhancing changes in the tax structure, such as replacement of taxes on international trade by value added taxes etc.

Gupta (2003) opined that the reallocation of public expenditure towards more productive uses was important for achieving more sustained fiscal adjustment. The author was in favour of fiscal consolidation through cuts in selected current expenditure, while protecting or increasing capital expenditure. His study also found that poor governance and high unemployment were some of the obstacles to achieve sustained fiscal adjustment.

Prakash and Cabezon (2008) based on their study on poor sub-Saharan African countries found that countries having improved public financial management (PFM) led those countries to better fiscal outcomes, as measured by the overall fiscal balance and external debt level. A reform measure emphasizing public financial management has always an advantage as it allow to continuing the existing expenditure of the government on different sectors. A well functioning PFM system had a good impact on the use of aid as well as overall budget performance, and thus contributed towards macroeconomic stability and growth. Good PFM also contributed to overall governance in those countries through protection of public resources against the risk of appropriation and corruption. The authors were of the view that PFM and fiscal policy were inter-related as good PFM helped in achieving the fiscal policy goals. At the same time, sound fiscal policies were likely to contribute to a better PFM through the allocation of resources for development of the same.

As India is a developing country, the fiscal experiences of developing countries are always useful in devising appropriate fiscal strategies. Chelliah (1996) based on his study on Asian developing countries during 1980s found that fiscal reforms through revenue enhancement were more successful than financial sector reform. The author found that in almost all the Asian countries except India, the reform of the tax structure had been carried out from the mid to late eighties of the previous century. Chelliah had investigated as many as 25 tax reform programmes from the year 1984 to 1990 and observed the desire among the countries to adjust tax policies to cope with globalization and to attract foreign investment.

As different states of India have many similar features, the studies of other states are crucial for a state like Assam for formulating its fiscal strategies. In Indian context, Rao (2002) had made a critical analysis of the state level fiscal crisis that took place in India in the later part of the nineties of the previous century. According to him, there was sharp deterioration in state finances which was mainly due to spill over of central policy on pay revision of state governments and low buoyancy of central transfers. There had been a steady deterioration in states' own tax revenue, significant drain on state resources due to losses from public enterprises and proliferation of explicit and implicit subsidies. The author, however, found variation in the severity of fiscal deterioration among the states. The deterioration was found to be most severe for West Bengal with both revenue and fiscal deficit as percentages of

NSDP had worsened by about 5 points between the periods 1995-96 to 1999-2000. For the same period, the deterioration in revenue deficit was very high for Punjab (4.4%), Rajasthan (4.2%) and Maharashtra (3.7%). Marked deterioration in fiscal deficit was also noticed in case of Bihar (5.3), Punjab (3.9%), Orissa (3.4%), Gujarat (3.3%) and Maharashtra (3.1%).
Lahiri (2000) had made a review of the severity of fiscal crisis in India. In his study, he found that among the twenty five countries in terms of high central budgetary deficit, India ranked tenth in the year 1997. High deficits at the state governments' level had further compounded the problem. He emphasized the importance on fiscal discipline both at central and state level to restore fiscal stability. The author was very critical about lack of hard budget constraint which he found to be responsible for large deficit of the states. In his study, Lahiri found four major sources of financing that tend to relax the constraints such as public account, ways and means advances (WMA), overdrafts from the Reserve Bank of India and guarantees of the public sector enterprises (PSEs). He was of the view that changes in contingent liabilities or outstanding amount of guarantees were not the part of fiscal deficits which actually contributed towards deterioration of the deficit indicators of the states. But such a guarantee could act as a substitute for government expenditure in some cases such as public sector enterprises of doubtful commercial viability could be given a guarantee to raise funds from the market instead of a grant or loan from the budget.

Rao and Amarnath (2000) were very critical about the fiscal reforms adopted by the governments in India to deal with fiscal crisis in the later part of 1990s. Their view was that the crisis did initiate the reforms in right earnest, but once the immediate problems were solved, the attempt in successive budgets had been to create the illusion of achieving fiscal correction rather than really achieving it. They had found that impetus to economic reforms in Indian states seemed to come only from serious economic crisis. However, once the immediate concerns were dealt with, the momentum was lost and 'business as usual' continued. Under such circumstances, there was a need to make a proper long term sustainability analysis of the state level fiscal policies.

Srivastava (2003) in his study recommended for strong and effective borrowings rules to solve the problem of soft budget constraint. He opined that the genesis of the fiscal crisis

emanated from the fact that governments' debt and borrowing programmes for the central as well as the state governments in India were managed without any explicit targets or rules except for the constitutional provisions under articles 292 and 293. He found these constitutional provisions inadequate for controlling state governments' debt. Despite central government control over state governments' borrowings under article 292 and 293, state governments were able to increase their borrowings largely by drawing on sources over which Government of India exercises no active control. After 1999-00, states were allowed to take loans against small savings collection within the jurisdiction of the states. The availability of this borrowing option which was not constitutionally controlled by the centre under 293(3) was found to be a clear enabling factor for fiscal profligacy of the states.

Pant (2004) had made a critical analysis of the state level crisis of Indian states. In his study, he found that there was tremendous stress on the states with fiscal health of the states deteriorated in later part of 1990s. In a number of states, the current revenues were not sufficient to meet wages and salaries, pensions and debt service obligations, leaving little fund for development expenditure. Pant emphasized on both revenue and expenditure aspects of fiscal consolidation. On expenditure side, he gave importance on elimination of non-merit subsidies by ensuring that these were transparent and closely targeted. He was in favour of periodically revising the user charges of power, irrigation, and other major economic and social infrastructure services. On the revenue side, his study found considerable scope for increasing tax revenue of the state governments by rationalizing tax rates, plugging loopholes, improving tax administration and tax compliance. He was of the view that reforms must be initiated to ensure that state level public enterprises make their due contribution to the resource mobilization efforts of the states. The smooth implementation of the harmonization of the sales tax rates across the country was a testimony to the desire among the states to abandon the earlier self-defeating policies of tax wars and competitive populism. The decision to implement value-added tax was a positive step in this direction. At the same time, he was in favour of modernizing the prevailing tax system to remove the discretionary effects, increase its buoyancy and make it more transparent and tax-payer friendly. He was of the view that the main problem of the power sector was the financial health of the state

electricity board which was deteriorated over the years due to low tariff, large subsidies in the agricultural and domestic sectors, and poor operational efficiency.

Joshi (2003) had made an analysis of the fiscal adjustment programme in Uttar Pradesh. The author found that the state emphasized on enhancement of revenue, reprioritisation of expenditure and reforming in public expenditure management. Given that there was no room for introduction of new tax, their main revenue enhancement measures became issues around reforming the tax administration to improve recovery and plug pilferage and revising the user charges. For reprioritizing expenditure, the Government gave importance on the need to compress expenditure on subsidies, salaries and wages, and budgetary support to the loss-making public enterprises.

Prasad (2003) had made a study on fiscal development of Andhra Pradesh during the reform period. He found that the government gave importance on electronic governance that brought transparency in their administrative operation. Andhra Pradesh was found to be the first state in India to create a department of information technology. The state government was found to reverse the legacy of populist policies that usually lead to large fiscal deficit. With the support of Britain's Department for International Development, the Centre for Good Governance (CGG) was established under the direct charges of the chief minister for providing analysis, advice, and assistance on many aspects of the governance, ranging from fiscal management to administrative and procedural reforms. The author found these measures were effective in smooth operation of the different functions of the government.

Khuntia (2003) had made an analysis of fiscal reform programmes in Karnataka. His study revealed the government carried out their reform programmes within a broader analytical framework. The analytical framework of the reform programmes was provided by the medium term fiscal plan as adopted by the state government in the year 2000-01. Reforms were launched in many areas including key infrastructure, social sectors and in the area of governance. The government had stressed on enhancing revenue and controlling expenditure in their first medium term fiscal plan (MTFP) that was introduced in the year 2000-01.

Desai (2004) was of the view that while undertaking fiscal reforms, the state governments in India should set realistic targets. His study found that many fiscal reform programmes in India were not successful because their objectives were too broad and unfocussed. He was of the view that highly ambitious fiscal plan was one of the reasons for its failure to achieve the desired goals. Thus, one useful method for introducing reforms at the state level was to set achievable targets.

Anand et al. (2004) opined that fiscal indiscipline of Indian states was exacerbated by the absence of credible hard budget constraint, as evidenced by the instances of bailouts extended by the centre or its agencies from time to time. They cited the instance of the reported proposal in 2001 by the Central Government which allows one time "write-off" to state electricity board dues to central agencies. This instance provided an example of how states can count on the centre to come to their rescue. To remove this kind of tendency and introduce reforms in true sense, they advocated for hard budget constraint through market based discipline. They were of the view that there must be well-developed and well regulated capital market and public sector lending institutions should be allowed to function autonomously.

Vittal (2004) had made an analysis of the role of transparency as a fiscal reform measures. His view was that the way to bring greater transparency in government operations was to make it a legal right to the citizen to have access to information held by the government. It helps to reduce corruption in government operations and proper utilization of public resources. Lack of transparency provides an opportunity for public servants to extract bribes from the misled citizen who has to transact business with them. The attempt of Central Vigilance Commission (CVC) when it published the names of the officers charged with violation of conduct rules (under the prevention of corruption act or departmental action) on its web-site in January 2000, was a revelation of how transparency could bring lots of unintended benefits.

Sawhney (2005) had made an assessment of fiscal reforms in Punjab. On the basis of his study, he found that a decade of political strife in the 1980s, followed by the populist economic policies in 1990s led to massive fiscal deterioration and hampered the overall

economic growth of the state. The deteriorated fiscal situation was further worsened by massive increase in salaries and wage bills of the employees due to the pay revision, mounting debt burden, heavily subsidized social and economic services, slow growth of revenue and loss making public sector undertakings (PSUs). Punjab had the dubious distinction of having highest fiscal deficit among all the states in 1990-91. The inefficient and unmanageable state electricity boards continued to be a major financial burden for the state. From the assessment of the entire fiscal reforms in the state, the author came out with the conclusion that the government had failed to honour its own commitments from time to time and had also shown utter disregard for constitutional provisions. To bring stability in fiscal operation, the author gave importance on reducing revenue and fiscal deficit by compressing non-developmental expenditure, prudent debt management, and transparency in fiscal operation.

Pethe and Lalvani (2005) in their study on Maharashtra found that all the fiscal indicators of the state showed sharp worsening in the later part of 1990s. The state was found to register a huge revenue deficit in the year 2000-01 constituting 87 percent of the gross fiscal deficit. There was increase in committed expenditure in the form of salaries, pensions and interest payment. On the basis of their study, they came out with the conclusion that fiscal reform measures were not implemented in true sense by the state government as power sector alone constituted budgetary support of ₹ 1122 cores in 2003-04. The power sector in Maharashtra, as in many parts of the country was found to be characterised by lack of commercial orientation and no major steps were taken by the government to introduce commercial orientation. They were of the view that government should infuse greater transparency, efficiency and accountability in their operation and if reform commitments were to be institutionalised, it must be made mandatory that relevant documents were to be put in public domain. Such publicly made commitments had a greater chance of tying the hands of the political parties, and ushering accountability on the part of the government.

The RBI (2007), while giving importance on fiscal adjustment emphasized that fiscal consolidation should be attempted through fiscal empowerment. A fiscal strategy based on revenue maximization provides the necessary flexibility to shift the pattern expenditure towards developmental purposes. On the other hand, fiscal adjustments predominantly based

on cut in expenditure may result in welfare losses and risks the danger of triggering a downturn in overall economic activity. In this context, the international experiences indicate about wide variety of methods such as placing limits on certain expenditure, prioritization of expenditure, greater decentralization of executive function, improved cash management and greater accountability in the service against specified targets. The adoption of some of these principles could facilitate a qualitatively superior process of fiscal consolidation.

Ravishankar et al. (2008) based on their study on Indian states, gave importance on fiscal discipline. According to them, substantial increase in states' own revenue was possible through reforms in tax policy and administration, which would expand the tax base (by reducing evasion) as well as enhance tax buoyancy. Fiscal discipline can enhance output and outcomes of the public spending. They were of the view that fiscal discipline was possible even without political stability, provided that finance department uses the regime of performance linked central transfers effectively. The important lesson for the states was that following the Twelfth Finance Commission's award, it was possible for all the major states, including the poorest and most indebted ones, to meet the recommended targets of maintaining golden rule plus a sustainable overall deficit of not more than 3 percent of GSDP. Their view was that turning this possibility into reality and sustaining such a fiscal stance require strong political commitments.

Chowdhury and Das Gupta (2012) have found that present poor fiscal situation of West Bengal is a reflection of two independent factors such as low own revenue receipts and high effective interest rate. Their study have pointed out that low own revenue of the state is due to low manufacturing base and high tax concessions as provided to the private sector. The high effective interest rate paid by the state is mainly due to high interest rate on National Small Savings Fund (NSSF) as charged by the Central Government. As the share of NSSF loans constitutes a major portion of the state's debt, it leads to high interest liability of the state government.

Srivastava et al. (1999) carried out a study on Assam covering the period from 1986-87 to 1996-97. They pointed out that critical imbalance developed in the fiscal profile of the state was due to shifting of expenditure towards non-capital and non-discretionary expenditure.

They found that non-discretionary expenditure constituted about 17 percent of GSDP in 1996-97 leaving little room for development expenditure of the state. On the revenue side, their study pointed out three features that were mainly responsible for decline in revenue such as growing dependence on central funds, a significant fall in the growth rate of sales tax and serious decline in the contribution of non-tax revenue. They found a near zero rate of return on capital invested on the State Level Public Enterprises. The study suggested for extra assistance from the centre provided that state government initiates the reform process.

Choudhury (2002) based on her study on budgetary expenditure in Assam found that revenue sources were quite insufficient to meet the large expenditure responsibilities. Due to large growth of budgetary expenditure, the state had to depend on borrowings. The state was not able to explore the limited revenue sources efficiently as evident from the fact that revenue expenditure on collection of revenue and interest payments was much high in Assam compared to other states.

Government of India (2002) in its report on Assam had made some observations regarding the state's fiscal situation. Persisting fiscal deficit was found to be one of the most significant weakness of the state economy with public sector borrowings crowded out private sector borrowings which created macroeconomic risk. Along with that, fiscal crisis with diversion and inefficient utilisation of funds did not allow the state to invest for strengthening the foundation for economic growth and improving social achievement. They were in favour of changing the spending priorities of the government towards growth and development enhancing activities such as capital expenditure and expenditure on infrastructure.

From the above review of literature, it is clear that both enhancement of revenue as well as reduction of expenditure have been used extensively as a fiscal reform measure for restoring or maintaining fiscal stability. Although, measures aimed at reduction of expenditure are found to be more effective, it may have serious implications if not properly implemented. Considering the above fact, it is necessary to review the literature relating to expenditure implication of the fiscal reform measures which has been carried out in the next section.

2.2 Expenditure Implications of the Fiscal Crisis and Reform Measures:

Fiscal crisis or imbalance of a government compels the respective governments to adopt different fiscal reform measures which may have serious implication in terms of reduction and shifting of expenditure from priority sectors. At the same time, it is equally true that any successful reform measures require some kind of adjustments of the government expenditure. This section of review of literature has been carried out to know the expenditure implication of fiscal reform measures as well as role of efficient expenditure management towards successful fiscal reform campaign.

Gillingham et al. (2008) based on their study on Honduras found that public expenditure programme such as energy subsidies, university education and public pension programme provided disproportionate benefits to the higher income households. They were of the view that progressivity of the public policy could be increased by reducing those expenditure that were poorly targeted.

Endersby and Towle (1997) were of the view that different government had employed various statutory and constitutional devices to limit government spending. Many of these devices intended to increase executive control over expenditures. The authors found that such efforts were ineffective or counterproductive. They were of the view that state legislatures controlled by a single party were more likely than divided legislature to limit government spending and minimize debt. Thus, political and electoral influences appear to explain the state expenditure better than legal restrictions on the appropriation process.

Mathur (2001) was of the view that public expenditure management has an important role in containment of fiscal deficit as effective and efficient public expenditure management helps to contain fiscal deficit. Therefore, public expenditure management should be the main instrument of states' fiscal policy in India.

Howes et al. (2004) was of the view that state governments in India have significant developmental expenditure responsibilities. The "fiscal crisis" which engulfed Indian states in 1990s led to a rapid increase in expenditure. But increase in expenditure was not able to increase in development effectiveness of the state governments. They were of the view that the fiscal crisis weakened the developmental and poverty impact of state governments

especially in the poor states. Real growth of expenditure in health and education was found to be slowed down or halted. The efficiency of government expenditure was also found to be less as liquidity constraints tightened and non-salary expenditures were crowded out.

Howes et al. (2005) observed that at the time of fiscal crisis in the later part of 1990s, all the state governments in India faced the difficult task of increasing expenditure in priority areas while reducing deficits to a sustainable level. The option available for the states was to explore the viable methods to improve expenditure allocation. The problem was same for all the states. Different states had undergone fiscal adjustment according to the intensity of the crisis. They advocated for reduction of expenditure on non-priority sectors.

Howes and Jha (2004) had made an assessment of expenditure implication of the state level fiscal crisis and found that fiscal crisis not only slowed down growth in key areas, but also worsened the quality or efficiency of spending. Fiscal deficit was also associated with a rapid increase in expenditure level and it was usually assumed that the rising expenditure increases the development effectiveness of the state governments. However, their study made a closer look and found that this was not the case. It had weakened the development and poverty impact of public expenditure. Efficiency of government expenditure was also found to be affected due to crowding out of non-salary expenditure.

Gupta and Sarkar (1994) were of the view that fiscal reform measures should give importance on human resource development. From their study, they found that human resource development had been adversely affected by the macro-economic and policy reforms undertaken by the Government of India from time to time. It may have very serious implication. Their study covers public expenditure of central and state governments on human resource development during the time period 1988 to 1993. They were of the view that economic cost of fiscal adjustment imposed heavy social cost in terms of reduction of human resource development for the above mentioned time period. This was mainly due to the fact that the main emphasis of economic reforms since 1991 was to adopt market oriented policies and instruments. But there was a need to protect the vulnerable sections of the society under these circumstances. The absolute reduction in expenditure on social services

both at the central and state level might raise the social cost which ultimately undermines the purpose of entire economic reform programme and its acceptance by the political system.

World Bank (2005) in their study which was carried out on the backdrop of state level fiscal crisis of India in 1990s suggested various expenditure control measures for maintaining the quality of expenditure. Their study found that although associated with an increase in public spending, the fiscal deterioration weakened the developmental and poverty impact of state governments. For controlling salaries and pensions, they advocated for restraint on wages of the public sector employees. The World Bank was of the view that to maintain a policy of wage restraint was to avoidance of another Pay revision. They justified the policy of hiring restraint, even though India's civil service was small by international standards. They found that targeted retrenchment programmes had not been successful in India. Regarding subsidy, the Bank found that subsidies had proved difficult to cut, largely for reasons of political economy. The power subsidies which constituted large portion of subsidies were found to be large and growing during the time period 1980-81 to 1999-00. But compared to the cost of power subsidy, it had brought few benefits. The biggest problem facing the power sector was the lack of commercial discipline that permeates the sector. There had been some progress in reducing power losses, but not in agriculture. Reform of the Public Enterprises was another area which required significant changes. They were of the view that closure and privatization would not provide large and immediate fiscal gains. The quality of spending must be improved through spending on priority sectors such as health, education and infrastructure etc. Their view was that agency specific reforms, including an increased role for the private sector, can improve service delivery.

Mukherjee (2007) highlighted the importance of government expenditure on social sector such as education in the process of development. He was against any reform measures which curtails the expenditure on education. He was of the view that the role of education in economic development had been recognized in mainstream economic literature. Divergence between the private and social rate of return from education is the rationale for intervention by the states in ensuring equity in opportunity across the population. He opined that higher levels of schooling and better quality of workforce will lead to an increase in the rate of

growth and thus strengthening the case for public expenditure on education. However, the effectiveness and efficiency of resource allocation by the government has generated considerable debate, both from ideological and technical points of view.

Sen and Karmakar (2007) were against any reform measures that reduces expenditure on human resource development. They were of the view that in the urgent and substantial task of raising the level of human development of their citizens, the basic challenge faced by most of the states of India was to break the 'vicious circle of poverty', low human development and low income. Low level of income across the population also limits the ability of the state governments to finance human development through their own resources. This is clearly indicated by the strong association between public expenditures and per capita incomes often noticed by researchers, both across states and over time. Moreover, within the framework of fiscal responsibility legislation which have been enacted by the centre as also by several states (after the strong support it got from the Twelfth Finance Commission), it is not feasible to vigorously push for public expenditures financed by deficits, and consequent borrowings. The state governments in India faced the dilemma of maintaining human development without deteriorating deficit indicators.

Jagannathan (1986) in his study which includes the states such as Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Tamil Nadu and West Bengal found that the budgetary format was not able to highlight the growing indebtedness and increasing share of wage bill. He was of the view that although revenue accounts of state governments had been increasing during 1970s and first half of 1980s, maintenance expenditure was gradually squeezed out by the other components. He was in favour of reallocation of expenditure for proper development of an economy.

Shariff et al. (2002) in their study on India observed considerable decline in the share of the state governments' expenditure on social sector and poverty alleviation as central share was gradually increasing over time. The state governments seemed to be easing out of the constitutional commitment to sustain programme in the social sectors. They found this trend as undesirable as state governments seem to have better knowledge of their expenditure priorities.

Srivastava and Rao (2004) had made a critical analysis of huge subsidies obligation of the Indian states and its effect on deficit indicators. They were of the view that subsidies were justified if they provided positive externalities in the public provision of non-public goods. They found that state budgetary subsidies had increased in the later part of 1990s due to payment of revised salary to the employees of the State Public Enterprises. But there was no corresponding increase in user charges. Considering the huge financial burden of subsidies, they advocated for reduction of government subsidies through subsidy reforms. Additionally, they were of the view that, since primary objective of reform would be to construct a subsidy regime that was small and promotes equity as well as efficiency, it was important for both central and state governments to periodically review subsidies and weed out unnecessary ones. Governments should withdraw from certain sectors where government did not need to run public sector enterprises and where the government did maintain a presence, it should drastically cut costs, particularly salary bills, close down inefficient units and reduce input costs through better management. Their analysis found that best way to control subsidies was to make them transparent and explicitly stated in budgets. The increase in user charges may also contribute towards reduction of subsidies.

Thorat and Roy (2004) had made an analysis of use of contingent liabilities which imposed a huge financial burden on the respective governments in India. They found that guarantees became a source of financing and the rising guarantees and assured payments arrangements at the state level posed the issue of sustainability. The prevalent accounting system of government finances in India does not consider guarantees or contingent liabilities as debt obligation. So, they advocated for fixing ceiling on guarantees provided by the state governments.

Das Gupta (2012) has found that share of development expenditure to GSDP of state governments in India declines in the post-liberalisation period compared to the same in the 1980s. The constraint in independent policy making of the state governments is found to be responsible for this decline in developmental expenditure of the states. He is in favour of increase in developmental expenditure of the states at least to the level of the 1980s.

Choudhury (2002) in her study on Assam gave importance on proper expenditure management. Regarding quality of expenditure, the researcher found lots of mismanagement and irregularity in budgetary expenditure. Subsidy expenditure of the state was found to be very large compared to its revenue earnings. From her study, the writer found that the quality of expenditure in the state was very poor as evident from the facts that Assam had very poor medical services, low literacy rate and the urbanization process was very slow. The author was in favour of proper reform measures to improve the quality of expenditure.

Thus, it is clear that reduction of selective expenditure such as subsidies and salary and wages etc. may help to release resources for other productive uses. This can be materialized by reducing poorly targeted public expenditure. It can also bring progressivity in public policy. But unplanned reduction of expenditure may deteriorate existing quality of expenditure. Proper expenditure management with emphasis on reduction of unproductive expenditure is considered to be a better fiscal strategy. But it should be supported by appropriate revenue effort on the part of the governments. Under these circumstances, it is necessary to review the studies on revenue efforts of different tiers of government.

2.3 Revenue Efforts of the Government:

Any fiscal reform measures accomplished through reduction of expenditure may have serious social and economic cost as discussed in the previous section of the chapter. Available theoretical literature such as Wagner (1833), Peacock and Wiseman (1961), Gupta (1967), Goffman (1968), Pryor (1969), Musgrave (1969) argued that emphasis should be given on economic growth which leads to increase in public expenditure. The best option available to a government is to increase the revenue effort so that economic growth leads to more generation of revenues. Sufficient revenue generation enables a government to provide uninterrupted flow of funds for different expenditure responsibilities. This section of the review of literature has been carried out to analyze revenue efforts of different tiers of government to explore the possible ways to increase revenue of a government. This section also highlights the theoretical issues related to revenue effort of a government.

Rose (1955) emphasized on increase in tax revenue through proper tax effort which according to him was a function of law and administration as well as economic activity. He

was very critical about the non-decision making approach by the politicians towards tax policy. He found that the strategy to rely primarily upon revenue-buoyant taxes authorized by past legislation rather than risk the political blame for introducing new taxes restricts the generation of additional revenue.

Davoodi and Grigorian (2007) were of the view that mere high economic growth might not lead to more collection of revenue. They gave the example of Armenia where despite the double digit growth since the year 2000, the country's tax-GDP ratio had been fairly stable at about 14½ percent. They identified that persistence of Armenia's low tax GDP ratio could be traced to persistence of weak institutions and a large shadow economy. The gap between the potential and actual tax collection in Armenia was as high as 6½ percent of GDP. They advocated for increase the tax-GDP ratio of the country by broadening the base, removing exemptions, and improving its VAT refund mechanism to boost tax morale and reduce the willingness to stay in the informal shadow economy.

Bird and Zolt (2003) based on their study found that inappropriate fiscal policies of the developing countries were due to their complex economic and political environment. They pointed out various factors that actually determine the tax system of a country such as level of development, the need and desire for increased public services, and capacity to levy taxes effectively. In their study taking 168 countries as sample, they found wide variations in tax ratio among the countries ranging from 10 percent in few countries such as Myanmar, Chad, Guatemala and Central African Republic to well over 40 percent in a few high income countries in Western Europe such as France and Sweden. Surprisingly, they found some lower income transitional countries such as Belarus, Ukraine, Algeria and Sudan which had a very high tax ratio. Their view was that both opportunity and choice affect the tax ratio and tax ratios in higher income countries seem to reflect more choice than opportunity. They observed a positive correlation between the tax-ratio and per-capita income which they found to be significant in poor countries.

Nooregaard and Khan (2007) in their study provided key economic factors that shape tax policy reforms in many high income countries, developing countries and transitional countries over the last 20 years. They found some commonalities of tax policy reform across

the countries such as well known spread of value added tax (VAT) and broad based trend towards reduction in direct tax rates etc. At the same time, it was found that all the countries attempted to preserve at least some degree of fiscal autonomy by devising individual approach to domestic tax policies that addresses the forces of globalization and other concerns reflecting differences in the political environment across countries. The writers opined that continuation of the trade liberalization would put low income countries in particular under increased budgetary pressure and require further reform in domestic tax system to mobilise more revenue. Regarding VAT, they were of the view that VAT should be further scrutinized to find ways to limit the "fractious" it causes for cross border movement of goods and services and closely related to substantial revenue loss from fraudulent trade operation.

Botman et al. (2008) had made a comparison of the general tax provisions and investment incentives in Philippines to six other East Asian economies such as Malaysia, Indonesia, Laos, Vietnam, Cambodia, and Thailand. Reforming tax incentive was the major fiscal policy agenda for the country after successful implementation of the VAT. They had calculated the effective tax rates and found that general effective tax rates were relatively high in Philippines, while investment incentives were comparable to those in neighboring countries. Surprisingly, they had found that investment climate of Philippines was more or less same compared to those six countries in spite of practicing high effective tax rate. They were of the view that with the help of reforming in tax incentives, the government should reduce redundancy, i.e., the provision of tax incentives for activities that would have been undertaken anyway. The estimated cost for redundancy was about 1 percent of GDP for those six countries. They came out with the conclusion that if the profits are firm or location specific, an average effective tax rate in line with neighboring countries would be essential to attract investment. Another important finding of their study was that tax holidays were more effective in providing incentive for foreign direct investment and new investment rather than incremental investment.

Chai and Goyal (2008) based on their study on small island states comprising Eastern Caribbean Currency Union found same type of findings that tax concession had not been able to show desired results. They computed both the cost in terms of revenue forgone and the

benefits in terms of foreign direct investment. They found that the cost in terms of tax concessions was very large, while benefits appeared to be marginal at best. Forgone tax revenue stood between 12 to 16 percent of GDP per year, whereas total foreign direct investment did not actually depend on concessions. They were in favour of rethinking of the use of tax concessions.

Chelliah (1996) based on his study on Asian countries found that a major objective of the tax reform in those countries was to create a simple and effective administrative system that would increase revenue buoyancy. While practices of tax reforms in different countries vary from each other, the author found some common elements. There was an increasing acceptance of VAT in Asia and Pacific countries except for Hong Kong and Brunei. There had been a considerable reduction of top marginal rate of individual income tax and in corporate taxes. The author found that the individual tax brackets had been considerably reduced during 1980s. There had been increasing acceptance of partial integration of company and individual income taxes to avoid double taxation of dividends.

Panda (2009) gave importance on tax effort on the part of the sub-national governments in India to increase their own revenue and reduce the dependence on central transfers. He applied the panel data model to examine the revenue effort of the government and found that tax efforts of many state governments were not sufficient compared to their revenue potential. There was always a gap between the revenue potential and actual collection of revenue of a state. The author was of the view that higher central transfers had a disincentive effect on the tax efforts of the state governments in India. There is a need on the part of the Finance Commission of India to put more weightage on revenue effort while distributing funds to the states.

Kumar et al. (2007) had made a study on the role of tax administrative machinery for enhancement of revenue. They were of the view that effective tax administration requires an environment in which citizen were induced to comply with tax laws voluntarily. From their study on Indian states, they came out with the conclusion that if non-compliance cost more, people would comply with tax laws voluntarily. They were of the view that the effectiveness

of tax administration relied upon perceived ability to detect and bring tax offenders, namely unregistered tax payers, stop filers and tax evaders.

Rao (2002) emphasized on allowing the state governments to tax service sector. He was of the view that as service sector in India had grown at a high rate, states could gain substantial revenue by taxing service sector. Along with that, he recommended for widening the base of the agricultural income tax. Simplifying the tax system and strengthening tax administration could also act as a revenue enhancement strategy.

Rao and Rao (2005) were of the view that tax policy should be employed as a principal instrument to correct severe budgetary pressure. Their view was that the wave of tax reforms across the world that began in the mid-eighties of the previous century actually accelerated in the 1990s. It was motivated by number of factors such as transition from planned to market economies, pressing fiscal imbalances and need for minimizing both efficiency and compliance cost etc. The transition from plan to market economies necessitated wide ranging tax reforms both at the central and state level.

Soni (2007) found that developmental responsibilities of the Indian states had increased manifolds during the post reform period. Compared to that, the devolution of funds was found to be insufficient. As a result, the states had been alienated from the federal set-up and were demanding greater financial autonomy. The author was of the view that a large part of the unrest in different parts of the country was related to inability of the state to ensure economic growth due to paucity of funds. In order to augment their financial resources, the author suggested larger devolution of resources to the states and allowed the states to have their planning priorities in accordance with their developmental needs. Similarly, grants should be given to the states not on the basis of political consideration, but in accordance with their developmental needs. As central transfer constitutes the dominant source of revenue of the special category states, changes in the composition of central transfers plays an important role in revenue position of those states.

Bagchi et al. (2005) found that despite extensive tax reforms during 1990s, tax-GDP ratio of India was yet to reach the level registered in the late 1980s. The challenge before the states was to explore the ways in which tax ratio could be pushed up without raising the rates or

resorting to distortionary taxation. Given this types of restrictions, they were in favour of tightening the administration and widening the base. The authors were of the view that with the help of modern information network, tax administration should be geared up to face the challenges of enforcing the tax laws in an increasingly complex and sophisticated environment. They suggested that to improve the revenue productivity of the tax system in the short run without tinkering with tax rates was to widen the bases of the major taxes. The main task of such an exercise was to weed out unnecessary tax break both in direct and indirect taxes. They found tax break as used to attract foreign investment were inefficient and costly instrument in terms of loss of revenue which often remains unquantified. By eroding the tax base, tax break forces a government to rely on high rate of taxes which leads to tax evasion and generate pressure for more tax break.

Purohit and Purohit (2009) in their study found that non-tax may be a significant source of revenue for special category states that were generally revenue deficient. Given the revenue-expenditure gaps in the states' budgets, they were of the view that economically viable non-tax revenue sources could play a significant role in reducing the gap. From their study, they found that growth rate of this source of revenue was not able to keep pace with the other sources of revenue receipts. They suggested that non-tax revenue could be a major source of budgetary receipts if proper attention was paid towards pricing of services. As education plays a vital role in promoting socio-economic development of the country, it is of utmost importance that primary education should fully subsidised and user charges for secondary and higher education are so designed that these are progressive according to the income-group of the user. They were of the view that credit market should be regulated for financing higher education and it should be accessible to both poor and non-poor. Regarding medical services, it is essential to differentiate between poor and non-poor people availing the medical facilities. One way, could be to locate more facilities closer to the rural areas, as most of the poor people live in rural areas and charge low fees from them. On the other hand, insurance status is a good indicator of those people who can afford the medical care and so full cost should be charged from insured people. Water rate structure should be rationalised for the better recovery of cost. A reasonably accurate metering system must be installed and maintained for direct water users, and a timely billing and metering system has to be in place.

Also, there should be a lower water rate structure for non-domestic user as compared to domestic user. In irrigation projects, the government should review and adjust rates in every five years. To improve the maintenance of roads, it was recommended that government should start a system of electronic toll collection either through microwave technology or through infrared technology. This would able to solve the problem of congestion due to toll collection considerably.

Sarma (1991) in his paper gave importance on proper measurement of tax effort while distributing funds from the central government to the sub-national governments in India. He was of the view that due to non-availability of appropriate methods to measure inter-state tax effort, the Finance Commissions of India were not able to give due weightage on tax effort in their distribution formula. This may act as a laxity on tax effort of the state governments.

Reddy (1975) gave importance on tax effort while distributing fund to the states. He emphasized on improving the tax effort of the state governments in India. The author opined for considering tax effort as a criteria for inter-state distribution of central transfers in India. He was of the view that ignoring interstate differences in tax-effort was to put a premium on low tax-effort and to promote laxity on the part of the states. The author examined various measures of tax-effort with a view to arrive at a reliable indicator of tax effort and found that multiple regression analysis was the most suitable method for computing the tax effort of a state. He also opined that as long as Finance Commissions' award ignores tax-effort, there was greater need on the part of the Planning Commission to put weightage to this criterion in their distribution of funds.

Jha et al. (1999) based on their study on fifteen major states in India identified the moral hazard problem in the design of the central grants as higher grants by the central government to the states reduce the efficiency in revenue collection.

Dholakia et al. (2004) in their study on Indian states suggested that central transfers should be based on states' own account primary deficit. It would provide the most crucial incentive to generate own resources.

Todi (1995) based on his study on North East India found that revenue from sales taxation was very less in this region compared to other region. The writer was of the view that lack of uniformity in the taxation system and lack of sound administrative set-up resulted low sales tax revenue in this region. Without effective and suitable administration, even the best designed sales tax structure to raise maximum revenue might prove to be ineffective. He was of the view that laws relating to levy and collection of sales tax should be unambiguous and the tax administration should be organized one. From his study, the writer found that there was enough scope for additional revenue from forest and mineral resources if additional steps were taken in this regard. Again, due to peculiar geographical location of the region surrounded by international borders like Burma, China and Bangladesh, a considerable quantity of forest product were found to be smuggled out of these regions which deprived the region of their share.

Sarma (1971) had made a comprehensive study on revenue generation of Assam covering the period from 1947-48 to 1965-66. The writer was of the view that notwithstanding the predominantly rural character of the state, there was considerable scope for expanding yields under different taxes by streamlining and tightening the tax administration machinery. In a state like Assam, state's taxation power relating to property and income was found to be mainly confined to land base. The writer was of the view that in a thickly populated state like Assam, the volume of land assessable to tax was more or less static. Hence, land as a source of revenue would generally depend on enhanced rates. It was largely political consideration that has stood in the way of introducing elements of progressivity into the land base taxes and thus mobilizing revenue from them. In the case of commodity taxes, the author found that industrially developed states enjoyed a differential advantage over their relatively backward counterparts. The replacement of sales tax on certain commodities by additional excise duties seemed to impose further restrictions on revenue collection of the state. The base of the agricultural income tax could perhaps be widened so as to include non-plantation agricultural income. Regarding shared taxes, the author found that distribution pattern was biased in favour of relatively advanced states.

The above review of literature reflects the importance of proper revenue effort which may generate more revenues. The revenue enhancement strategies are mainly concentrated on

widening the tax base, reducing the loopholes and increasing the productivity of non-tax revenue. Proper emphasis on revenue effort by the state governments in India may help them to generate more revenues. Considering the above fact, various studies recommended for incentive based transfers from Finance and Planning Commission of India. Reduction of unnecessary tax breaks or tax concessions may also help a government to generate more revenues as tax concessions or tax breaks as used by various countries to attract foreign investment are not found to be beneficial for the respective governments.

2.4 Fiscal and Debt Sustainability of the State:

As different countries around the world have been experiencing fiscal deterioration, the issue of fiscal and debt sustainability is emerged as issue of discussion in recent decades. The persistent increase in the deficit indicators of both the central and state governments in recent two decades increases the relevance of the issue in India. The present section is an attempt to make a review of existing literature on fiscal and debt sustainability.

Flavin and Hamilton (1986) was of the view that in order to issue interest-bearing debt, a government must promise to balance its budget in present value terms. Debt Sustainability, according to them, was the main instrument for overall sustainability of a government.

Gupta (2003) found that implementing durable fiscal reform and controlling public debt had been a major challenge for policy makers around the globe particularly for emerging market economies during 1990s. His study highlighted the potential fiscal risk of increasing public debt as it had risen since the mid-nineties of the previous century and stood above 70 percent of the GDP for those countries. The increase was found to be more noteworthy in Asia and Latin American countries.

Wyplosz (2007) was of the view that any policy conclusions drawn from debt sustainability exercises must be considered with care. This is because sacrificing growth in the short and even in the long run to imprecisely known risks can be very costly. In his paper, the author made a critical analysis of IMF's definition of sustainability which implies that for debt sustainability, current debt plus the present discounted value of all expenditures should not exceed the present discounted value of all revenues (or, equivalently, that the current debt

does not exceed the present discounted value of future revenues net of non-interest expenditures). Wyplosz found this approach of debt sustainability to be sophisticated, but he pointed out that any debt sustainability assessment was valid within limited time period due to uncertainty of future.

Buiter and Patel (1992) in their study on Central Government in India which covers the period from 1970 to 1990 came out with two principal conclusions. First, continuation of the same fiscal behaviour would eventually threaten the solvency of the government and in turn sustainability. Second, the option of using the seignorage or inflation tax to bridge part of the budgetary gap was limited and as a result, small sustained increase in the share of the seigniorage in GDP had a high cost in terms of additional long term inflation, and even maximal use of inflation tax would insufficient to close the solvency gap.

Gulati (1993) in his study found that during 1980s, the combined debt of the central and state governments in India grew at the rate of 18 per cent per annum as against the GDP growth rate of 14 per cent. The increase in internal public debt was almost six times (5.84) during the period which was a matter of concern for both the central and state governments. Gulati was aware of the adverse impact of excess public borrowing and gave importance on fiscal consolidation. But according to him, restriction of public borrowing should not be at the cost of social obligations and economic growth. He was of the view that to reduce the burden of public debt by reducing the government's required expenditures may well amount to reneging on its obligations. Instead of that, government should explore different ways of mobilizing additional current revenues such as larger recoveries in the form of interest receipts, dividends, and reduce the net outgo on account of interest on public debt. He was of the view that government should give importance on economic growth which leads to more generation of revenue even at a lower tax rate to meet the larger magnitude of the debt.

Chelliah (1996) was of the view that the uninterrupted and rapid growth of public debt in India during 1980s and early 1990s was only a manifestation of the deepening fiscal crisis. The writer was of the view that public debt grew very rapidly both in absolute and in relation

to GDP. He was in favour of urgent steps on the part of governments for reduction of deficits and interest burden.

Olekalns and Cashin (2000) had made a study on sustainability of Indian Fiscal policy covering a period from 1951-52 to 1997-98 by using conintregration and stationarity test. Their study found that India had a long history of running fiscal deficits and magnitude of these deficits had violated the intertemporal budget constraint. There was no evidence of cointegration between central government's tax revenues and expenditures implying a violation of intertemporal solvency and sustainability. Based on their study, they concluded that fiscal policies of the central government were unlikely to be sustainable in the long-run and need to be altered to prevent the adverse response from the lenders.

Kopits (2001) carried out his study at the time of state-level fiscal crisis in the later part of nineties of previous century. He observed that India's public deficit bias and indebtedness cannot be sustained for a long time. Thus, he was in favour of adopting fiscal responsibility legislation with a high degree of transparency and well designed fiscal policy rules.

Gurumurthi (2002) in his paper found that debt relief schemes as provided by Tenth and the Eleventh Finance Commission of India were insufficient to deal with the magnitude of the debts of state governments. He was in favour of addressing the issue more seriously while drafting the terms of reference of the Finance Commissions.

Moorthy (2004) in his paper on state governments in India found that despite the existence of primary deficit in the later half of the 1990s, interest rates were favourable. The initiative by central government to swapped high cost debt of state governments to low cost debt was found to be the main contributing factor for favourable interest trend during that period. The author was of the view that this should not be considered as long term solution as for long term sustainability; both the central and state governments must give importance on primary surplus.

Prasad et al. (2003) in their study showed that given high level of contingent liabilities of the state governments in India, some sorts of corrective measures were inevitable. They were against the policies of central public sector undertakings and central government to provide bailouts though write-off and waivers of loans and interest to avoid moral hazard problem. The favourable interest rate environment of the state governments in the recent decades, according to them, was not likely enough to offset the worsening primary deficit. They were in favour of giving more emphasis on primary surplus to reduce interest payments, fiscal deficit and revenue deficit. Their view was that fiscal responsibility legislation was not adequate enough to offset the fiscal disabilities because emphasis was not given on primary deficit. If the priority was to resort to borrowing to incur capital expenditure, then the Fiscal responsibility legislation should aim to keep the primary deficit under control.

Rangarajan and Srivastava (2004) in their paper had examined the long term profile of fiscal deficit and debt relative to GDP in India, with a view to analyze the sustainability issues along with the considerations relevant for determining suitable medium and short-term fiscal policy. They opined that the impact of fiscal deficit and debt on growth and interest rates that arises from their effect on saving and investment was critical in any examination of fiscal sustainability. They argued that large structural primary deficits and interest payments relative to GDP have had an adverse effect on growth. Along with that, large revenue deficits amount to reduction in government savings, which may not be fully offset by a corresponding rise in the private savings, lead to a fall in the overall saving rate. They studied the impact of fiscal deficit on both private and public investments. They opined that the adverse effects on private investment occur if fiscal deficits put pressure on interest rates, and if private investors are sensitive to the interest rate. The effect on government capital expenditure is through committed interest payments, which rise if the debt-GDP ratio rises. They were in favour of two phases to bring stability in the fiscal stance of both centre and states. In the adjustment phase, fiscal deficit should be reduced in each successive year until revenue deficit, and correspondingly, government dissaving, is eliminated. In the second phase, fiscal deficit could be stabilised at some percent of GDP or GSDP. The debt-GDP ratio would eventually stabilise and in this process, the ratio of interest payments to revenue

receipts will fall, enabling a progressively larger amount of primary revenue expenditure to be incurred on social sectors.

Lahiri and Kannan (2004) were of the view that there was a widespread unanimity about the unsustainability of the Indian fiscal stance at the later part of 1990s. They identified the crucial issues relating to debt such as the composition of the deficit, the growing debt which is nothing but the accumulated deficit over the past, the growing interest burden on public debt and financing a part of the deficit through borrowings from the Reserve Bank of India. The author was of the view that inability to garner more revenue and contain unproductive expenditure created the burden of adjustment on capital expenditure and critical items such as operation and maintenance expenditure.

Rajaraman et al. (2005) had made a state level fiscal sustainability analysis in India. On the basis of their study on Indian states, they concluded that excessive borrowings by state governments by utilizing the sources such as borrowings from financial institution and National Small Savings Fund led to unsustainable debt at the state level. To deal with the problem, they recommended for inclusion of the entire borrowing by the state governments under article 293(3). They were of the view that, as public debt accumulated, there was legitimate concern over whether the governments were in a position to service its debt. Ultimately, when financial markets perceived that the debt stock of any government was unsustainable, further lending to that government had ceased. Proper debt sustainability approach helped a government to prevent such a situation. They opined that assessment of fiscal sustainability analysis has to be carried out through multiple dimensions such as primary deficit GSDP ratio, interest payments revenue receipts ratio etc.

Rath (2005) had made a debt sustainability assessment of Orissa with the help of Domar model. The study which covers the period from 1990-91 to 2002-03 found that the fiscal position of the state was insolvent during that period. This was due to the fact that the although growth rate of GSDP was found to be greater than growth rate of average interest payments on public debt, but was less than growth rate of public debt. It implied that the state had fulfilled the sustainability condition but did not able to fulfill the solvency condition. On the basis of these findings, he came out with the conclusion that debt sustainability of Orissa

was uncertain in future, as solvency condition was not satisfied. This might lead to excessive debt GSDP ratio and weaken the fiscal sustainability aspect of the state.

Rajaraman and Mukhopadhyay (2005) in their paper had examined the time series properties of debt GDP ratio of India in undiscounted terms using structural time series model. Their study which covered the period 1952-97 found that there was an immediate need for fiscal correction in India to preserve public solvency.

Rakshit (2005) reported that the most serious weakness of the Indian macroeconomy in recent decades lies in the large and persistent fiscal deficits. He was of the view that large deficit and interest payments stand in the way of provision of essential public goods and development expenditure. The author found that the macroeconomic role of the budget deficit underwent radical changes by the early 1970s. Along with the sustainability issues, economists were increasingly worried about crowding out and other adverse consequences of fiscal deficit. The author was of the view that Domar condition of sustainability rather than solvency criteria or Ricardian equivalence provided a better approach to analyze the consequences of budget deficits or sustainability of debt financing.

Srivastava (2009) in his study found that the indebtedness of Indian states grew sharply during the later part of 1990s. His study revealed that the overall debt GSDP ratio had increased from 21 percent in 1997 to 33.5 percent in 2005 implying an increase of 12.5 percent in a period of seven years. The author was of the view that the rising debt in the 1990s was mainly due to the implementation of the Fifth Central Pay Commission's recommendations, a sharp rise in nominal interest rates towards the end of 1990s, and slow growth in the first three years of the 1990s. The author observed that overall environment for states' borrowings had been considerably changed after the recommendation of the Twelfth Finance Commission as states had been asked to raise their loans directly from the market through the RBI. Along with that, the states had been given a major one-time debt relief by consolidating and rescheduling their outstanding debt to the central government provided that they enact fiscal responsibility legislation with given conditionalities. These recommendations, according to him, have implications for the future debt path of the states.

Ramesh and Shanbhogue (2010) had made a critical analysis of debt sustainability of Goa. They have found a positive relationship between the ratios of primary deficit and GSDP and debt and GSDP. The favourable difference between the rate of growth of GSDP and interest payments on public debt helped the state to achieve fiscal sustainability. They found that the role of the central government is crucial in determining the debt position of the state during the study period.

Thus, the issue of fiscal and debt sustainability has been a matter of concern for all tiers of governments in recent decades. Governments have to ensure a sustainable fiscal policy while discharging their expenditure responsibilities. But to control the burden of public debt by cutting down necessary expenditures may well amount to renege their obligations. At the same time, an unsustainable fiscal policy may lead to further deterioration of state's economy. Under these circumstances, there is a need to design an appropriate fiscal strategy encompassing all the above issues. A proper assessment of fiscal sustainability helps in smooth functioning of the economy as it can determine the sustainable level of debt and deficits.

2.5 Conclusion

The above theoretical and empirical literature shows the importance of proper fiscal policy for smooth functioning of the economy. It also highlights the macroeconomic implications of fiscal policy in terms of its effects on savings and investments and overall stability of the economy.

It can be easily inferred from the above discussion that countries around the world have faced the problem of fiscal instability during the last three decades. Considering the implication of fiscal instability, they have given importance on fiscal reforms particularly from eighties of the previous century. The worldwide changes in recent decades such as reduced importance of trade taxes, deregulation of the financial sector, worldwide acceptance of VAT, broad based trend towards reduction in direct tax rates etc. reflect the desire of the respective governments to carry out those fiscal reforms. Economic development of a country depends on the ability to carry out those reform measures.

While undertaking different reform measures, all the governments have faced the problem of selection of proper fiscal strategies. Compared to revenue enhancement, strategy on reduction of expenditure is found to be more effective in controlling fiscal imbalances. But too much emphasis on reduction of expenditure may lead to scarcity of resources for priority sectors. It may also deteriorate the existing quality of expenditure. A comprehensive set of reform measures is required to overcome this problem. The problem in India is found to be more severe as most of the state governments in India faced the problem of fiscal instability in later part of 1990s. All the state governments in India faced the difficult task of increasing expenditure in priority areas while reducing deficits to sustainable level. The state governments in India faced the dilemma of maintaining human development without deteriorating deficit indicators. In this respect, the above literature suggests that the states should infuse greater efficiency, transparency, and greater accountability in their functions. State governments have to improve their revenue raising capacity through widening of tax base, reducing tax evasion and tax avoidance, charging appropriate tax rate and user charges. They have to put ceiling on contingent liabilities which imposes a future debt burden. It is also necessary to review subsidies periodically to remove the unnecessary ones. Along with that, an assessment of the fiscal sustainability has to be made to have an idea about future liabilities. Otherwise, it will disrupt the normal functioning of the economy and ultimately the whole economy will be affected.

Various state specific studies have been carried out in India which emphasize the importance of a comprehensive reform strategy. State governments in India undertook different fiscal reform measures in terms of revenue enhancement and expenditure reduction. But it was found that human resource development had been adversely affected by the policy reforms undertaken by the Government of India from time to time. The maintenance expenditure was found to be gradually squeezed out by the other components such as salary and wages and interest payments etc. Although some studies have been carried out on different aspects of the fiscal problems of Assam, no recent study is found which addresses the issues such as revenue effort, expenditure prioritization and fiscal and debt sustainability etc. As evident from the above review of literature, these issues are very crucial for sub-national government

particularly in recent decades. The relevance of the above issues has increased enormously during the first decade of the present century due to the deterioration of the fiscal indicators of the state governments which forced them to adopt various fiscal reform measures. Therefore, a systematic study on the problem of fiscal imbalances and the remedial reform measures is required to have an idea about the fiscal stability of the state. The enhancement of revenue through proper revenue effort is necessary for overall economic development of the state. It is imperative to look into the revenue scenario of the state from the perspective of sufficiency and adequacy of funds which is carried out in the next chapter.

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Chapter 3

Pattern of Revenue Generation and Revenue Efforts of Government of Assam

The available literature on different issues of state finances as discussed in the previous chapter has pointed out that the fiscal position of a state is mainly dependent on total resources generated from different sources. The revenue receipts of the sub-national governments consist of own revenue generated from different tax and non-tax revenue sources and central transfers. The own revenue generation of the states in India, in turn, depends on the assignment of revenue sources by the Constitution of India. The theoretical framework of fiscal federalism provides the first principle for addressing this assignment issue. Musgrave (1969) and Oates (1972), among others, provide the basic arguments on this issue. The theory of assignment argues that as monetary and external sectors are best handled by the central government, it should have the basic responsibility for macro-economic stabilization and income redistribution function. The central government is also in ideal position to provide the national public goods having economy wide reach such as defence or issuance of currency. There is corresponding problem of assignment of revenue sources for determining the vertical structure of taxes known in the literature as 'tax-assignment problem' (Mclure, 1983). It is a difficult task of determining the taxation power of each jurisdiction in a federal system. The basic issue here is the selection of taxes that are suitable at different levels of government to prevent distortions in resource allocations. These distortions take the form of locational inefficiency as taxed units seek out jurisdictions where they can obtain favourable tax treatment. The available literatures on this issue are of the view that, the sub-national government should refrain from non-benefit taxation of mobile economic units. It helps to avoid inefficiencies involving exporting the tax burdens, external congestion effects, and impact on level of revenue in other jurisdictions (Rangarajan and Srivastava, 2011; Gordon, 1983). The solution lies in the fact that resident-based taxes rather than source-based taxes are more suitable for a state that can lessen tax-induced distortion by reducing the scope of tax exporting (Inman and Rubinfeld, 1996; McKinnon and Nechyba, 1997).

3.1 Assignment of Revenue Sources in India:

As a federal country, both the central and state governments in India have revenue raising power. The seventh schedule (article 246) of the Indian Constitution determines the revenue sources of each jurisdiction by specifying the subject matter of different tiers of government as Union List (List I), State List (List II) and Concurrent List (List III). With regard to the Concurrent List, both the Parliament and a State Legislature can make laws, but the laws made by the parliament will prevail. The residuary functions, that is, those not listed in I and II, are vested with the Union. Thus, the Central Government in India has supremacy over a wide range of legislature field including the power of taxation also (Vithal and Sastry, 2000; Heller and Rao, 2004). The Union List includes, among others, taxes on income other than agricultural income, excise duties, custom and corporation tax. The State List includes land revenue, tax on agricultural Income, estate duty, taxes on sale or purchase of goods, taxes on vehicles, on professions, on luxuries, on entertainment, and stamp duties etc. Taxes that are assigned to the central government are found to be more elastic and productive compared to the state taxes. As a result, imbalances occur in the finances of the state governments requiring transfer of revenue from the central government (Rangarajan and Srivastava, 2008). The transfer mechanism through different channels has been designed by the Constitution to correct the imbalances arising out of asymmetries in tax assignment between the central and state governments in India. In other words, the revenue receipts of the state governments consist of both own revenue generated from different sources and central transfers. But revenue generation capacities of the state governments in India are found to be widely diversified due to various factors such as geographical location, infrastructure facilities, availability of natural resources and pace of industrialization etc. Unlike the rich states in India, the poor states have low revenue raising capacities which force them to depend on central transfers. Assam, in the North Eastern part of India is a poor state with lots of infrastructural bottlenecks. The difficult geographical terrain also acts as a constraint to the revenue generation capacities of the state government. Under these circumstances, it is necessary to study the overall revenue scenario of the state.

3.2 Composition and Trend of Total Revenue of the State:

As discussed in the previous section, revenue receipts of the state governments consist of both own revenue and central transfers. The own revenue of the state governments includes both tax and non-tax revenue. On the other hand, allocations from Finance and Planning Commission of India and various ministries of the Central government comprise the central transfers of the state governments. This section has been presented in the following sub-sections.

3.2.1 Composition of Revenue of the State:

As the study period includes two decades, decade wise compound growth rate of different sources of revenue of the state has been computed. This gives an idea about comparative performance of the state in the two decades taken for the analysis. The time series data on composition of revenue receipts of the state provides information on the revenue generation capacities of the state and also the dependence of the state on central transfers. The share and compound growth rate of different sources of revenue of Government of Assam has been provided in table 3.1.

Table 3.1
Composition of Different Sources of Revenue Receipts of Assam during 1990-91 to 2009-10 (₹ in crore)

Year	State Taxes	Non-Tax Revenue	Share in Central Taxes	Grants-in-aid	Total
1	2	3	4	5	6
1990-91	420	278	488	591	1777
1991-92	512	263	531	1112	2418
1992-93	518	461	590	1045	2613
1993-94	613	349	777	578	2317
1994-95	632	327	821	1182	2962
1995-96	702	336	914	1424	3376
1996-97	767	322	1176	1591	3856
1997-98	882	381	1475	1587	4325
1998-99	983	452	1349	1723	4506
1999-00	1225	445	1449	1722	4841
2000-01	1410	527	1680	2018	5635
2001-02	1557	533	1697	2169	5956
2002-03	1934	693	1814	2352	6793
2003-04	2071	946	2162	2587	7765
2004-05	2713	1070	2584	3570	9937
2005-06	3232	1459	3057	4297	12046
2006-07	3483	1859	3899	4425	13667
2007-08	3360	2135	4918	4913	15326
2008-09	4150	2272	5190	6465	18077
2009-10	4987	2753	5339	6805	19884
CAGR* 1990-91 to 1999-00	12.63	5.37	12.85	12.62	11.78
CAGR 2000-01 to2009-10	15.07	20.16	13.71	14.46	15.04
CAGR 1990-91 to 2009-10	13.91	12.83	13.42	13.72	13.55

Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues
Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues
*Compound Annual Growth Rate

It is evident from table 3.1 that total revenue of the state government has increased from ₹ 1777 crore in 1990-91 to ₹ 19884 crore in 2009-10. The compound growth rate of total revenue is found to be 13.55 percent for the above time period. The own tax revenue of the state government has increased from ₹ 420 crore in 1990-91 to ₹ 4987 crore in 2009-10. The compound annual growth rate of own tax revenue during the study period is found to attain

the highest value of 13.91 percent among the all categories of revenue. For the same time period, non-tax revenue of the state has increased from ₹ 278 crore in 1990-91 to ₹ 2753 crore in 2009-10 with a compound growth rate of 12.83 percent. Similarly, shared taxes and grants-in-aid have increased from ₹ 488 and ₹ 591 crore in 1990-91 to ₹ 5339 and ₹ 6805 crore respectively in 2009-10. The compound growth rate of these two sources of revenue is found to be 13.42 percent and 13.72 percent respectively during the above mentioned period. Improvements in the performance of the state has been observed during the time period 2000-01 to 2009-10 compared to the time period 1990-91 to 1999-00 as compound growth of total revenue is found to be higher in the first decade of the present century than the previous decade. The compound growth rate of tax and non-tax revenue of the state is found to be 15.07 percent and 20.16 percent during the time period 2000-01 to 2009-10 compared to 12.63 and 5.37 percent respectively in the previous decade. Similarly, the growth rate of central transfers in terms of shared taxes and grants-in-aid has experienced a growth rate of 13.71 and 14.46 percent during the time period 2000-01 to 2009-10 compared to 12.85 and 12.62 percent respectively during 1990-91 to 1999-00. It is also necessary to examine the percentage contribution of different revenue sources towards state government's exchequer to examine the significance of each sources of revenue.

3.2.2 Share of Different Sources of Revenue of the State:

The composition and percentage contribution of the above mentioned revenue sources speak about the dependence of the state on central transfers. The higher proportion of own resources compared to central transfers gives the state the required flexibility to undertake different developmental works at its own discretion. The percentage contribution of different components of revenue of the state has been provided in table 3.2.

Table 3.2
Percentage Contribution of Different Sources of Revenue Receipt of the State during 1990-91 to 2009-10

Year	State Taxes	Non-Tax Revenue	Total own Revenue	Share in Central Taxes	Grants-in-aid	Total central Transfers
1	2	3	4 = (2+3)	5	6	7 = (5+6)
1990-91	23.65	15.62	39.26	27.46	33.28	60.74
1991-92	21.18	10.86	32.04	21.96	46.00	67.96
1992-93	19.81	17.62	37.43	22.58	39.99	62.57
1993-94	26.45	15.06	41.51	33.53	24.96	58.49
1994-95	21.34	11.02	32.37	27.72	39.91	67.63
1995-96	20.81	9.94	30.75	27.07	42.18	69.25
1996-97	19.89	8.35	28.24	30.50	41.26	71.76
1997-98	20.39	8.81	29.20	34.10	36.70	70.80
1998-99	21.80	10.03	31.83	29.94	38.23	68.17
1999-00	25.30	9.19	34.49	29.93	35.58	65.51
2000-01	25.02	9.35	34.37	29.82	35.82	65.63
2001-02	26.14	8.95	35.09	28.49	36.41	64.91
2002-03	28.48	10.20	38.68	26.71	34.62	61.32
2003-04	26.67	12.18	38.85	27.84	33.31	61.15
2004-05	27.31	10.77	38.07	26.00	35.92	61.93
2005-06	26.83	12.11	38.95	25.38	35.67	61.05
2006-07	25.49	13.60	39.09	28.53	32.38	60.91
2007-08	22.14	13.89	36.03	32.00	31.97	63.97
2008-09	22.96	12.57	35.53	28.71	35.76	64.47
2009-10	25.08	13.84	38.92	26.85	34.22	61.07

Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues during 1991-2010.
Statistical Handbook, Government of Assam, various issues during 1991-2010
Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

It is evident from table 3.2 that central transfers constitute a major portion of the state's total revenue during the study period. It has been noticed that the central transfers, on an average, constitute more than 64 percent of the total revenue receipt during of period of study. The dependence of the state on central transfers remains more or less same during the study period. In the year 2009-10, central transfers contributed 61.07 percent of the total revenue compared to 60.74 percent in the year 1990-91. Over-dependence of the state on central transfers reflects the inability of the state to undertake developmental activities with its own

resources. The percentage contribution of each sources of revenue is also shown in figure 3.1. Figure 3.2 shows percentage contribution of own revenue and central transfers to total revenue at an aggregate level.

Figure 3.1 Percentage Contribution of Different Sources of Revenue Receipt

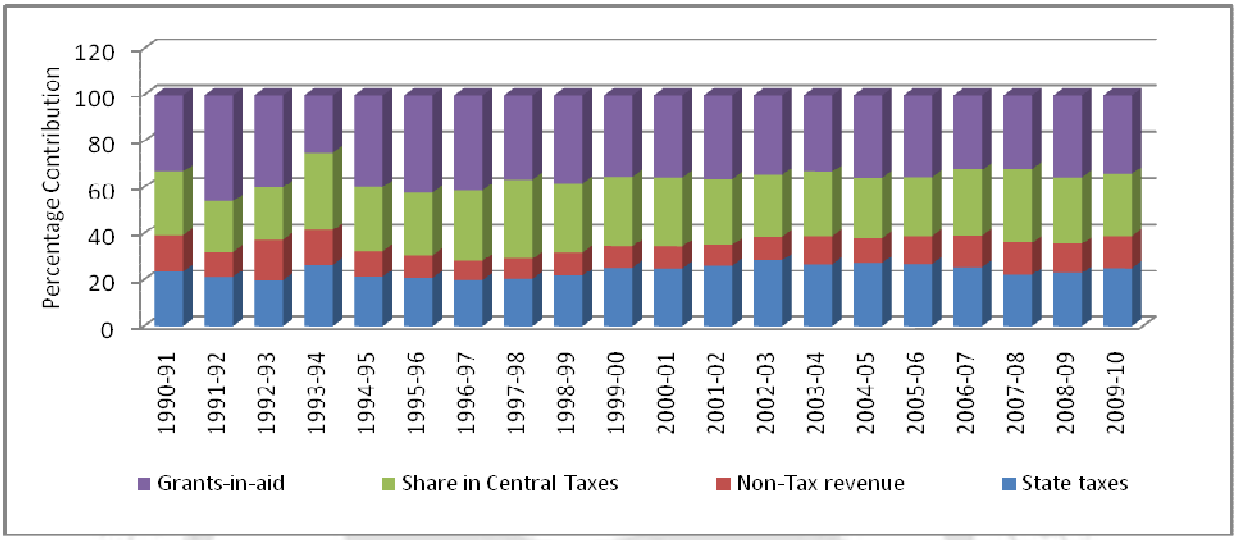
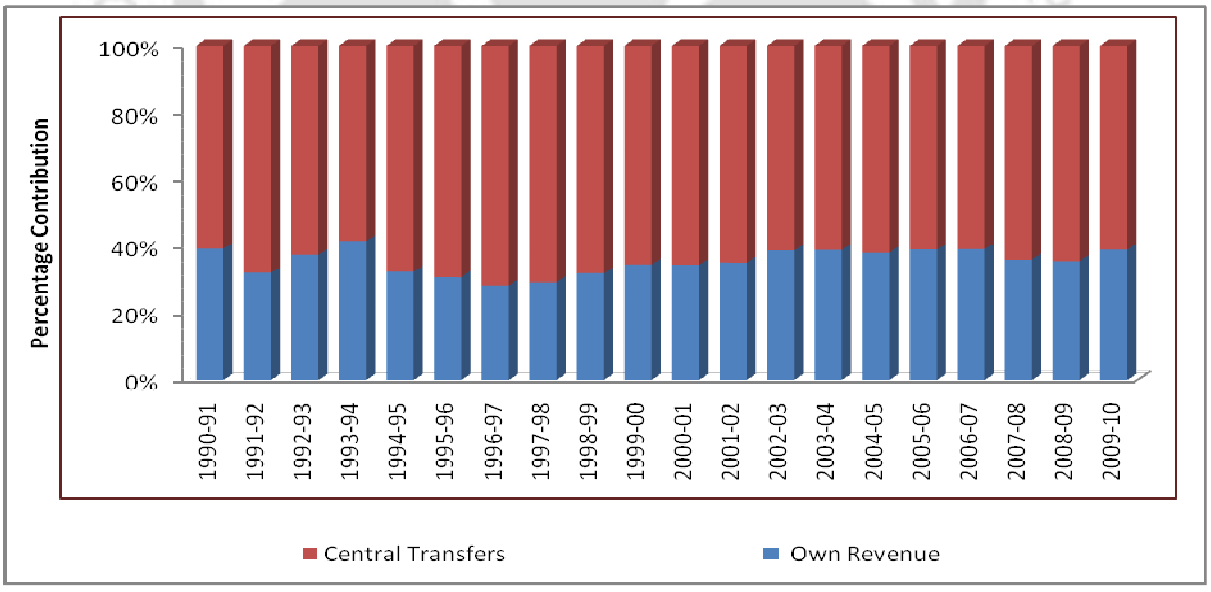


Figure 3.2 Percentage Contribution of Own Revenue and Central Transfers in Total Revenue



It can be seen from figure 3.1 that grants-in-aid has been a significant source of state's total revenue during the study period. Among the own revenue, tax revenue is found to be major contributor for the period taken for the analysis. It is clearly evident from figure 3.2 that

central transfers constitute the major portion of total revenue of the state for the period considered for the analysis. A fall in central transfers may lead the state in to fiscal imbalances. Under these circumstances, it is necessary to examine the dependence of the state on central allocation in comparison to other states in India.

3.2.3 Ratio between Own Resources and Revenue Receipt:

To have an idea about the comparative position of the state on dependence on central transfers, the whole time period is divided into four sub-periods by taking five year average of the parameter. The improvement index is computed as a percentage of change over the previous sub-period to know the improvement of the state in a particular sub-period compared to the previous one. The improvement indices in the three sub-periods are represented as A, B and C. A indicates the improvement in the sub-period 1995-00 over the sub-period 1990-95. Similarly, B and C indicate improvement in the sub-period 2000-05 and 2005-10 compared to the sub-period 1995-00 and 2000-05 respectively. The relative dependence of the state on central transfers compared to other states of India has been provided in table 3.3.

Table 3.3
Own Resources-Revenue Receipt Ratio of Assam vis-a-vis other States in India (in percentage)

	Own Resources-Revenue Receipt Ratio (Per Cent)				Improvement Index		
	1990-95	1995-00	2000-05	2005-10	A	B	C
Andhra Pradesh	64.00	64.26	68.65	66.66	0.41	6.83	-2.90
Bihar	40.42	39.92	27.55	19.63	-1.24	-30.99	-28.75
Goa	65.41	85.51	88.94	81.15	30.73	4.01	-8.76
Gujarat	79.95	80.12	78.11	73.77	0.21	-2.51	-5.56
Haryana	85.71	85.25	87.39	83.68	-0.54	2.51	-4.25
Karnataka	72.87	73.82	74.15	72.27	1.30	0.45	-2.54
Kerala	66.94	71.89	73.79	69.97	7.39	2.64	-5.18
Madhya Pradesh	58.27	60.78	58.06	50.27	4.31	-4.48	-13.42
Maharashtra	79.47	82.92	85.51	76.48	4.34	3.12	-10.56
Orissa	40.42	43.04	37.06	42.27	6.48	-13.89	14.06
Punjab	82.02	84.37	87.61	79.48	2.87	3.84	-9.28
Rajasthan	56.10	61.59	58.81	57.44	9.79	-4.51	-2.33
Tamil Nadu	69.80	74.54	76.60	72.93	6.79	2.76	-4.79
Uttar Pradesh	47.92	50.84	50.20	44.80	6.09	-1.26	-10.76
West Bengal	56.70	56.41	53.37	50.77	-0.51	-5.39	-4.87
Major States	63.36	66.72	67.05	62.77	5.30	0.49	-6.38
Special Category States							
Assam	**33.40**	**31.07**	**37.37**	**31.90**	**-6.98**	**20.28**	**-14.64**
Arunachal Pradesh	13.42	8.91	11.05	15.44	-33.61	24.02	39.73
Himachal Pradesh	28.18	39.41	57.33	38.58	39.85	45.47	-32.71
Jammu and Kashmir	15.79	14.83	18.78	22.39	-6.08	26.64	19.22
Manipur	9.38	8.50	8.37	9.16	-9.38	-1.53	9.44
Meghalaya	15.95	17.69	20.37	19.03	10.91	15.15	-6.58
Mizoram	12.06	7.09	7.28	9.99	-41.21	2.68	37.23
Nagaland	9.81	7.32	6.95	8.41	-25.38	-5.05	21.01
Sikkim	38.44	72.81	59.36	52.63	89.41	-18.47	-11.34
Tripura	9.11	10.44	15.45	13.62	14.60	47.99	-11.84
Special Category States	18.55	21.80	24.23	22.11	17.52	11.15	-8.75
All States	60.13	63.19	62.37	57.55	5.09	-1.30	-7.73

Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various Issues

It appears from table 3.3 that the own resources-revenue receipt ratio of the state is found to be low compared to other developed states such as Goa, Andhra Pradesh, Maharashtra for all the sub-periods considered for the analysis. The comparative performance of the state to that of major states average has been found to be much low for each of the sub-periods. Among

the special category states, the performance of Sikkim and Himachal Pradesh are found to be better than Assam for the last three sub-periods taken for the analysis. But compared to the rest of the special category states, the performance of the state is found to be better for the all the sub-periods considered for the analysis. The own resources-revenue receipt ratio of the special category states was 18.55 in the sub-period 1990-95 compared to Assam's ratio of 33.40. The ratio for the state is also found to be higher than the average ratio of the special category states for the rest of the sub periods. But deterioration in the ratio of the state has been noticed during the time period 1995-2000 compared to 1990-95 as well as during 2005-10 compared to 2000-05. On the other hand, improvement in the ratio of the state has been noticed in the time period 2000-05 compared to the time period 1995-00.

The above discussion reveals that the dependence of the state on central transfers is comparatively more than other developed states and the states as aggregates. But the amount transferred to the state government depends upon various factors such as revenue earned by the Central Government and various formulas adopted by various Commissions and ministries of the government. As central transfers constitute the major portion of the state's total revenue, it is necessary to analyze the different sources of central transfers. It is also necessary to examine the guiding principles which actually determine the central allocation to the state governments. The following section examines the guidelines, volume and pattern of central transfers to Assam through different channels of Government of India.

3.3 Different Channels of Central Transfers of the Government of India:

Central transfers through different channels such as Planning Commission, Finance Commission and different ministries of the Government of India have played a significant role in solving the problem of vertical and horizontal imbalances between central and state governments in India. The difference in the fiscal capacities of the states is considered to be chief reason for horizontal imbalance among the states governments in India (Fan et al., 2000; Bagchi, 2002). The transfers designed for this purpose are known as general-purpose transfers provided to the state governments to countervail the fiscal disabilities arising from low revenue raising capacities and higher unit cost of providing services for reasons beyond their control. The theoretical literature advances rationale for intergovernmental transfers on

horizontal equity grounds or merit goods grounds (Buchanan 1950, Broadway and Flatter 1982). The transfers for providing merit goods are made to ensure that every state spends the prescribed minimum outlay on meritorious services with significant inter-state spillovers. The provision of these services is supposed to equalize the standard of social and physical infrastructure across different states. Additionally, given their generalized externalities, it provides a level playing field to the disadvantaged states (Rangarajan and Srivastava, 2011). The main purpose of reducing the vertical and horizontal imbalances through fiscal transfers in India is to allow the state governments to provide comparable level of services if they undertake comparable efforts to raise revenues (TFC, 2009). The transition of Indian economy from plan to market during 1990s puts even greater burden on the transfer system as it accentuated the imbalances between the poor and rich state governments. In addition, a globalizing environment requires the creation of competitive level of infrastructure to prevent skewed regional distribution of economic activities (Rao, 2010). The transfer mechanism of the federal system in India needs to address all the above mentioned issues. A notable feature of transfer system in India is the existence of multiple channels such as

a) Statutory transfers through Finance Commission.
b) Plan transfers through Planning Commission.
c) Discretionary transfers for Central Sector Schemes and Centrally Sponsored Schemes.

3.3.1 Transfer through Finance Commissions:

The Finance Commission of India is a constitutional body constituted for recommendation of the devolution of proceeds from central taxes to states and grants for their non-plan revenue requirements. All the Finance Commissions in India are basically entrusted with the task of

a) Distribution between the Union and the States of the net proceeds of taxes which are to be, or may be, divided between them and allocation of respective shares of such proceeds among the states.

b) Devising principles which should govern the grants-in-aid of the revenues of the states out of the Consolidated Fund of India and the sums to be paid to the States which are in need of assistance by way of grants-in-aid of their revenues under article

275 of the Constitution for purposes other than those specified in the provisos of clause (1) of that article.

Finance Commissions in India have adopted different criteria for devolution of shared taxes. Up to the Seventh Finance Commission, the criteria used for determining the income tax shares were clearly distinct from those for the Union excise duties and were given under two separate articles of the constitution, that is, Article 270 and 272. Article 270 had provided for mandatory sharing of income tax while article 272 had provided for sharing of the Union excise duties at the discretion of the centre. After that, a process of convergence between the two sets of formula began. A full convergence was arrived with the introduction of 80th amendment of the Constitution as recommended by the Eleventh Finance Commission. The Constitution (Eightieth Amendment) Act, 2000, significantly changed the manner of distribution of central tax collections between the Central and State governments. Following this amendment, all central taxes were brought in to sharable pool and it becomes mandatory to assign a share from each central tax to the States. The objectives of the Constitution (Eightieth Amendment) Act, 2000 was to construct a pool of all central taxes for sharing so that a holistic view can be taken and both sides could share in aggregates buoyancy of the central tax revenues (Sury, 2010). On the other hand, grants provided by the Finance Commissions in India are basically for non-plan revenue requirement.

As the study pertains to the time period from 1990-91 to 2009-10, the analysis has been confined to the recent Finance Commissions such as Ninth, Tenth, Eleventh, Twelfth and Thirteenth Finance Commission. The Ninth Finance Commission of India was asked to submit two reports covering the time period 1989-95 to make it comparable with the time period of the Planning Commission. The first report of the Ninth Finance Commission was for the year 1989-90 and the second for the subsequent five years. The Finance Commissions which are considered for analysis are unique in the sense that unlike the previous Finance Commissions, they have applied the same formula for distribution of both Income tax and Union excise duties. The Finance Commissions of India use different criteria such as population, income (distance method), area, index of infrastructure, tax effort, fiscal discipline and fiscal capacity distance etc. for distribution of resources among the states in India. The criteria used by the recent Finance Commissions for devolution of shared taxes

among the states have been given in table 3.4. The two reports submitted by the Ninth Finance Commission have been shown separately in the table as Ninth (1) and Ninth (2).

Table 3.4
Criteria for Inter-State Sharing of Income Tax and Union Excise Duties by Finance Commissions of India (in percentage)

Finance Commission → / Criteria ↓	Ninth(1)*	Ninth(2)*	Tenth**	Eleventh	Twelfth	Thirteenth
1	2	3	4	5	6	7
Population(1971)	25	25	20	10	25	25
Income Distance	50	50	60	62.5	50	-
Inverse Income	12.5	12.5	-	-	-	-
Poverty Ratio	12.5	-	-	-	-	-
Index of backwardness	-	12.5	-	-	-	-
Area	-	-	5	7.5	10	10
Index of Infrastructure	-	-	5	7.5		-
Tax Effort	-	-	10	5	7.5	-
Fiscal Discipline	-	-	-	7.5	7.5	17.5
Fiscal Capacity Distance	-	-	-	-	-	47.5
Total	100	-	100	100	100	100

Source: Reports of the various Finance Commissions, Government of India
*Sharing of 90 percent of divisible pool of Income tax and 37.575 percent of Union excise Duties according to Common Criteria
**100 percent of sharable Income tax and 40 percent of Union Excise duties

From the table 3.4, it is evident that the recent Finance Commissions of India have applied different criteria for devolution of shared taxes between the states in India. The weight assigned to the above criteria has a profound impact on the revenue transfer to the states. The Ninth and Tenth Finance Commission of India brought two changes compared to the previous Commissions. First, there was a move towards unifying the formulae for inter-state distribution of both Income tax and Union excise duties and, secondly, a portion of the Union excise duties was kept aside for distribution according to 'assessed deficits'. The Eleventh, Twelfth and Thirteenth Finance Commission of India adopted a unified formula for the distribution of Income tax and Union excise duties. The above criteria as given in table 3.4 jointly reflect four considerations: (a) vertical transfers; (b) horizontal equity, (c) incentives for efficiency, (d) cost disadvantages. The criteria which have been used by the Finance Commissions for horizontal equity are income distance, inverse-income formula, poverty

ratio and index of backwardness etc. The Thirteen Finance commission has used the criteria of fiscal capacity distance for horizontal equity replacing the above mentioned criteria. Cost variations are brought into considerations through the criteria based on population, area and index of infrastructure: larger the area (per crore populations), higher the per-capita cost; similarly, lower the index of infrastructure, higher is the per-capita cost. In the case of area, which is introduced by the Tenth Finance Commission, a 'censored' distribution of area is used where a floor and ceilings are prescribed. The recent Finance Commission of India also has brought a structure of incentives through the criteria such as tax effort and fiscal discipline. If the tax effort and fiscal discipline of a state is considered to be higher than the other states, the particular state is likely to benefit more from the Finance Commissions' devolution of funds. The Tenth Finance Commission has put a weightage of 5 percent to tax effort. The Eleventh Finance Commission utilized both the index of fiscal discipline and tax effort by assigning a weightage of 5 and 7.5 percent respectively. The Twelfth Finance Commission has assigned an equal weight of 7.5 percent to tax effort and fiscal discipline. The Thirteen Finance Commission of India has used the criteria of Fiscal Discipline by assigning a weight of 17.5 percent.

In view of the economic backwardness of Assam, factors such as poverty ratio, index of infrastructure, fiscal capacity distance could have helped the state to gain more transfers from the centre (Government of Assam, 2008). However, the recent Finance Commissions of India have given more importance on efficiency factors such as tax effort and fiscal discipline along with the cost-disability factors. As such it is necessary for the state to increase the tax effort and maintain fiscal discipline. The state needs to put more revenue effort and maintain fiscal discipline to gain more revenue from the central government. Under these circumstances, it is necessary to examine the share of the state government of the total Finance Commissions' transfers. Here, percentage share of the state government under each Finance Commission is compared with the mean share of the state considering the all the twelve Finance Commissions. The mean share of the state is found to be 3.92 percent of the total central transfer to the state through all the Finance Commissions till Twelfth (TFC, 2009). Deviation from the mean share is computed by deducting the mean share from the state's share under each Finance Commission. The share of the Government of Assam in

total transfers (tax devolution + grants) as recommended by different Finance commission and its deviation from the mean share has been given in table 3.5.

Table 3.5
Deviation of Assam's Share of Finance Commission Transfers from the Mean Share

Finance Commission	Period for which Recommendation was Implemented	Assam's Share	Deviation from the Mean Share
1	2	3	4
First	1952-53 to 1956-57	4.60	0.67
Second	1957-58 to 1961-62	4.33	0.4
Third	1962-63 to 1965-66	4.47	0.55
Fourth	1966-67 to 1968-69	5.04	1.12
Fifth	1969-70 to 1973-74	3.65	-0.27
Sixth	1974-75 to 1978-79	4.58	(0.65)
Seventh	1979-80 to 1983-84	2.49	-1.44
Eighth	1984-85 to 1988-89	4.07	0.15
Ninth (1)	1989-90	4.12	0.19
Ninth (2)	1990-91 to 1994-95	3.73	-0.19
Tenth	1995-96 to 1999-00	3.67	-0.25
Eleventh	2000-01 to 2004-05	3.05	-0.87
Twelfth	2005-06 to 2009-10	3.22	-0.71

Source: Report of the Thirteen Finance Commission, page no. 28
Figures in parentheses represent deviation of the state's share from the mean share

Table 3.5 reveals that during the period of recent Finance Commissions (1990-2010), deviation of the state's share from the mean share has been found to be negative. During the period of Ninth Finance Commission (2) covering the period 1990-91 to 1994-95, the share of the state was found to be less than the mean share of the state. In other words, the state experienced a negative deviation from the mean share during that period. The same trend continued during the period of Tenth, Eleventh and Twelfth Finance Commission when the

state experienced a negative deviation from the mean share amounting to (-) 0.25 percent, (-) 0.87 percent and (-) 0.71 percent respectively implying that share of the state under the above Finance Commissions' is lower than the mean share of the state considering all the Finance Commissions. Although population and income distance are some of the factors which determine the Finance Commission transfers to the state, however, this may not be significant for reduction of the state' share compared to state' mean share during the period of study. As population of 1971 has been considered for devolution of Finance Commission funds to the states, this factor is not responsible for negative deviation of the state's share from mean share. Similarly, as divergence between the per-capita income of the state and average income of the other states has been found to be widening during the period of study, income distance criteria cannot be considered as a factor for this reduction. In other words, it is difficult to determine the exact reason for this negative deviation during the period of study.

As discussed in the previous sections, transfer to states through Finance Commission includes both shared taxes and grants-in-aid. Grants-in-aid are important components of Finance Commission transfers in India. Grants-in aid has been a matter of debate among the states since its inception. States have aired conflicting views on the principles that govern the grants-in-aid to the revenues of the states. The relatively better off states like Karnataka, Tamil Nadu, Goa, Maharashtra and Gujarat have suggested an incentive based grants-in-aid for better fiscal management. The less developed states like Madhya Pradesh and Orissa have suggested that the grants-in-aid should be given to meet the deficits in both the plan and non-plan revenue expenditure and should not be confined only to meet the deficit on non-plan revenue account (TFC, 2004). The different Finance Commissions suggested several categories of Grants-in-aid. The first such grant is the post-devolution non-plan revenue deficit (NPRD) grant. NPRD grants have ranged from a maximum of 100 percent of total grants as recommended by the Fourth and Fifth Finance Commission to 33.1 percent, as recommended by the Ninth Finance Commission. The amount recommended by the Twelfth Finance Commission was 16.26 percent of total grant, the lowest ever in Finance Commission recommendations. Assam has benefitted from the NPRD grants under all the Finance Commissions except under Seventh and Thirteenth Finance Commission. The

Thirteenth Finance Commission is of the view that Assam has graduated from that level and the state does not require that grant anymore. The state will not get any non-plan revenue deficit grants during the time period 2010-2015. Instead, the state will get a performance grants of ₹ 300 crore for the years 2010-2013. The amount and percentage of shared taxes and grant-in-aid as provided by the recent Finance Commissions to the state has been provided in table 3.6.

Table 3.6
Recent Finance Commission Transfer to Assam in terms of Shared Taxes and Grants-in-Aid (₹ in crore)

Finance Commission	Tax Sharing	Grants-in-Aid	Total
1	2	3	4
Ninth (2)	2969.57 (75.06)	986.73 (24.94)	3956.31
Tenth	7064.14 (84.84)	1263.91 (15.18)	8328.05
Eleventh	12362.05 (93.08)	918.81 (6.92)	13280.86
Twelfth	19850.69 (81.60)	4478.71 (18.41)	24329.40
Thirteenth	52620.6 (90.99)	5212.1 (9.01)	57832.7

Source: Reports of the Recent Finance Commissions, Government of India
Figures in parentheses represent percentage of these variables to respective Finance Commissions' transfers to the state

Table 3.6 reveals that compared to grants-in-aid, tax sharing constitutes a higher proportion of Finance Commission transfers to Assam. It constituted 75.06 percent of the total Finance Commission transfer under the period of Ninth Finance Commission. On an average, it constituted 85.11 percent of the total Finance Commission transfers during the period under consideration. The reduced share of NPRD grant received by the state is found to be the main factor for declining share of grants-in-aid compared to shared tax. It has been found that during the period of Eleventh Finance Commission, the state received a NPRD grants of only ₹ 111.68 crore for the year 2000-01. Similarly, during the period of Twelfth Finance Commission, the state received NPRD grants of ₹ 305.67 crore for the year 2005-06.

3.3.2 Transfer through Planning Commission:

The assistance given by the Planning Commission comprises both grants and loans. However, after the recommendation of the Twelfth Finance Commission, the assistance is

confined to grants and the central government fresh loans given to states for plan purpose have been discontinued since 2005-06. Planning Commission gives assistance for implementing various plans and projects in the states. In earlier years, both the volume and composition of plan transfers were project based, but since 1969, the assistance had been allocated on the basis of a National Development Council formula, popularly known as Gadgil formula[1]. A notable feature of Planning Commission transfer is that 30 percent of the total transfer is kept aside for distribution among the special category states on the basis of plan project formulated by them. Out of these 30 percent funds, 90 percent of the assistance is given by way of grants and the remainder as loans. The year wise grants provided by the Planning Commission for the state plan schemes have been given in table 3.7.

Table 3.7
Grants for State Plan Scheme during 1990-91 to 2009-10 (₹ in lakhs)

Year	Grants for State Plan Scheme
1	2
1990-91	24755 (41.86)
1991-92	72528 (65.22)
1992-93	74085 (70.88)
1993-94	100003 (63.36)
1994-95	73686 (63.33)
1995-96	84219 (59.13)
1996-97	102076 (64.15)
1997-98	108888 (68.60)
1998-99	119570 (69.41)
1999-00	132765 (77.08)
2000-01	146644 (72.66)
2001-02	143466 (66.15)
2002-03	171839 (73.08)
2003-04	184715 (71.40)
2004-05	261938 (73.38)
2005-06	267301 (62.20)
2006-07	275419 (62.24)
2007-08	296749 (60.41)
2008-09	419073 (64.82)
2009-10	399509 (58.70)

Source: Directorate of Economics and Statistics, Government of Assam, various issues
Figures in parentheses represent percentage of these variables to total grants provided to the state

It is evident from table 3.7 that, grants from Planning Commission constitute a significant proportion of the grants-in-aid to the state during the period under study. Assam was declared as a special category state in 1990-91 which resulted in drastic change in the grant to loan composition of plan assistance from previous 30: 70 to 90: 10. As a result, share of grants for the state plans jumped from 41.86 percent of total grants in the year 1990-91 to 65.22 percent in the 1991-92. In other words, declaration of the state as a special category state in 1990-91 actually helped the state to receive more grants from the Planning Commission in the subsequent years.

3.3.3 Grants for Central Sector, Centrally Sponsored and Special Plan Schemes:

This component of transfers is given for specified purposes with and without matching requirements. Grants for Central sector schemes are given to the states to execute central projects and are entirely funded by it. Centrally Sponsored schemes, on the other hand, are shared cost programmmes falling within the States' ambit with the uniform matching ratio across the states, varying with the projects. The schemes have attracted sharpest criticism in recent years due to their discretionary nature and conditionality attached to them (Chowdhury and Das Gupta, 2012). Additionally, there is a provision of special plan scheme for development of North Eastern states. The amount and percentage share of above mentioned grants-in-aid as provided by the central government to the state has been provided in table 3.8.

Table 3.8 reveals that these three components of transfers together, on an average, have constituted 17.35 percent of the total grants-in-aid during the study period. Among these three components, share of centrally sponsored scheme is found to be dominant as it constitutes, on an average, 76.34 percent of the total transfers through the above schemes during the period of study. As a North Eastern state, Assam gets additional share of the grants provided for implementation of the infrastructure projects of the region under the aegis of North Eastern Council. It constituted almost 4.35 percent of the total grants in the year 2008-09 compared to 1.95 percent of the total grants in the year 1990-91 (Government of Assam, 2009-10).

Table 3.8
Grants-in-Aid for Central Plan Scheme, Centrally Sponsored Scheme and Special Plan Scheme
(₹ in lakhs)

Year	Grants for Central Plan Scheme	Grants for Centrally Sponsored Scheme	Grants for Special Plan Scheme(NEC)	Total	Total Grants-in-Aid
1	2	3	4	5 = (2+3+4)	6
1990-91	885 (7.23)*	10209 (83.35)	1155 (9.43)	12249 (20.71)**	59134
1991-92	2838 (19.54)	11639 (80.12)	50 (0.34)	14527 (13.06)	111207
1992-93	5444 (39.13)	8432 (60.61)	36 (0.26)	13912 (13.31)	104517
1993-94	10239 (26.69)	26223 (68.36)	1897 (4.95)	38359 (24.30)	157828
1994-95	5369 (15.60)	27982 (81.28)	1076 (3.13)	34427 (29.12)	118219
1995-96	5112 (27.29)	13597 (72.58)	25 (0.13)	18734 (13.15)	142420
1996-97	3138 (16.91)	13402 (72.20)	2022 (10.89)	18562 (11.67)	159122
1997-98	2641 (16.96)	11841 (76.03)	1093 (7.02)	15575 (9.81)	158725
1998-99	1959 (8.89)	18135 (82.28)	1946 (8.83)	22040 (12.79)	172268
1999-00	1560 (6.41)	20958 (86.12)	1817 (7.47)	24335 (14.13)	172248
2000-01	3018 (10.88)	22263 (80.23)	2468 (8.89)	27749 (13.75)	201825
2001-02	429 (1.17)	33442 (90.88)	2927 (7.95)	36798 (16.97)	216880
2002-03	538 (1.38)	32987 (84.68)	5428 (13.93)	38953 (16.57)	235150
2003-04	505 (1.11)	27433 (60.31)	17548 (38.58)	45486 (17.58)	258691
2004-05	1931 (3.91)	39630 (80.33)	7771 (15.75)	49332 (13.82)	356960
2005-06	3971 (5.87)	52486 (77.65)	11135 (16.47)	67592 (15.73)	429712
2006-07	18828 (19.56)	72050 (74.86)	5369 (5.58)	96247 (21.75)	442536
2007-08	13426 (12.67)	82496 (77.87)	10025 (9.46)	105947 (21.57)	491263
2008-09	70323 (36.97)	99323 (52.22)	20545 (10.80)	190191 (29.42)	646503
2009-10	3964 (3.26)	103226 (84.82)	14514 (11.93)	121704 (17.88)	680500

Source: Directorate of Economics and Statistics, Government of Assam, various issues
*Figures in parentheses represent the percentage contribution of individual component to total transfers through above schemes
**Figures in parentheses represent percentage contribution of total transfers through above schemes to total grants-in-aid

The above discussed transfers which constituted a major portion of the state's total revenue are determined by the central government upon which state governments have no active control. The only thing the state governments can do is to fulfill the conditions attached to the transfers. In other words, the central transfers are exogenous in nature. But own revenue generation of the state depends on the effort of the state government to collect more revenues. The different sources of own tax and non-tax revenue of the state has been discussed in the next section.

3.4 Total Own Resources of the State:

Total own receipts of a state consist of both revenue receipts and capital receipts. As non-debt capital receipt comprises only a small fraction of total receipt of the state, this section concentrates mainly on the revenue receipt of the state. Other receipts of the state which includes borrowings from different sources have been included in the fifth chapter of the dissertation as borrowings have repayment obligations which raise the issue of fiscal and debt sustainability. The composition and adequacy of the own revenue sources of the state tells about the fiscal autonomy and sufficiency of funds for discharging expenditure responsibilities. Own resources of the state can be divided into two categories.

(a) Own Tax Revenue
(b) Own Non-tax Revenue

3.4.1 Own tax Revenue:

Following are the various sources of own tax revenue of the state government of Assam.

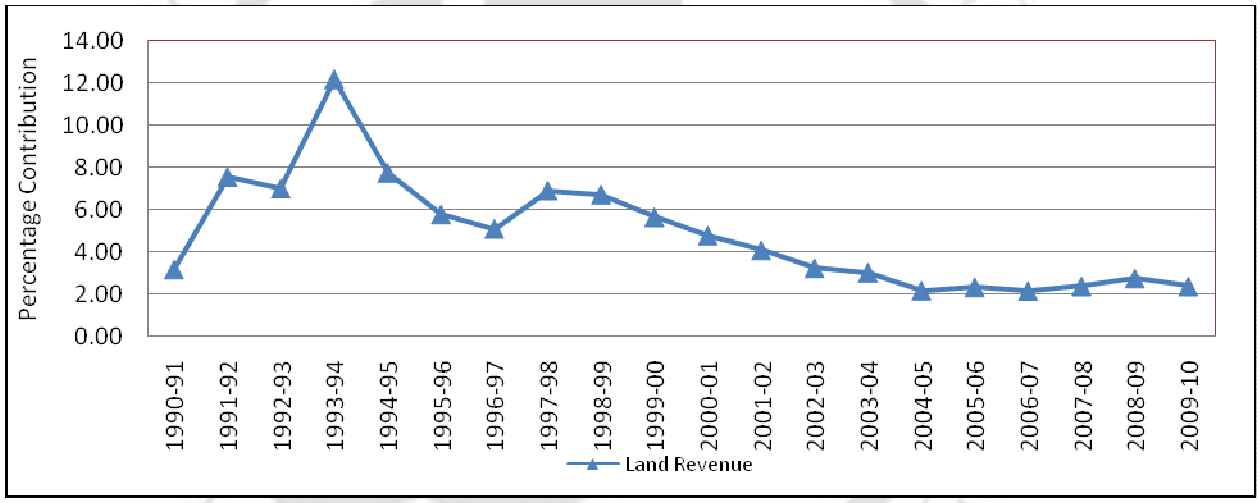
1) Land Revenue
2) Agricultural Income Tax
3) State Excise
4) Stamps and Registration
5) Receipts on Motor Vehicle Taxation Act
6) Sales Tax
7) Transmission and Distribution on electricity
8) Other Taxes and Duties

The amount and percentage contribution of different sources of tax revenue towards total own tax revenue of the state has been discussed below. Sales tax has contributed the major portion of the state's own tax revenue during the period under consideration. On the other hand, taxes such as agricultural income tax and land revenue have lost their significance and their contribution has declined during the time period 1990-91 to 2009-10 (Government of Assam, 2009-10). It is necessary to explore the reasons for change in contribution of the different taxes towards state tax revenue in Assam. A detailed discussion on each source of the state's own tax revenue has been provided in the next sub-sections.

3.4.1.1 Land Revenue:

The land revenue in Assam is collected from 770 sq. km of urban land, 2310 sq. km. of tea garden and 53137 sq. km. of rural land (Government of Assam, 2009). The rate of land revenue in rural areas depends on the use and type of land and factors like fertility and productivity of soil, with a minimum rate fixed at ₹ 5 per bigha. In the case of tea garden land, the rate is ₹ 10 per bigha in Barak valley and ₹ 15 per bigha in Brahmaputra Valley. In the case of urban land the rate is ₹ 6 per bigha (Government of Assam, 2009; Sarma, 2004). These rates suggest that there is a considerable scope for upward revision of these rates. The contribution of Land revenue towards total own revenue of the state has been provided in figure 3.3.

Figure 3.3 Percentage Contribution of Land Revenue to State Taxes



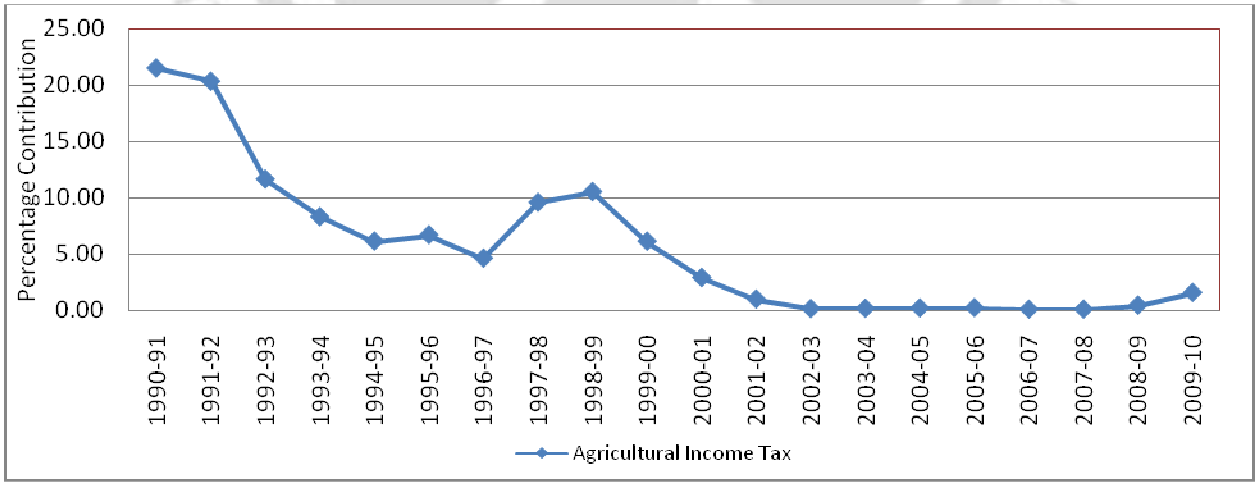
It is evident form figure 3.3 that significance of land revenue has receded for the state during the period under consideration. The increased contribution of land revenue in the year 1991-92, 1992-93 and 1993-94 was due to the introduction of Assam Taxation (on specified lands) Act, 1990 (Government of Assam, 1997). Under this Act, every tea estate owner is liable to pay tax on the quantity of green tea leaves produced in the estate where the aggregate area of specified land exceeds forty hectares. But after that, land revenue as a tax has lost its relevance as contribution has declined particularly during the first decade of the present century. At present, proceeds from this tax has contributed only 2.35 percent of the state tax revenue in the year 2009-10. The compound growth rate of this source of revenue during the

period 1990-91 to 2009-10 is found to be 12.2 percent which is much less than the growth rates of other taxes such as sales tax, state excise, stamps and registration etc.

3.4.1.2 Agricultural Income Tax:

The right to tax agricultural income rests with the states but very few actually collect any revenue on this count. As of today, only five states receive some revenue from agricultural income tax such as Assam, Karnataka, Kerala, Tamil Nadu and West Bengal. In each of these states, the collections have been declining in nominal terms in recent decades (Government of Assam, 2009). Agricultural income tax in Assam depends mainly on income from tea which, in turn, depends on a wide range of endogenous and exogenous factors like volume of production, cost variations, climatic conditions and international prices. Hence, collections of agricultural income tax in the state have been subject to considerable fluctuations over the years. Further, the sale of Assam's tea was also significantly affected owing to the disintegration of the USSR (Srivastava et al., 1999). These factors have contributed towards reduced importance of agricultural income tax in the state during the study period. The contribution of Agricultural income tax towards total own tax revenue of the state has been provided in figure 3.4.

Figure 3.4 Percentage Contribution of Agricultural Income Tax to State Taxes



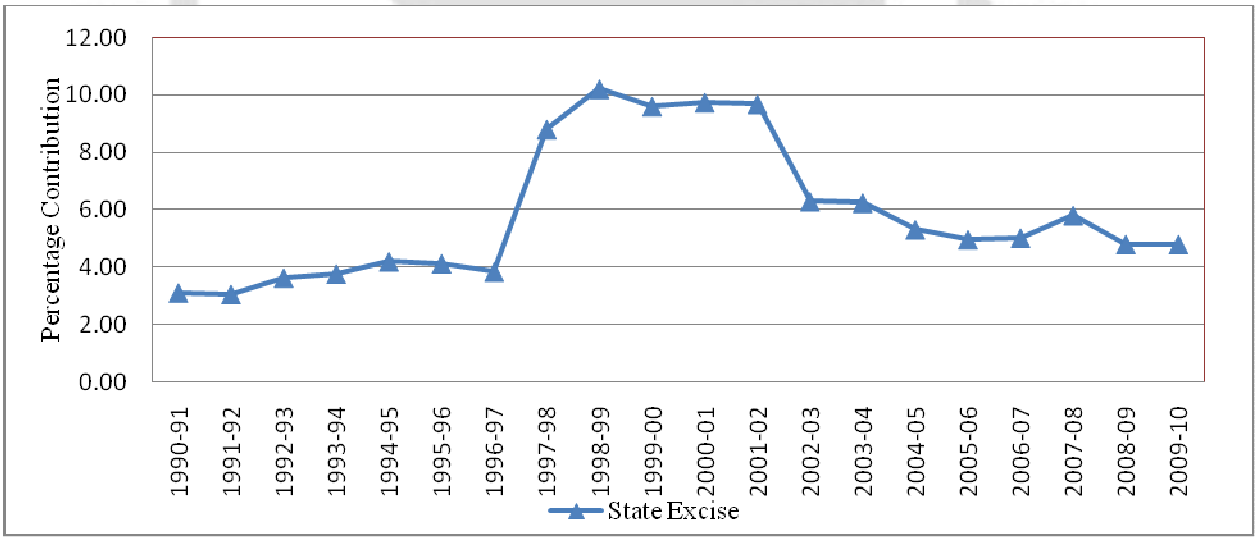
It can be inferred from figure 3.4 that importance of agricultural income tax has declined significantly during the period of study. Average contribution of the agricultural income tax

to the state taxes is found to be 5.60 percent during the period of study. While it contributed more than 20 percent of the state tax revenue in the year 1990-91 and 1991-92, the contribution of agricultural income tax has declined drastically since then. In the first decade of the present century, proceeds from agricultural income contributed less than 1 percent of the total taxes except in the year 2000-01.

3.4.1.3 State Excise:

The revenue from state excise is generated from the levy of duties on the production and import of alcohol in the state and through a number of license fees for wholesale and retail permits for registering brands and so on. All the levies tend to be specific duties, with an effort to bring progressivity through variation in the duty depending on specific features such as alcohol content. Excise duty in the state is imposed on items like India made foreign liquor (IMFL), beer, country spirit etc. (Government of Assam, 2008). The contribution of State Excise towards total own revenue of the state has been provided in figure 3.5.

Figure 3.5 Percentage Contribution of State Excise to State Taxes



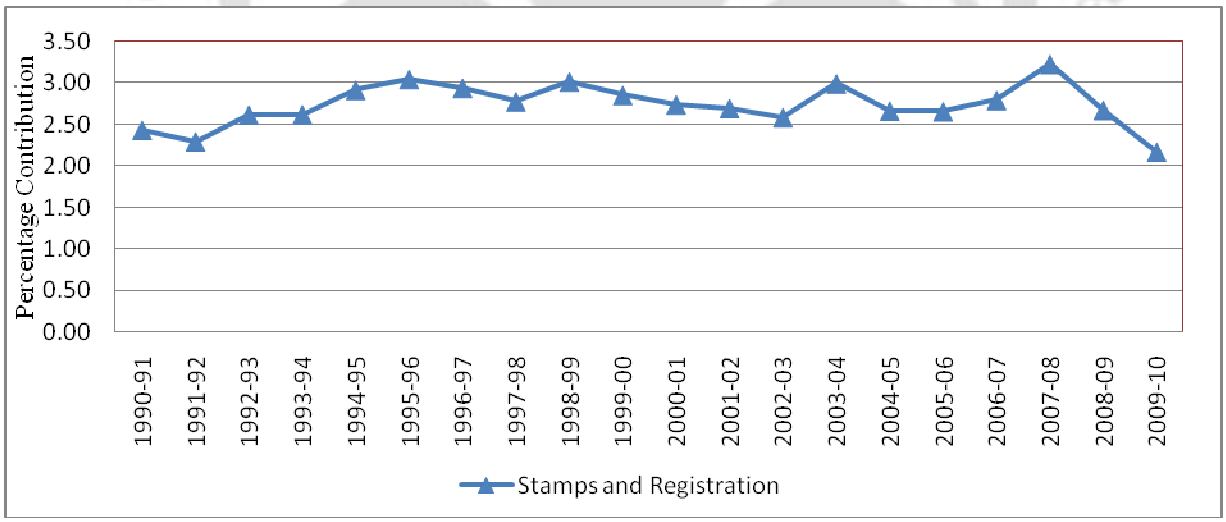
The average contribution of state excise is found to be 5.85 percent during the period of study. The proceeds of excise duties in Assam have experienced erratic fluctuations with periodic increase in its share. The later part of 1990s witnessed an increase in the share of these components to over 10 percent of total own tax revenue followed by reduction it its share in subsequent years. The compound growth rate of this source of revenue is found to be 16.5 percent during the study period. Assam is one of the states along with Tripura, Tamil

Nadu, Orissa and Arunachal Pradesh which exhibits an increasing trend in terms of proceeds of excise duty (Rao, 2011).

3.4.1.4 Stamps and Registration:

The Constitution of India segregates stamp duties and registration fees into two categories: those that are to be imposed by the union government (entry 91 of List I in Seventh Schedule) and those that are to be imposed by the state governments (entry 63 of the list 2 of the Seventh Schedule). For the former, Union government sets the rates, while the states collect and retain the receipt. This ensures that the rates are uniform across states. For the latter, states have their own Acts and items covered may vary from state to state. While stamp duty is a tax on the value of instruments used in various business transactions, registration fees are payments made for a specific services provided by the government. The revenue from stamps and registration fees depend heavily on the value of the properties transacted. The contribution of Stamp and Registration towards total own revenue of the state has been provided in figure 3.6.

Figure 3.6 Percentage Contribution of Stamps and Registration to State Taxes



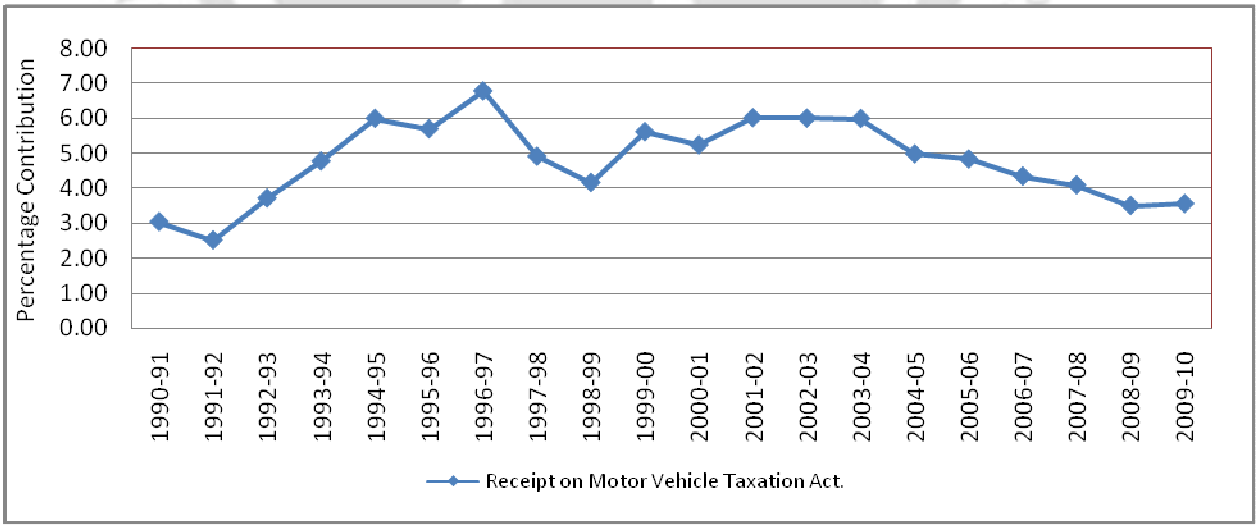
It is evident from figure 3.6 that the contribution of the stamps and registration to state tax has remained within the range of 2 to 3 percent for most of the years during the period of study. In other words, it is not a significant source of state's revenue. The computed

compound annual growth rate of this source of revenue is found to be 13.2 percent during the time period 1990-91 to 2009-10.

3.4.1.5 Transport Taxes:

This category of taxes includes two taxes, motor vehicles tax and tax on passengers and goods. The motor vehicle tax is imposed on the ownership of a motor vehicle and is usually described as a levy towards the use of roads in the jurisdiction. The tax is levied on the payload for commercial vehicles for transportation of goods, and on carrying capacity and the nature of the vehicle in the case of transportation of passengers. In the case of light vehicles, the levy is based on the horsepower and weight. There is a one-time tax on personal vehicles, with rates varying by the price of the vehicles. Further, the state government introduced a permit fee during the year 2003 on different categories of commercial vehicles, excluding those of Assam State Transport Commission. The permit is granted for 3 to 5 years and there are temporary permits for 4 months that included vehicles plying on the routes. The state has imposed passenger and goods tax in respect of passenger and goods carried by roads and waterways (Government of Assam, 2009). The contribution of Transport taxes towards total own revenue of the state has been provided in figure 3.7.

Figure 3.7 Percentage Contribution of Motor Vehicle Tax to State Taxes



From figure 3.7, it is evident that proceeds from this tax have been fluctuating during the period under consideration with periodic surges in collections. Transport taxes have contributed, on an average, 4.78 percent of the state taxes during the period 1990-91 to 2009-

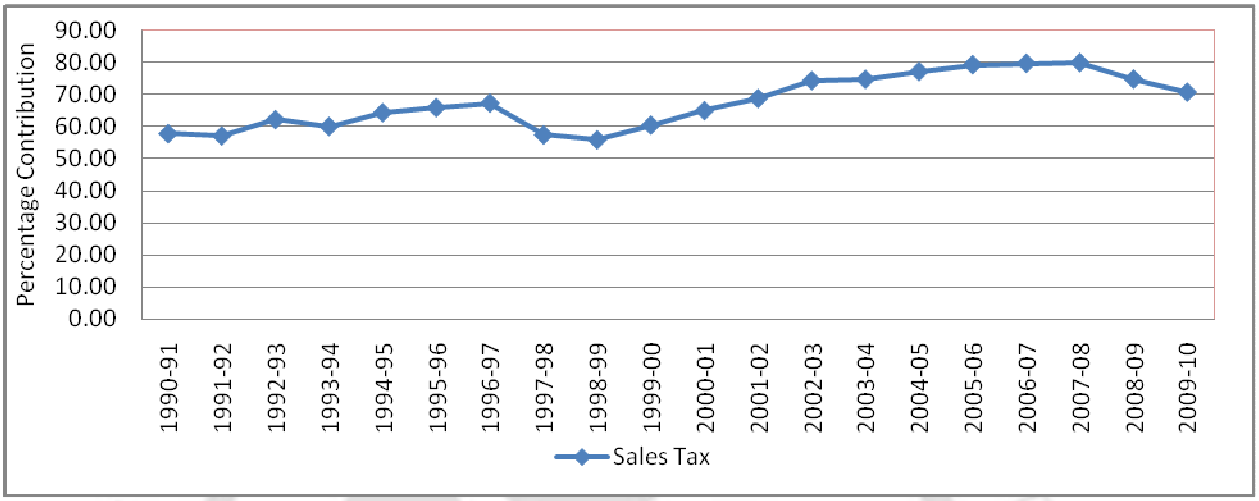
10. The receipt on Motor Vehicle Taxation Act experienced a compound annual growth rate of 14.9 percent during the period 1990-91 to 2009-10.

3.4.1.6 Sales Tax and VAT:

Sales tax revenue in Assam consists of three components, general sales tax act applicable to local sales, central sales tax applicable on inter-state sales and an entry tax applicable on selected goods imported into the state from other states in India. In addition to these taxes, the state also collects luxury tax on the sale of tobacco products and some textiles. The general sales tax is basically first point tax. Some commodities prone to evasion are taxed at two points – first point and last point. The government of Assam conforms to the floor rate regimes agreed upon by all the states in November, 1999. Taxable commodities are categorized mainly into four rate slabs, 0, 4, 8 and 12. Regarding concessions, there are no concessions granted for the purchase of raw materials for manufacturing within the state, except as a part of the industrial incentives package, accessible to new and expanding industrial units as well as small scale units. Central sales tax is levied on inter state sales, the maximum rate being 4 percent. The state had also started levying an entry tax from the year 2001. This is levied on the entry of selected goods into the state, intended for consumption or use by the importing dealer (Government of Assam, 2010). In order to prevent perceived inconveniences to the local dealers, the entry tax is levied if the goods brought in are not for resale, thus obviating the need for providing a set-off against taxes on subsequent sales. The goods covered include sugar and textiles, cereals and motor vehicles. The commodities that include the bulk of the sales tax revenue to the state are petroleum products, medicines, motor vehicles, coal gas, coal and coke, tinned and packet food, electronic goods, iron and steel materials, cement, edible oil and India made foreign liquor (IMFL) etc. Of these goods, petroleum products contributed over 45 percent of the total sales tax collections in the state during the year 2001-02 (Government of Assam, 2003). The Government of Assam has developed a Value Added Tax (VAT) Act, which is being reviewed for ensuring conformity with the national consensus. The design of the VAT is restricted to goods alone and allows for a set-off only for taxes paid within the state. In other words, it does not address the problem of taxation of inter-state trade. Value Added Tax was introduced in the state after a delay of one month i.e. May 2005 from the date of implementation of VAT throughout the

country i.e. April 2005. The contribution of sales tax towards total own revenue of the state has been provided in figure 3.8.

Figure 3.8 Percentage Contribution of Sales Tax to State Taxes



It can be inferred from figure 3.8 that, sales tax is the most important source of own tax revenue for the state as it contributes a major portion of the state's taxes during the study period. Average contribution of this source of revenue towards total state taxes is found to be 68.80 percent during the period under consideration. The corresponding figure for all states average is found to be 59.23 percent during the period of study (RBI, 2011). It implies that the dependence of the state on sales tax is comparatively more than the average of all states. As sales tax is the most significant source of tax revenue, it is necessary to examine the impact of the new structure of sales tax on revenue collection and volatility in the growth rate. The comparative position of pre-VAT sales tax collection (2000-01 to 2004-05) and post VAT (2005-06 to 2009-10) tax collection including VAT and growth rate in each of the years is furnished in table 3.9.

Table 3.9
A Comparative Position of the Pre-VAT and Post-VAT Collection of Sales Tax in the State (₹ in crore)

Pre-VAT			Post-VAT		
Year	Actual Collection	Annual Percentage of Growth	Year	Actual Collection	Annual Percentage of Growth
2000-01	918	23.72	2005-06	2568	22.34
2001-02	1073	16.88	2006-07	2783	8.37
2002-03	1441	34.30	2007-08	2727	-2.01
2003-04	1551	7.63	2008-09	3111	14.08
2004-05	2099	35.33	2009-10	3535	13.63
Avergae annual growth rate (2000-01 to 2004-05)		23.57	Avergae annual growth rate (2000-01 to 2004-05)		11.28

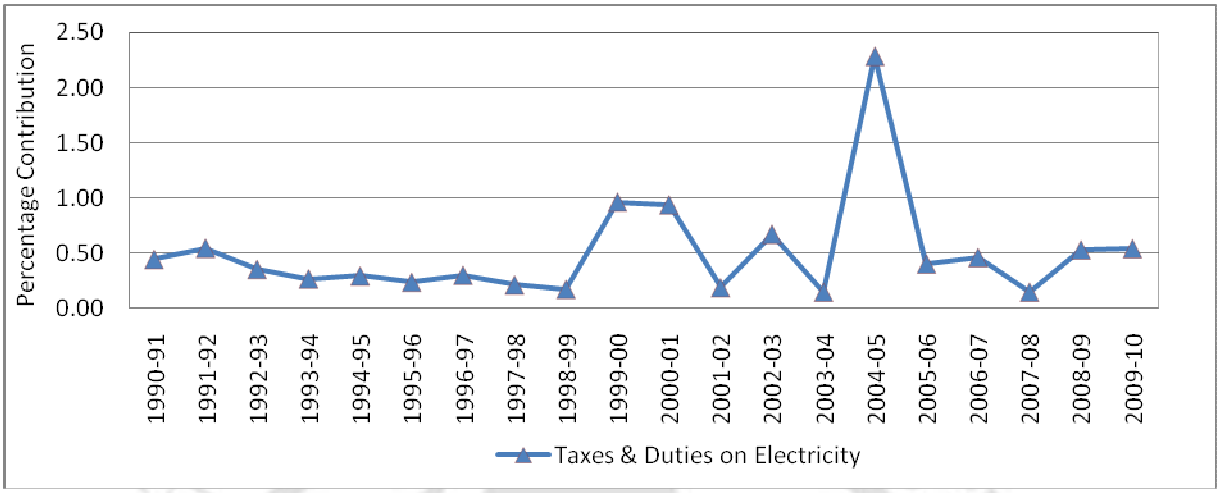
Source: Reports of the Comptroller and Auditor General of India, 2010
Note: Assam Entry Tax not included.

It is clearly evident from table 3.9 that the average growth rate of sales tax during the period 2000-01 to 2004-05 was found to be 23.57 per cent while the growth rate for the period 2005-06 to 2009-10 was 11.28 per cent. Thus, the average growth rate in the post VAT period registered a decrease of 12.29 per cent implying that implementation of VAT in the state is not as productive as expected by the government. The decline in the growth rate during the post-VAT period may suggest that VAT is not beneficial for importing states where value addition is lower relative to the exporting states. As Assam is a net importing state, this may imply that not much value addition has taken place in the state. Also, no improvement has been observed in the volatility of revenue collection in the post-VAT period. The state even experienced negative growth of sales tax revenue in the year 2007-08.

3.4.1.7 Taxes and Duties on Electricity:

This Act on taxes and duties on electricity provides for levy of duty on the generation and consumption of electrical energy in the State. The legislative power of the State Legislature is, however, subject to the restriction imposed by Articles 287 and 288 of the Constitution of India. The general rate of duty is 5 paise per unit of electricity generated or sold subject to such concessions as are provided in Section 12 of the Act. The concessional rate of duty is applicable in respect of industrial consumption only which extends from 1 paise per unit to 3 paise per unit depending on the quantity of energy consumed. The percentage contribution of this tax has been provided in figure 3.9.

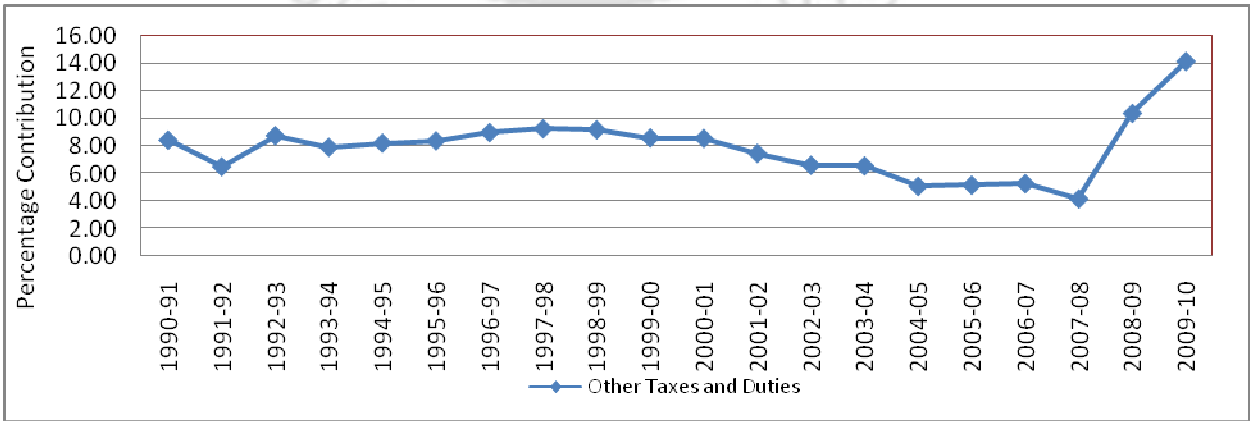
Figure 3.9 Percentage Contribution of Taxes & Duties on Electricity to State Taxes



It is evident from figure 3.9 that taxes and duties on electricity is not a significant source of revenue for the state government. On an average, it contributes less than one percent of the state taxes during the period under study.

3.4.1.8 Other Taxes and Duties: The taxes which are not included in the above categories of taxes experienced a compound annual growth rate of 14.9 percent during the period 1990-91 to 2009-10. These include taxes such as Amusement and betting tax, Luxury tax (Hotels and Lodging) and Assam Entry tax etc. The contribution of other taxes and duties has been provided in figure 3.10.

Figure 3.10 Percentage Contribution of Other Taxes and Duties to State Taxes



It can be seen from figure 3.10 that other taxes and duties contributes a significant portion of the state tax during the study period. On an average, other taxes and duties have contributed 7.89 percent of the state taxes of the government during the period of study. Increase in the share of other taxes and duties towards own tax revenue of the state government is mainly contributed by taxes such as Amusement and Betting tax, Luxury tax (Hotels and Lodging) etc. (Government of Assam, 2010)

3.4.2 State's Own Non-Tax Revenue:

Own non-tax revenue of Assam comprises of royalty on petroleum, interest receipts, dividends and profits, and receipts from different general, social, fiscal and economic services. The contribution of different components of non-tax revenue and their compound growth rate has been provided in table 3.10.

It is evident from table 3.10 that proceeds from royalty on petroleum are the major contributor of the non-tax revenue for the study period. On an average, royalty on petroleum has contributed 75 percent of the total non-tax revenue of the state for the period taken for analysis. As far as the royalty rates are concerned, the state government can do very little except persuade the central government to increase the rate from time to time. Proceeds from interest receipts and dividends and profits have gained their significance during the period of study. The compound growth rate of interest receipts and dividends and profits is found to be 36.17 and 33.69 percent respectively during the period 1990-91 to 2000-10. Significant increase in the contribution of interest receipts has been observed during the time period 2004-05 to 2009-10. The increased share of interest receipt during this period is mainly due to large cash balance of the state government in Reserve Bank of India during that period (Government of Assam, 2010). The contribution of other sources of non-tax revenue is found to be insignificant during the study period.

Table 3.10
Contribution of Different Sources of Non-tax Revenue towards Total Non-tax Revenue in Assam (₹ in lakhs)

Year	Interest Receipts	Dividends and Profits	General Services	Social Services	Fiscal Services	Economic Services excluding Petroleum	Petroleum	Total
1	2	3	4	5	6	7	8	9
1990-91	140 (0.50)	6 (0.02)	774 (2.79)	626 (2.26)	–	5442 (19.61)	20765 (74.82)	27753
1991-92	209 (0.80)	23 (0.09)	1624 (6.19)	593 (2.26)	–	4397 (17.05)	19405 (73.92)	26251
1992-93	248 (0.54)	9 (0.02)	1363 (2.96)	675 (1.47)	–	5380 (11.69)	38376 (83.33)	46051
1993-94	238 (0.68)	8 (0.02)	1934 (5.54))	675 (1.93)	–	6812 (19.52)	25232 (72.30)	34899
1994-95	215 (0.66)	5 (0.02)	1902 (5.83)	611 (1.87)	1 (0.003)	4160 (12.74)	25756 (78.89)	32649
1995-96	244 (0.73)	3 (.01)	2521 (7.51)	681 (2.03)	–	4665 (13.90)	25445 (75.82)	33560
1996-97	215 (0.67)	37 (0.11)	1872 (5.81)	641 (1.99)	–	5069 (15.74)	24380 (75.68)	32213
1997-98	214 (0.56)	35 (0.09)	3357 (8.81)	665 (1.74)	–	3655 (9.59)	30196 (79.21)	38122
1998-99	218 (0.48)	2 (.001)	5811(12.86)	914 (2.02)	–	8017 (17.74)	30236 (66.90)	45197
1999-00	247(0.56)	44(0.10)	5204(11.70)	949(2.13)	–	6075(13.66)	31973 (71.86)	44492
2000-01	427(0.81)	73(0.14)	4270(8.11)	1154(2.19)	–	9949 (18.88)	36804 (69.87)	52677
2001-02	309 (0.58)	83 (0.16)	1698 (3.18)	1323 (2.48)	1 (0.002)	4449 (8.34)	45458 (85.26)	53319
2002-03	307 (0.44)	593 (0.86)	2483 (3.58)	1308 (1.89)	1 (.001)	7323 (10.57)	57283 (82.66)	69296
2003-04	589 (0.62)	688 (0.73)	3435 (3.63)	4996 (5.28)	1 (.001)	12769 (13.50)	72103 (76.23)	94580
2004-05	1006 (0.94)	929 (0.87)	6383 (5.97)	2117 (1.98)	–	7980 (7.46)	88587 (82.79)	107001
2005-06	3641 (2.50)	1547 (1.06)	3474 (2.38)	3858 (2.64)	–	11790 (8.08)	121616 (83.34)	145927
2006-07	16749 (9.01)	1854 (1)	3274(1.76)	13526 (7.27)	–	11942 (6.42)	138582 (74.54)	185927
2007-08	24072 (11.28)	2400 (1.12)	14029 (6.57)	3089 (1.45)	–	15080 (7.07)	154788 (75.51)	213458
2008-09	43316(19.07)	1945(0.86)	13977(6.15)	2088 (0.92)	–	22852 (10.06)	143012 (62.95)	227189
2009-10	49363 (17.93)	1492 (0.54)	35150 (12.77)	2496 (0.91)	–	29376 (10.67)	157418 (57.18)	275295
CAGR (1990-91 to 1999-00)	6.51	24.78	23.58	4.73		6.93	4.91	5.38
CAGR (2000-01 to 2009-10)	69.52	39.83	26.39	8.95		12.78	17.52	20.17
CAGR (1991-91 to 2009-10)	36.17	33.69	22.24	7.55		9.28	11.25	12.84

Source: Directorate of Economics and Statistics, Government of Assam, Various issues
Figures in parentheses represent the percentage contribution of different sources of non-tax revenue towards total non-tax revenue

The above analysis gives an idea about contribution and pattern of own tax and non-tax revenue of the state. The contribution of the tax and non-tax revenue of the state depends to a great extent on the revenue effort of the government. The next section of the chapter is concentrated on the revenue effort of the state government.

3.5 Revenue Effort of the Government of Assam:

Revenue effort may be defined as the difference between revenue potential of the state and actual collection of revenue. It is basically related to more collection of revenue through optimum utilization of tax and non-tax bases. The importance of revenue effort lies in the fact that it leads to enhancement of state's own revenue in terms of increase in collection of own tax or non-tax revenue. Apart from that, Central transfers to the state increase automatically as the tax effort and fiscal discipline are important criterion for inter-state devolution of central transfers as recommended by the recent Finance Commissions. The recent Finance Commissions of India namely Tenth, Eleventh, Twelfth and Thirteenth Finance Commission have given importance to tax effort and fiscal discipline of the states by assigning due weightage as shown in table 3.4. The Finance Commission of India measures tax effort as the ratio of per-capita own tax revenue of a state to its per-capita income. Fiscal discipline is measured by the improvement in the ratio of own revenue receipt of the state to its total revenue expenditure, related to similar ratio of all states. As own tax revenue is the main source of total own revenue of the state, increase in tax effort is very essential for overall fiscal scenario of the state. Tax effort is a process that seeks to mobilize more revenue as the economy expands and taxable capacity increases (Oommen, 1987). It takes several forms such as introduction of new taxes, changes in the rates and basis of existing taxes, improvement in administration etc. Any measure of tax effort has to be related to taxable capacity. The need to compare tax effort was felt particularly in the context of fiscal transfers to the states under the various articles of the Constitution; particularly article 275 and 282 (Reddy, 1975). The First Finance Commission was supposed to consider tax effort as criteria while recommending grants-in-aid under article 275, but was not clearly indicated by the Commission about the operational technique that was employed by it to measure the tax effort. The Second Finance Commission too conceded the relevance of tax effort as a consideration worth keeping in mind, but avoided measuring inter-state tax effort.

The Third Finance Commission did not try to measure the tax potential, on the ground that determination of inter-state tax effort had to be related to their tax potential and required special study. The Fourth Finance Commission agreed the principles of considering how far the state had made efforts to raise resources in relation to their tax potential. It was only in the report of Fifth Finance Commission that an attempt was made for measurement of tax effort. The Fifth Finance Commission measure of tax effort is a comprehensive measure of tax effort. But it ignores the distribution of income (wealth which back it up) which may differ from state to state. Along with that, the structure of income may differ from state to state that may affect the relative capacities (Reddy, 1975). Again, it is not clear how actually the Commissions used the results obtained in determining its award with respect to devolution of central resources among the states. The Sixth Finance Commission had come out against the use of tax effort as criteria. It was the Ninth Finance Commission came out with a specific model for assessment of tax effort of states. The Ninth Finance Commission, in its report, employed a regression approach derived in a certain manner for making normative tax revenue projections. Although, it is not easy to find a unique method for measuring taxable capacity or the tax effort of states, different Finance Commissions and Planning Commissions adopt a simple measure of tax-GSDP ratio to evaluate tax effort and assign the required weight in the transfer design (Reddy, 1975). An inter-state comparison of tax-GSDP ratio gives an idea about the performance of the state in terms of tax effort. Keeping that fact in mind, an inter-state comparison of the tax-GSDP ratio of Assam with that of other states and all state average have been made during the time period 1990-91 to 2007-08. An Improvement index has been computed as a percentage change over the previous sub-period to know the improvement of the state in a particular sub-period compared to the previous one. A, B and C indicate improvement in the sub-period 1995-00, 2000-05 and 2005-10 compared to the sub-period 1990-95, 1995-00 and 2000-05 respectively. Table 3.11 as provided below gives a comparative picture of the tax-GSDP ratio of Assam in relation to other general and special category states for four sub-periods taken into consideration.

Table 3.11
A Comparison of Tax-GSDP ratio of Assam and other States of India during 1990-91 to 2007-08

States	Tax - GSDP ratio				Improvement Index		
	1990-95	1995-00	2000-05	2005-08	A	B	C
Andhra Pradesh	6.79	6.54	7.65	8.11	-3.68	16.97	6.01
Bihar	4.32	4.11	4.89	4.67	-4.86	18.98	-4.50
Goa	7.38	7.01	7.22	8.06	-5.01	3.00	11.63
Gujarat	7.9	7.29	7.25	7.16	-7.72	-0.55	-1.24
Haryana	7.34	6.77	8.24	9.01	-7.77	21.71	9.34
Karnataka	9.04	8.52	9.28	10.61	-5.75	8.92	14.33
Kerala	8.48	8.6	8.68	8.29	1.42	0.93	-4.49
Madhya Pradesh	5.19	5.53	6.75	7.60	6.55	22.06	12.59
Maharashtra	7.26	6.88	7.89	7.97	-5.23	14.68	1.01
Orissa	4.66	4.42	6.1	6.16	-5.15	38.01	0.98
Punjab	7.12	6.3	7.54	7.87	-11.52	19.68	4.38
Rajasthan	5.61	5.59	6.93	7.39	-0.36	23.97	6.64
Tamil Nadu	8.67	8.6	9.12	9.89	-0.81	6.05	8.44
Uttar Pradesh	4.97	4.9	6.04	6.78	-1.41	23.27	12.25
West Bengal	5.69	4.59	4.37	4.62	-19.33	-4.79	5.72
Major States	6.54	6.35	7.14	7.62	-2.91	12.44	6.72
Special Category States							
Assam	3.89	3.86	4.92	5.33	-0.77	27.46	8.33
Arunachal Pradesh	0.54	0.74	1.69	2.06	37.04	128.38	21.89
Himachal Pradesh	5.17	5.24	5.66	-	1.35	8.02	
Jammu and Kashmir	3.66	3.70	5.60	-	1.09	51.35	
Manipur	1.59	1.36	1.66	1.92	-14.47	22.06	15.66
Meghalaya	3.39	3.15	3.42	3.80	-7.08	8.57	11.11
Mizoram	0.69	0.70	1.18	1.88	1.45	68.57	59.32
Nagaland	1.58	1.39	1.38	1.91	-12.03	-0.72	38.41
Sikkim	3.97	5.28	7.61	5.79	33.00	44.13	-23.92
Tripura	2.12	2.19	2.72	3.08	3.30	24.20	13.24
Special Category	3.36	3.43	4.30	5.23	2.08	25.36	21.63

Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various Issues
Central Statistical Organization, Government of India

It is evident from table 3.11 that the state exhibited better performance in tax-GSDP ratio in the first decade of the present century compared to the previous decade. In fact, the state experienced deterioration in the tax-GSDP ratio in the second half of the 1990s compared to the first half. The performance of the state is found to be poor compared to the other non-special category states such as Karnataka, Kerala, Maharashtra, Tamil Nadu etc for all the sub-period considered for the study. Although the ratio is found to be higher than the special

category states as aggregates, but it is found to be less than some special category states such as Himachal Pradesh and Sikkim etc. As tax-GSDP ratio of the state is found to be poor compared to the other developed states, it is necessary to find out the reasons behind the low tax GSDP ratio of the state. It is necessary to examine the efforts on the part of the government to exploit the revenue potential of the state.

It is very difficult to provide a quantitative measurement of revenue potential and subsequently prescribe policy suggestion on the basis of it. The buoyancy coefficient of the state revenue particularly with respect to GSDP is a good statistical tool for measuring revenue effort of a state. Along with that, arrears of tax and non-tax revenue and cost of collection of different revenue sources provide an idea about the efficiency of the administrative machinery of the state. Cost recovery of different services is also considered as an indicator for measuring revenue effort of the government. So, revenue effort is a multi-dimensional concept which encompasses all the issues such as buoyancy, cost of collection of different sources of revenue, arrear of revenue and cost recovered from different services etc.

3.5.1 Buoyancy of Revenue Sources:

Two factors can give rise to growth in tax or non-tax revenues: (1) the rules or rates of tax or non-tax can be changed to raise more revenue from the same base or (2) the base on which it is imposed may grow. The growth of revenue in response to GDP or GSDP can therefore be broken down into two components: the automatic growth as the base on which the tax or non-tax is charged grows in relation to GDP, and the growth resulting from discretionary changes in rates and rules. The combined effect of the above mentioned factors on tax or non-tax revenue is known as the buoyancy of tax or non-tax revenue of the state. The simplest method for measuring buoyancy for individual year is to calculate growth rate of the parameter divided by growth rate of GSDP. The year wise buoyancy coefficients of the own revenue, own tax revenue and own non-tax revenue of Assam has been provided in table 3.12.

Table 3.12
Year wise Buoyancy Coefficients of Own Revenue, Own tax, Sales tax and Own Non-tax Revenue of Assam*

Year	Own Revenue	Own Tax Revenue	Sales Tax	Own Non-tax Revenue
1	2	3	4	5
1990-91	1.59	1.54	0.31	1.66
1991-92	0.95	1.90	1.78	-0.47
1992-93	2.59	0.12	1.01	7.40
1993-94	-0.10	1.14	0.89	-1.50
1994-95	-0.02	0.19	0.66	-0.40
1995-96	0.78	1.04	1.29	0.26
1996-97	0.59	1.12	1.38	-0.50
1997-98	1.88	1.76	-0.20	2.15
1998-99	1.13	0.95	0.69	1.54
1999-00	0.45	0.68	0.96	-0.04
2000-01	2.84	2.70	4.17	3.24
2001-02	2.01	2.66	4.15	0.28
2002-03	1.90	1.77	2.58	2.26
2003-04	1.64	0.78	0.85	4.07
2004-05	1.97	2.41	2.74	1.02
2005-06	2.14	1.71	1.99	3.24
2006-07	1.55	0.87	0.94	3.07
2007-08	0.29	-0.36	-0.33	1.50
2008-09	1.18	1.65	1.09	0.45
2009-10	1.48	1.46	0.98	1.53

Source: Author's own calculation based on the data on Handbook of statistics of State Government Finances, Various issues

*Fiscal variables which are used for measuring buoyancy are in current prices. So, GSDP at current prices are used for computation

It is evident from table 3.12 that the buoyancy coefficients have shown a better performance in the first decade of the present century than the 1990s. During the year 1992-93, the buoyancy of non-tax revenue was found to be 7.40, the highest among the period covered for analysis. The huge increase of non-tax revenue in the above year over the previous year was mainly due to more collection of cess on indigenous crude oil and other receipt (Government of Assam, 1993). But for rest of the years in 1990s, the state attained moderate or negative buoyancy of non-tax revenue. The non-tax revenue of the state has shown better performance particularly between the time periods 2000-01 to 2009-10. This was mainly due to increased

royalty on petroleum due to rise in international price on crude oil (Government of Assam, 2011).

A wide variation was observed in the buoyancy coefficient of the own revenue of the state during the period of study. The computed buoyancy coefficient was found to be 1.59, 0.95 and 2.59 in the year 1990-91, 1991-92 and 1992-93 respectively. This was followed by negative buoyancy in the year 1993-94 and 1994-95. After that, the buoyancy coefficients were found to be positive for rest of the years implying that growth of GSDP had a positive impact on own revenue of the state. The buoyancy coefficient of the tax revenue was found to be positive for most of the years during the time period 1990-91 to 2009-2010. The sales tax of the state is also taken for analysis as most of own tax revenue of the state is found to be contributed by sales tax. In other words, sales tax is the major contributor of the total own tax revenue of the state. The buoyancy of the sales tax of the state during the time period 2000-01 to 2009-10 was found to be comparatively better than the previous decade.

To have a clear idea about the buoyancies of the above taxes, it is necessary to calculate the coefficients for a longer time period. The above discussed method is not suitable in this case as it can be heavily influenced by unusually high or low (or negative) measures of buoyancy for some of the years, and so is the least satisfactory approach. The alternative and most elegant approach is to regress the log of tax revenue on the log of the base (e.g. GSDP). The coefficient on the log of the base is a measure of the tax buoyancy (Haughton, 1998). The buoyancy of state own tax, non-tax revenue and sales tax of the state for the two decade has been calculated by regressing the variables to GSDP. The results presented in table 3.13.

Table 3.13

Buoyancy of State's Own Tax, Non Tax, and Sales Tax during 1990-91 to 2009-10

Periods covered → / Type of Tax ↓	1990-91 to 1999-00		2000-01 to 2009-10	
	Buoyancy		Buoyancy	
Own Tax	.88 (20.42)***	R^2 = 0.98 F(1, 8) = 417.03***	1.32 (16.68)***	R^2 = 0.97 F(1, 8) = 278.37***
Non-tax	.33 (2.23)**	R^2 = 0.38 F(1, 8) = 417.03***	1.92 (17.22)***	R^2 = 0.96 F(1,8) = 296.44***
Sales Tax	.89 (22.31)***	R^2 =0.98 F(1, 8) = 497.87***	1.43 (10.71)***	R^2 =0.93 F(1,8) = 114.70***
Own Revenue	.68 (10.08)***	R^2 = 0.92 F(1,8) = 101.69***	1.51 (21.23)***	R^2 =0.98 F(1,8) = 450.62***

Figures in parentheses are t statistics of the buoyancies computed
***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

It is clear from table 3.13 that R^2 value for all the regression equations are sufficiently large (more than .9) except the regression of non-tax revenue to GSDP in the first sub-period (1990-91 to 2009-10). The F-statistic for overall significance of the models are found to be highly significant. The buoyancy coefficients of all the regression analyses are found to be positive and significant implying that growth of GSDP has a positive impact on the above sources of revenue for the entire period. The computed buoyancy coefficients of all the four categories of revenue are found to be comparatively higher during the time period 2000-01 to 2009-10 compared to the time period 1990-91 to 1999-00. The computed buoyancy coefficient of own tax, non tax, sales tax and own revenue are lees than 1 for all categories of revenue during 1990s. It implies that growth of own revenue in relation to the growth of GSDP was less than one during that period. But during the time period, 2000-01 to 2009-10, the buoyancy coefficients are found to be positive and greater than one. The buoyancy of non-tax revenue is found to be 1.92 during the time period 2000-01 to 2009-10 implying a significant improvement over the previous decade. Similarly, buoyancy of own tax, sales tax and own revenue is found to be 1.32, 1.43 and 1.51 respectively. In other words, buoyancy of the state revenue of the government is found to be higher during the first decade of the present century.

3.5.2 Cost of Collection:

In a underdeveloped economy state like Assam**,** where optimum collection of revenue is an important prerequisite of economic development, cost of collection of different taxes play a very significant role. Minimization of the cost of tax collection is considered to be an important objective of taxation policy (Ahmed, 1968). But all taxes do not have similar cost implications. Moreover, a given tax structure implies a certain level of fixed costs, and any addition to the cost of collection would naturally be determined by the type of changes in the existing structure. The above mentioned factors have to be taken into consideration while estimating the cost of collection. It is generally expected that average cost of collection of all types of taxes falls with increase in total tax yield in a comprehensive manner (Dhawan, 1968). The cost of collection of different taxes and duties of the state has been provided in table 3.14.

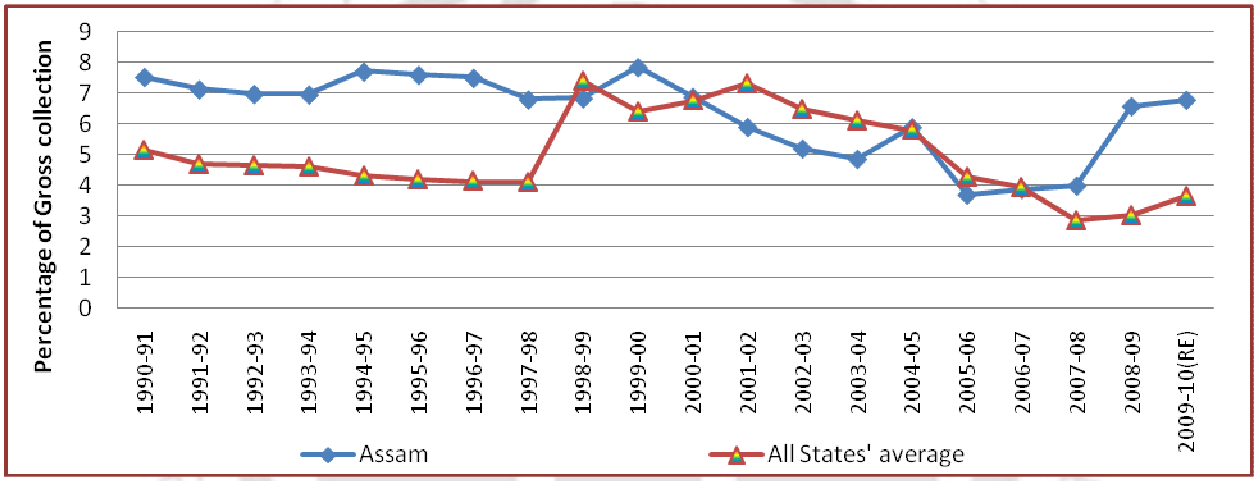
Table 3.14
Cost of Collection of Taxes and Duties in Assam (₹ in crore)

Year	Gross Collection	Expenditure on Collection	Percentage of Expenditure to Gross Collection for Assam	Percentage of Expenditure to Gross Collection for All States
1	2	3	4	5
1990-91	420	31.58	7.52	5.14
1991-92	512	36.45	7.12	4.71
1992-93	518	36.1	6.97	4.64
1993-94	613	42.6	6.95	4.60
1994-95	632	48.65	7.70	4.33
1995-96	702	53.26	7.59	4.19
1996-97	767	57.48	7.49	4.13
1997-98	882	59.89	6.79	4.11
1998-99	983	67.14	6.83	7.41
1999-00	1225	96.06	7.84	6.41
2000-01	1413	97.06	6.87	6.76
2001-02	1566	92.27	5.89	7.31
2002-03	1935	100.52	5.19	6.49
2003-04	2070	100.33	4.85	6.12
2004-05	2713	159.65	5.88	5.80
2005-06	3232	119.32	3.69	4.28
2006-07	3483	134.63	3.87	3.93
2007-08	3360	133.73	3.98	2.86
2008-09	4039	260.22	6.57	3.04
2009-10	4333(RE)	294	6.78	3.67

Source: Report of Comptroller and Auditor General of India, Government of Assam, various Issues

It is evident from table 3.14, till 1997-98, the cost of collection of taxes as a percentage of total collection for the state was found to be higher than the all states of India. However, the all states' average figure was found to be higher than the state's figure for most of the years during 1998-99 to 2005-06. After 2006-07, the cost of collection of taxes and duties for the state again was found to be higher than the corresponding figure of all states. The cost of collection of taxes and duties of the state in comparison to all states' average has been shown in figure 3.11.

Figure 3.11 Cost of Collection of Taxes and Duties as a percentage of Total Collection



The above analysis shows the cost of collection of different taxes on an aggregate basis. It is always better if we analyze the cost of collection of major taxes of Assam to that of all India average. The costs of collection of major taxes in Assam during the period 1990-00 and 2008-09 have been provided in table 3.15.

Table 3.15
Cost of Collection of Different State Taxes during the Time Period 1999-00 and 2008-09

Sl No.	Type of Tax	Year	Gross Collection	Expenditure on Collection	Percentage of Expenditure to Gross Collection	All India Average Cost of Collection during 2000-09
1	Sales Tax	1999-00	742.32	25.56	3.44	0.83
		2000-01	917.89	13.02	1.42	
		2001-02	1072.76	13.61	1.27	
		2002-03	1440.90	13.22	0.92	
		2003-04	1551.06	16.14	1.04	
		2004-05	2098.58	14.70	0.70	
		2005-06	2568.41	19	0.74	
		2006-07	2783.24	34.93	1.26	
		2007-08	2691.43	23.39	0.87	
		2008-09	3110.58	39.49	1.27	
2	State Excise	1999-00	-	-	-	3.24
		2000-01	137.56	6.49	4.72	
		2001-02	150.91	7.32	4.85	
		2002-03	121.67	7.18	5.90	
		2003-04	-	-	-	
		2004-05	-	-	-	
		2005-06	-	-	-	
		2006-07	174.88	9.70	5.55	
		2007-08	188.71	10.37	5.50	
		2008-09	198.68	11.62	5.85	
3	Taxes on Vehicles	1999-00	68.69	4.58	6.67	2.58
		2000-01	73.77	5.20	7.05	
		2001-02	93.59	4.91	5.25	
		2002-03	116.28	5.21	4.48	
		2003-04	124	5.29	4.75	
		2004-05	134.72	6.33	4.70	
		2005-06	155.91	8.15	5.23	
		2006-07	151.15	8.08	5.35	
		2007-08	138.62	8.36	6.18	
		2008-09	145.21	9.03	6.22	
4	Stamps and registration	1999-00	-	-	-	2.08
		2000-01	38.33	6.82	17.65	
		2001-02	41.97	5.83	13.89	
		2002-03	50	6.49	12.98	
		2003-04	62.12	5.30	8.53	
		2004-05	-	-	-	
		2005-06	-	-	-	
		2006-07	97.32	3.91	6.07	
		2007-08	109.91	6.27	3.71	
		2008-09	111.17	10.28	9.23	

Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues

From table 3.15, the cost of collection of different taxes of Assam as measured by the percentage of expenditure to gross collection is found to be higher than all India figures for most of the years taken under consideration. The cost of collection of sales tax is found to be comparatively lower for Assam than other taxes such as State Excise, Taxes on vehicles and Stamps and Registration. Tax on Stamp and Registration is found to be most expensive in terms of cost of collection as cost of collection of stamp and registration is higher than all other taxes taken for the analysis. The cost of collection of stamp and registration was found to be 17.65 percent in the year 2000-01. But gradually it declined and in the year 2007-08, the figure came down to 3.71 percent of the gross collection. On a comparative basis, the taxes on vehicles and stamps and registration exhibit very high cost of collection than the all India average. This needs to be rectified by enforcing more efficiency in the tax administrative machinery.

3.5.3 Arrears of Revenue:

Another important indicator of revenue effort is the arrears of own revenue accumulated over the years. The Finance or Administrative department of the state furnishes the year wise data on arrears of revenue. Arrears of revenue are defined as the outstanding amount of uncollected tax and non-tax revenue of the state during a year. This tells about the inefficiency of the tax administrative machinery of a particular state. The arrears on the revenue receipt as a percentage of own revenue of the state has been provided in table 3.16.

Table 3.16
Arrears on Revenue Receipt of the State (₹ in crore)

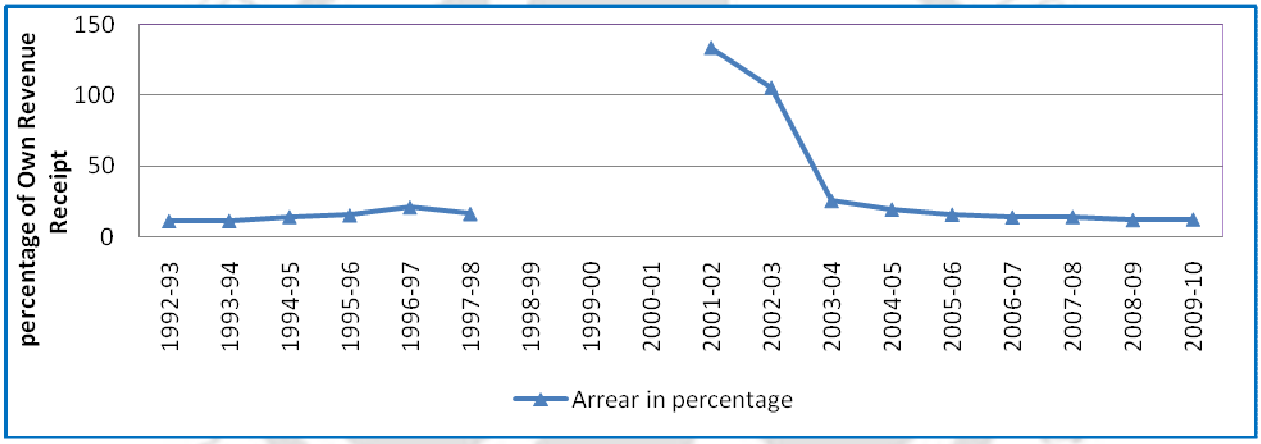
Year	Arrears of revenue Receipt	Arrears of Revenue Receipt as Percentage of Own Revenue Receipt
1	2	3
1992-93	111.17	11.37
1993-94	111.17	11.56
1994-95	137.76	14.36
1995-96	160.50	15.46
1996-97	229.52	21.08
1997-98	208.40	16.50
1998-99	NA*	-
1999-00	NA	-
2000-01	NA	-
2001-02	2784	133.11
2002-03	2757	105.12
2003-04	745	25.54
2004-05	725	19.67
2005-06	768	16
2006-07	755	14.11
2007-08	756	14.32
2008-09	756	12.12
2009-10	722	12.56

Source: Report of Comptroller and Auditor General of India, Government of Assam, various issues during 1998-2010.
*Finance/Administrative Departments did not furnish year-wise position of arrears of revenue during 1999-2000 to 2001-2002

It is clearly evident from table 3.16 that the state has been incurring huge arrears of revenue for most the years taken for discussion. However, figures on arrears of revenue for the years 1998-99, 1999-00 and 2000-01 were not made available by the concerned department. There was a sudden jump in the arrear of revenue in the year 2001-02 and 2002-03. It constituted around 133.11 and 105.12 percent of total own revenue receipt of the state in the year 2001-02 and 2002-03 respectively. After that, there was sudden decline of the arrears of revenue in the year 2003-04 when it constituted 25.54 percent of the total revenue compared to 133.11 and 105.12 percent in the year 2001-02 and 2002-03 respectively. In other words, the government was able to collect revenue amounting to 2012 crore as an arrear in the year 2003-04. This signifies the importance of the administrative machinery for proper fiscal management. The improvement in the administrative machinery was particularly due to introduction of computerization of tax administrative machinery in the state. The "Fiscal

Reform Facility" as adopted by the Government of Assam also forced the government to tighten the tax or non-tax administrative machinery. The report of the Comptroller and Auditor General of India in their report on 31 March, 1999 pointed out that Finance and Administrative Department did not furnish the figures on arrears and there was huge arrears of state's revenue. All the above factors forced the government to take immediate measures for reduction of arrears. But in spite of measures to reduce inefficiency in revenue collection, the arrears of revenue still constitute 12.56 percent of the total own revenue of the state. The arrears of revenue of the state as s percentage of total own revenue has been shown in figure 3.12.

Figure 3.12 Arrears of Revenue as a percentage of Own Revenue of the State



It is clearly seen from figure 3.12 that arrear of revenue constitutes a major portion of the state's own revenue over the study period. A sharp increase in the in the arrear of revenue was observed in the year 2001-02 and 2002-03 followed by decline in the subsequent years.

3.5.4. Cost Recovery of Social and Economic Services:

An important indicator of revenue effort is the cost recovery of different social and economic services provided by the governments. Cost recovery on account of public services has been a critical issue for state finances (RBI, 2011). The cost recovered from different social and economic services of the state depends upon various factors such as appropriate user charges, proper effort of the administrative machinery etc. It is measured as a ratio of revenue receipts from a particular service to non-plan revenue expenditure incurred on that service. The cost

recovery of social and economic services of Assam vis-à-vis all states has been shown in table 3.17.

Table 3.17
Cost Recovery of Social and Economic Services of Assam and all States

Year	Assam	All States	Assam	All States
	Social Services		Economic Services	
1990-91	1.15	2.61	19.58	33.29
1991-92	0.89	3.13	11.36	25.60
1992-93	1.01	3.05	15.86	32.32
1993-94	0.85	2.97	20.64	32.08
1994-95	0.76	2.82	10.26	34.18
1995-96	0.73	2.70	8.42	33.46
1996-97	0.63	2.69	12.32	26.13
1997-98	0.62	3.31	8.60	24.99
1998-99	0.73	2.84	15.02	26.38
1999-00	0.63	2.96	9.69	30.71
2000-01	0.61	2.84	13.99	24.48
2001-02	0.74	3.11	6.40	26.57
2002-03	0.66	3.29	10.86	29.59
2003-04	2.02	3.58	12.42	25.45
2004-05	0.66	3.67	6.25	38.08
2005-06	1.33	4.18	7.80	31.53
2006-07	3.63	5.78	8.11	30.95
2007-08	0.76	5.86	8.52	30.51
2008-09	0.38	3.91	12.29	31.04
2009-10	0.58	3.47	8.17	32.29

Source: State Finances: A study of Budgets, Reserve Bank of India, Various issues

It has been observed that cost recovered from various social and economic services in Assam is much lower than the all states average during the period of study. No improvement in the performance of the state has been observed during the period of study implying that there is a need for rationalization of the user charges on different social and economic services of the state. The cost recovered from social services is found to be lower than cost recovery of economic services for the state as well as for all states. The recovery rate of social and economic services of the state in comparison to all states has been shown in figure 3.13 and 3.14.

Figure 3.13 Cost Recovery of Social Services of Assam and All States

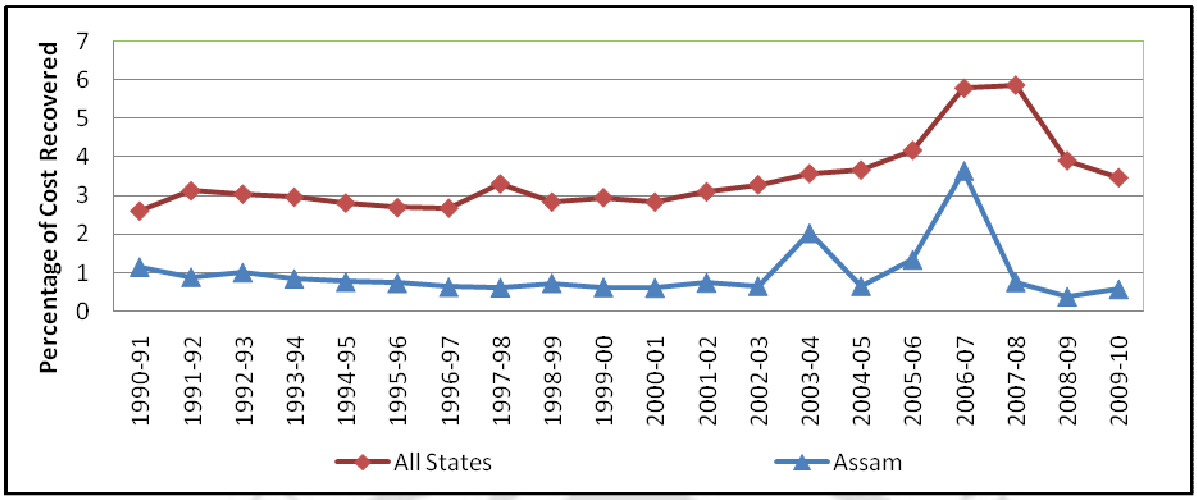
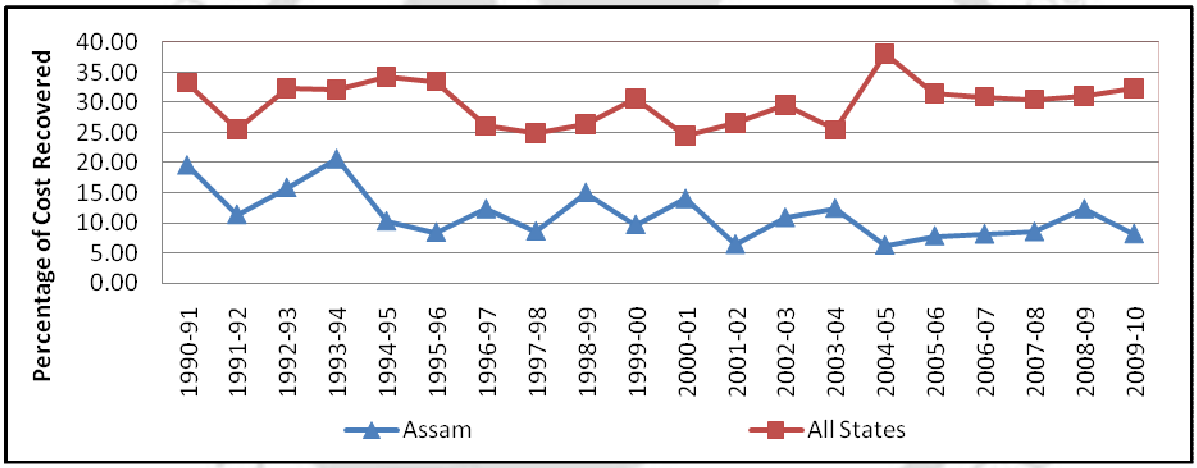


Figure 3.14 Cost Recovery of Economic Services of Assam and All States



It is evident from figure 3.13 that cost recovered from social services of the state is lower than the all states average for the time period taken for the analysis. Similarly, cost recovery of economic services of all states is found to be higher than Assam for the time period taken for the analysis as evident from figure 3.14.

Along with the cost recovery of social and economic services, cost recovery of selected services such as education, medical and public health and irrigation of the state has also been computed to have an idea of the comparative performance of the state to that of all states average. The cost recovery of education, medical and public health and irrigation of the state as well as all states has been shown in table 3.18.

Table 3.18
Cost Recovery of Irrigation, Education and Public Health of the State and all States

Year	Assam	All States	Assam	All States	Assam	All States
	Irrigation		Education		Medical and Public Health	
1990-91	0.93	-	0.47	1.28	2.76	5.79
1991-92	0.97	-	0.43	1.22	1.99	6.35
1992-93	0.59	-	0.31	1.31	2.83	5.79
1993-94	0.65	-	0.23	1.12	2.86	6.78
1994-95	0.75	-	0.22	1.11	2.56	5.86
1995-96	0.57	9.79	0.24	1.09	1.98	5.17
1996-97	0.33	8.04	0.22	1.01	1.66	4.71
1997-98	0.68	5.95	0.18	1.25	1.97	5.73
1998-99	0.21	6.43	0.20	0.99	2.89	5.07
1999-00	0.65	6.14	0.16	1.32	3.14	5.30
2000-01	0.20	8.12	0.15	1.25	2.62	4.72
2001-02	0.29	7.53	0.20	1.25	4.41	6.29
2002-03	0.44	8.38	0.19	1.61	3.62	5.54
2003-04	0.26	15.29	1.95	1.76	2.06	4.86
2004-05	0.33	16.36	0.24	2.12	1.79	6.17
2005-06	0.17	14.48	1.24	2.82	1.27	4.53
2006-07	0.23	14.95	4.87	2.64	1.19	4.91
2007-08	0.24	15.55	0.22	2.78	1.44	4.78
2008-09	0.19	15.83	0.19	1.63	0.81	6.17
2009-10	0.17	15.15	0.18	1.61	0.74	4.67

Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various Issues

It is evident from table 3.18 that cost recovery of irrigation in the state is much lower than the all state average for the time period considered for the analysis. Similarly, the cost recovery of medical and public health of the state is found to be less than all states average for the study period. The cost recovery of education of the state is lower than all states average except in the year 2003-04 and 2006-07. The cost recovery of these selected services of the state as well as all states has been provided in figure 3.15, 3.16 and 3.17.

Figure 3.15 Cost Recovery of Irrigation of Assam and All States

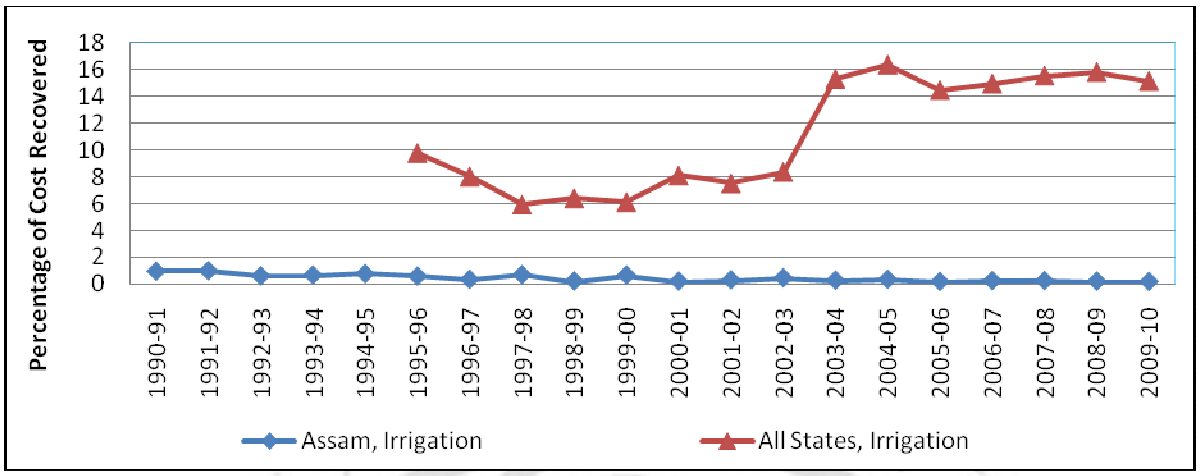


Figure 3.16 Cost Recovery of Education of Assam and All States

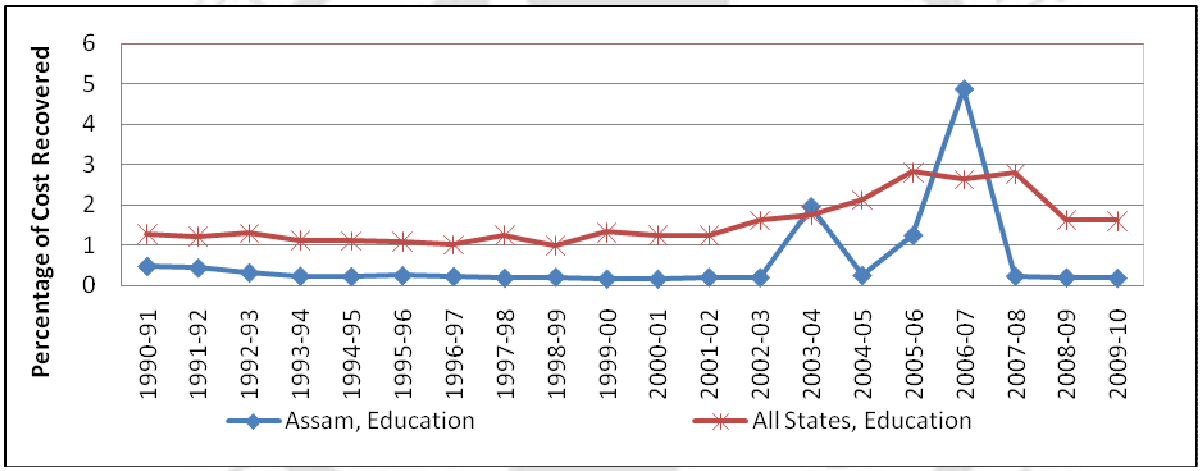
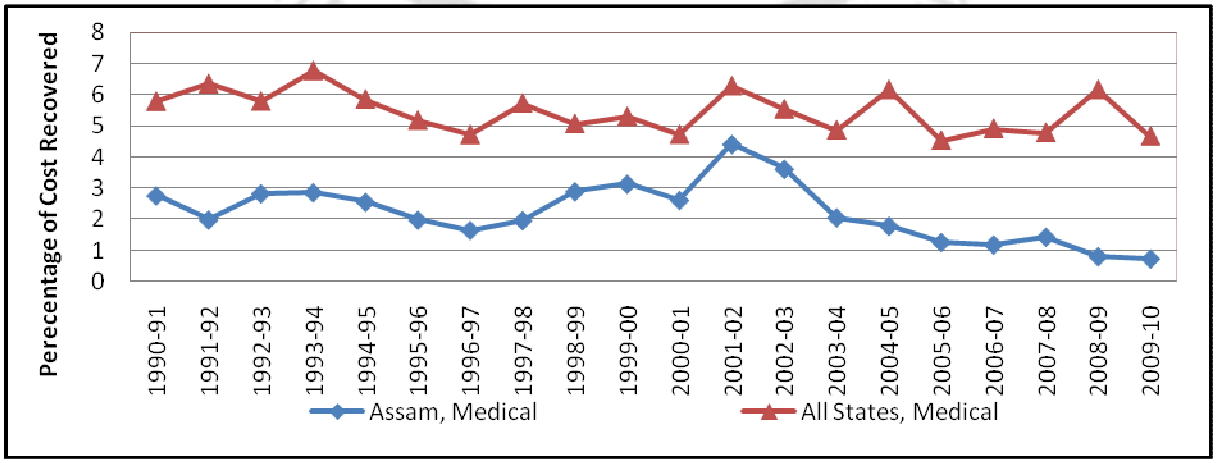


Figure 3.17 Cost Recovery of Medical and Public Health of Assam and All States



It is evident from figure 3.15, 3.16 and 3.17 that cost recovery of selected services of the state is much less than all states average. Urgent steps are required on the part of the administrative machinery for realisation of larger revenue from these services through appropriate user charges.

The above discussion gives an idea about the efforts of the state government to mobilise more revenues. As discussed in the previous sections, revenue effort of the government depends upon revenue potential of the government which in turn is determined by growth of GSDP of the state. Under these circumstances, it is necessary to study the impact of the GSDP and other relevant factors on the revenue effort of the government which is carried out in the next section.

3.6 Panel Regression Analysis of Revenue Effort of the State Government:

It may be recalled that some broad conclusions regarding revenue effort of the government were drawn from the previous discussions as indicated by the simple tools such as ratios, averages, etc. But these conclusions based on ratios, averages, etc. may not be rigorous enough and may sometime be misleading too. This is due to the fact that while comparing averages and ratios, other influencing factors are not necessarily kept constant or controlled. The apparent differences in averages or ratios, therefore, may be because of configuration of values of other factors. To be able to draw inferences in a more rigorous manner, a two-variate panel regression analysis has been carried out to analyze the impact of the relevant variables on revenue effort of the state. Panel models are considered to perform better than the conventional models based on a single dimension of either time-series or cross-section of data as panel data techniques controlled for those relevant variables along time as well as cross section dimensions. In these models, the substantial increase in degrees of freedom helps to increase the reliability of estimates. Further, the quality of the parameter might be better as the pooled sample permits the incorporation of specificities of individual groups or states in the model (Wooldridge, 2007).

In this model, **per-capita own tax revenue (Y)** is used as a proxy for overall revenue effort of the government. Non-tax revenue is not considered for this regression model as non-tax

revenue of the government is mainly contributed by royalty on petroleum which in turn depends on the international prices on crude oil. The royalty on petroleum, on an average, has contributed 75 percent of the total non-tax revenue of the state government. The contribution of the other sources of non-tax revenue is found to be insignificant during the period of study. In other words, major portion of the non-tax revenue is found to be independent of revenue effort of the government. Considering the above fact, per-capita own tax revenue is taken as a dependent variable of the model.

Available literature on revenue effort has identified various relevant variables which have an impact on revenue generation of the state government such as GSDP, rate of urbanization, literacy rate and revenue expenditure of the previous year etc. As year wise data on urbanization and literacy rate are not available for all the states, these two variables are not considered for the analysis. The explanatory variables which have been considered initially for the analysis are given below:

i. **Per-Capita GSDP (X_1):** GSDP is considered to be main determinant of the tax revenue of a government. An increase in GSDP is expected to increase the tax revenue of the state government if proper effort is put up by the government. In this regression model, GSDP is considered in terms of per-capita basis as states with higher per-capita income have more revenue potential with same level of GSDP. Considering the above fact, the Finance Commissions of India also use per-capita GSDP as a proxy for revenue potential while measuring the tax effort of the state governments.

ii. **Per-capita Revenue Expenditure of the Previous Year (X_2)**: Another variable, per-capita revenue expenditure of the previous year is also considered to observe the sense of urgency of the state government to control revenue expenditure for fiscal stability. It also represents the state's fiscal situation and the need for augmenting resources. Available literature on government finances states that excessive increase in revenue expenditure is one of the reasons for fiscal imbalances. High revenue expenditure in the previous year should generally compel the states to augment revenue in the current year. This indicates the demand side of increasing the tax effort (Panda, 2009).

The time period taken for the analysis was from 1990-91 to 2009-10. To have a comparative analysis with other states, 15 major states have been considered along with Assam. Data on Gross Domestic Product of the states at current and constant prices in the series 1980-81, 1993-94, 1999-00 and 2004-05 are obtained from the Central Statistical Organization. All the data are converted into 2004-05 prices by splicing to make it comparable with the above mentioned series. Mid-year population figures have been taken from CSO and price deflators have been computed from the ratio of current to constant price GSDP figures. This is used to convert the fiscal data into constant price term (with 2004-05 prices as base) and per-capita term whenever necessary. On initial estimation of the model, the value of the coefficient of the variable 'revenue expenditure of the previous year' has come out positive as expected but insignificant. Therefore, to facilitate better treatment of the model, the analysis has been reworked by dropping the above variable. Thus, a panel regression analysis is constructed as follows:

$$Y_{it} = \alpha_0 + \alpha_1 X_{it} + u_{it} \quad \ldots\ldots (1)$$

Here,

Y is the per-capita own tax revenue of the states.

X is the per capita GSDP of the states.

i stands for the i^{th} cross sectional unit and t for the t^{th} time period.

u is random disturbance or error term.

α_0 and α_1 are the parameters to be estimated in the model.

To decide between fixed or random effects, Hausman test is used where the null hypothesis is that the preferred model is random effect versus the alternative the fixed effect (Greene, 2008). By applying this test, it has been ascertained that a random effect model will be more appropriate for the present data set. Accordingly, the panel regression analysis has been carried out by applying random effect model. Presence of autocorrelation and heteroscedascity has been checked by using Pearson cross sectional dependence test and Modified Wald test for group wise heteroscedasticity respectively. The panel regression is estimated by using the econometric software STATA 11. The results of the panel regression are provided in table 3.19.

Table 3.19
Results of the Random Effect Model on Revenue Effort of the Government

Variables	Estimated Coefficients	t-statistic
Per- capita GSDP	.0849279 (.001582)***	53.68
Constant	-244.2238 (74.05468)***	-3.30
Hausman test (p-value)	0.4873*** (.000531)	
Wald chi2	2881.80***	
R^2 within	0.8946	
R^2 between	0.9561	
R^2 overall	0.9395	

Figures in parentheses represent standard error of the estimated coefficients
***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

The value of the coefficient of determination (R^2) of the model is found to be very high suggesting a good fit of the model. The coefficient estimates obtained from the above panel data model reflects the average relationship across states. It implies that, on an average, 8.5 percent of the per capita GSDP has been mobilised by the states governments as tax revenue during the period under study. However, to evaluate the performance of Assam in relation to the other Indian states, the errors have been estimated as the difference between the observed and estimated values of 'per capita own tax revenue' of the state. The estimated errors for the state for the period under study are presented in table 3.20.

Table 3.20
Calculated Values of the Estimated Errors for the State

Year	Actual Per Capita Own Tax Revenue (1)	Fitted Per Capita Own Tax Revenue (2)	Estimated Error (1-2)
1990-91	503	958	-456
1991-92	559	983	-424
1992-93	515	969	-454
1993-94	546	989	-443
1994-95	490	1001	-510
1995-96	497	1006	-508
1996-97	508	1013	-505
1997-98	534	1013	-479
1998-99	519	989	-470
1999-00	570	1011	-441
2000-01	631	1028	-397
2001-02	678	1036	-359
2002-03	778	1092	-314
2003-04	799	1153	-354
2004-05	965	1181	-216
2005-06	1051	1204	-153
2006-07	1074	1249	-175
2007-08	975	1292	-317
2008-09	1069	1363	-294
2009-10	986	1471	-485

It has been found from table 3.20 that the error terms for the state are negative for all the years taken for the analysis. It implies that Assam has been underperforming as compared to the other (average) states during the period taken for the analysis. Thus, it suggests that state has to put more effort for mobilization of additional revenue.

3.7 Composite Index of Resource Mobilisation:

From the above discussion, it is clear that a single indicator of revenue is not sufficient to assess the overall revenue scenario of the state. For a particular year, the state may perform well in one aspect, but in rest of the aspects, the performance may not be satisfactory. The

current approach to study the revenue pattern of a state is to use either a single or couple of ratios relating to different aspects of revenue. Such an approach is too simplistic and does not encompass all aspects of revenue mobilisation**.** The revenue mobilization index is the combination of the important dimensions of the revenue scenario of the state. Considering the above aspect, a composite index of revenue has been computed on the basis of the following parameters –

(a) Own Tax-GSDP ratio.

(b) Non-tax-GSDP ratio.

(c) Own Resources-Revenue Receipt ratio.

(d) Real Per-capita Revenue Receipt.

The methodology adopted for construction of the index is same as for the Human Development Index of UNDP. In all the parameters no normal or goal post value has been defined. The observed maximum value of the parameters during the study period has been taken as the maximum or goal post value. As, geometric mean is used for aggregation, natural zeros are used as a minimum value of the parameters.

The dimension of each parameter is expressed by applying the following formula.

$$\text{Dimension Index} = \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

From the above dimension index, it is clear that the year in which the performance of the state is found to be maximum gets the highest value of 1. But as natural zeros are used as minimum values, the year in which the state's performance is found to be the worst, gets the minimum value which is greater than 0. The dimension index for each of the parameter has been computed by applying the above formula. The dimension indices for real per-capita revenue receipt, ratio of own revenue to total revenue, own tax to GSDP and non-tax to GSDP are

represented by D1, D_2, D_3 and D_4 respectively. The computed revenue mobilization index has been given in table 3.21.

Table 3.21
Resource Mobilization Index of the State for the Period 1990-91 to 2009-10

Year	Real Per-capita Revenue Receipt (in ₹)	Own revenue/Total Revenue	Own tax/GSDP	Non-tax/GSDP	D1	D2	D3	D4	**RMI**
1	2	3	4	5	6	7	8	9	10
1990-91	2089	0.236	0.032	0.021	0.334	0.830	0.584	0.700	0.580
1991-92	2605	0.212	0.035	0.018	0.416	0.743	0.638	0.594	0.585
1992-93	2535	0.198	0.032	0.028	0.405	0.696	0.586	0.943	0.628
1993-94	2924	0.185	0.033	0.019	0.467	0.649	0.615	0.634	0.586
1994-95	2271	0.213	0.030	0.015	0.363	0.749	0.547	0.513	0.525
1995-96	2361	0.208	0.030	0.014	0.377	0.730	0.549	0.476	0.518
1996-97	2517	0.199	0.030	0.013	0.402	0.698	0.554	0.422	0.506
1997-98	2587	0.204	0.032	0.014	0.413	0.716	0.587	0.460	0.532
1998-99	2366	0.218	0.032	0.015	0.378	0.766	0.584	0.487	0.536
1999-00	2261	0.253	0.035	0.013	0.361	0.888	0.636	0.418	0.541
2000-01	2525	0.251	0.038	0.014	0.403	0.880	0.694	0.469	0.583
2001-02	2585	0.263	0.040	0.014	0.413	0.922	0.739	0.456	0.598
2002-03	2736	0.285	0.044	0.016	0.437	1.000	0.806	0.523	0.655
2003-04	2999	0.267	0.043	0.020	0.479	0.936	0.791	0.655	0.694
2004-05	3535	0.273	0.051	0.020	0.565	0.958	0.934	0.667	0.762
2005-06	3929	0.268	0.054	0.025	0.628	0.942	1.000	0.818	0.834
2006-07	4225	0.255	0.054	0.029	0.675	0.895	0.989	0.957	0.869
2007-08	4460	0.219	0.047	0.030	0.713	0.770	0.869	1.000	0.831
2008-09	6259	0.173	0.050	0.028	1.000	0.608	0.914	0.921	0.846
2009-10	5806	0.175	0.044	0.022	0.928	0.613	0.800	0.736	0.761

Source: Calculated by the author (basic data from various issues of Handbook of Statistics of State Government Finances, Reserve Bank of India and CSO reports)

From table 3.21, the value of the index is found to be comparatively less during 1990s than the first decade of the present century. Gradual improvement of the index has been observed during the first half of the present decade of the twenty-first century. The performance of the state is found to be high during the time period 2004-05 to 2009-10. In fact, the state has achieved maximum value amounting to .869 in the year 2006-07 followed by .830 and .845 in the year 2007-08 and 2008-09 respectively. This result confirms improvement in revenue mobilization of the state in the first decade of the present century compared to the previous decade.

3.8 Conclusion:

The foregoing analysis has established the fact that the state is heavily dependent on the central transfers. The ratio of own revenue to total revenue of the state is found to be comparatively low than the other developed states and all states average. The state has not been able to improve the ratio during the period under study. In other words, own revenue generation of the state is not adequate and the state has to depend on the central transfers for major part of the developmental activities.

Among the central transfer, grants-in-aid are found to be the major contributor of the total revenue followed by the shared taxes. The increased contribution of grants-in-aid is the result of declaration of the state as a special category state. This initiative by the central government has helped the state to receive more grants from the Planning Commission. Regarding shared taxes, the introduction of the efficiency factors by the Finance Commission in their devolution formula has incentivized the state government to bring more efficiency in revenue collection.

The own tax revenue of the state is basically contributed by the proceeds from the sales tax. Dependence of the state on sales tax is found to be comparatively higher than all states average during the period of study. The introduction of VAT is not found to be as effective as expected. Although, no decline of revenue is noticed after introduction of VAT, but average growth rate of sales tax in the post VAT period registered a decrease of 9.66 percent in the first three years compared to the previous three years. The non-tax revenue of the state is found to be totally dependent on royalty on petroleum. But the royalty on petroleum is in turn dependent on the international price on crude oil. The contribution of other sources of non-tax revenue is found to be minimal during the period of study.

Both own tax and non-tax revenue of the state have achieved a higher buoyancy in the first decade of the present century compared to the previous decade. The non-tax revenue of the state has maintained very high buoyancy during the time period of 2000-01 to 2009-10. It implies that growth of GSDP has a positive and significant impact on own revenue of the state in recent years. But increased arrear of revenue is an area of concern for the state government. The large arrear of revenue in the later part of 1990s implies inefficiency of tax

administrative machinery. The average costs of collection of different taxes of the state are also found to be higher than the all India average. The cost recovery of social and economic services of the state is found to be much lower than all states average. Similarly, cost recovery of irrigation, medical and public health of the state has been much lower than the all states average. The cost recovery of education is also found to be low for the state than all state average for most of the years considered for the analysis. In other words, there is scope for improvement of the revenue administrative machinery.

The panel regression analysis implies that Assam has been underperforming as compared to the other (average) states during the period taken for the analysis. The value of the revenue mobilization index is found to be relatively better during first decade of the present century compared to the previous decade. Overall, the revenue scenario of the state is found to be satisfactory in recent years. But it is necessary to examine whether improvement in the revenue scenario of the state is sufficient enough to discharge the state's expenditure responsibilities.

Note:

1. The Gadgil formula was formulated during Fourth Five Year Plan for distribution of plan transfers amongst the states. It was named after the then Deputy Chairman of the Planning Commission, Dr. D R Gadgil.

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Chapter 4

Pattern of Public Expenditure and Expenditure Implications of Fiscal Reform Measures

In the previous chapter, the nature and pattern of revenue scenario of the state is analysed for examining the availability of funds for expenditure needs of the state. Improvements have been noticed in the revenue scenario of the state during the first decade of the present century compared to the previous decade. The improved revenue scenario of state government is found to be mainly due to increase in own revenue collection and higher allocation from the central government. The fiscal reform measures adopted during the time period are found to be one of the main reasons which has helped the state government to receive more funds from the central government as well as to increase the state's own revenue collection. As fiscal reforms encompass both the aspects of revenue and expenditure, it is necessary to examine the impact and implication of those expenditure reform measures on pattern and quality of government expenditure. At the same time, it is also pertinent to study whether improvements in the revenue scenario of the state are sufficient to discharge the expenditure responsibilities of the state.

Availability of fund or lack of it for different expenditure obligations actually determines the economic growth and development of a state. Available literature on public expenditure states that there is a close relationship between growth of GSDP and growth of public expenditure (Wagner, 1983; Peacock and Wiseman, 1961; Musgrave, 1969). Mention may be made of Wagner's hypothesis which states that an increase in GSDP leads to more than proportionate increase in public expenditure. In other words, higher public expenditure is a result of economic growth. In Federal forms of government, states as sub-national level entities have a vital role in economic development of a country. State governments in India have to incur different kinds of expenditure either for the satisfaction of the collective needs of the citizens or for promoting their economic and social welfare. The minimal function of the state governments in India is to address the problem of market failure and to improve equity among the people (Gupta, 2001; Dholakia and Dholakia, 2004). Governments have to undertake those activities where market cannot provide maximal outcome such as providing

pure public goods, maintaining law and order and property rights, providing public health care facilities and macroeconomic management etc. It is also necessary to improve equity among the people through such activities such as anti-poverty measures, disaster relief and public distribution etc. (World Bank, 2005; Government of India, 2002). As public investment is the main instrument of economic development in India, it is necessary to analyse the specific expenditure responsibilities of each tier of government.

4.1 Expenditure Responsibilities of the States and Central Government in India:

The Constitution of India has assigned specific expenditure responsibilities to each tier of the Government under separate list. The Seventh Schedule (Article 246) of the Constitution lays down the respective financial resources of the Union and State governments in India. It has been found that most of the developmental and normal administrative functions such as public order, police, local government, public health and sanitation, hospitals and dispensaries, agriculture, water, fisheries, public debt etc. are assigned to the states, which increase their expenditure obligations relative to the Union Government (Heller and Rao, 2006). The responsibility of the central government is to provide the national public goods such as defence, atomic energy and mineral resources, foreign affairs, diplomatic relations, railways, airways, posts and telegraph, and currency and coinage etc. In other words, state governments in India have to play a significant role in a number of areas critical for enhancing growth and development of the state. They have the responsibility of both maintaining law and order and providing most of the economic and social infrastructure. They are closer to the people and have direct interface with them which makes them prone to comments on governance, quality of expenditure, applications of resources and performance of the services provided (Lahiri, 2000; Shariff et al. 2002). As a result, proper allocation and prioritisation of the expenditure of the state governments have been an issue of discussion in recent times. This is more significant in a state like Assam where public investment plays a significant role in economic development. Due to its difficult geographical terrain and poor infrastructure, private sectors are not willing to invest in the state. State government through its investment on social and physical infrastructure has to remove those bottlenecks that hinder the development of the state. At the same time, state government has to judiciously use its limited resources to maintain fiscal stability. The growth of public expenditure on

priority sectors is expected to lead the state in to the path of economic development. Under these circumstances, it is necessary to analyse the trend and pattern of public expenditure of the state during the period under consideration.

4.2 Trend and Pattern of Total Expenditure of the State:

Total expenditure of the state includes revenue expenditure, capital outlay and loans and advances provided by the state government for different activities. The trend and buoyancy of the total expenditure during the study period provides vital information about the growth of total expenditure with respect to overall growth of the economy. The ratio of total expenditure to GSDP has been computed to observe the relative growth of expenditure with respect to GSDP of the state. As done in the previous chapter, decade wise compound growth rate has been computed to have an idea about the relative growth of total expenditure in the two decades. The growth and buoyancy of total expenditure and ratio of total expenditure with respect to GSDP of the state during the study period has been provided in table 4.1.

Table 4.1
Pattern of Growth and Buoyancy of Total Expenditure of the State during 1990-91 to 2009-10
(₹ in crore)

Year	Total Expenditure	Annual Growth of Total Expenditure	Total Expenditure as a Percentage of GSDP	Buoyancy of Total Expenditure
1	2	3	4	5
1990-91	2350	-	17.77	-
1991-92	2678	13.96	18.16	1.10
1992-93	2828	5.59	17.41	0.50
1993-94	3305	16.89	18.04	1.18
1994-95	3679	11.30	17.32	0.72
1995-96	4036	9.72	17.18	0.86
1996-97	3938	-2.44	15.49	*
1997-98	4477	13.69	16.22	1.80
1998-99	4856	8.47	15.70	0.64
1999-00	6461	33.05	18.25	2.68
2000-01	7196	11.37	19.23	2.00
2001-02	7442	3.42	19.11	0.84
2002-03	7749	4.13	17.56	0.31
2003-04	9199	18.72	19.13	2.08
2004-05	13384	45.49	25.06	3.53
2005-06	11727	-12.38	19.75	*
2006-07	12990	10.77	20.08	1.21
2007-08	14575	12.20	20.51	1.24
2008-09	16705	14.61	20.57	1.02
2009-10	23960	43.43	25.91	3.14
CAGR 1990-91 to 1999-00	11.89	-	-	-
CAGR 2000-01 to2009-10	14.30	-	-	-
CAGR 1990-91 to 2009-10	13	-	-	-

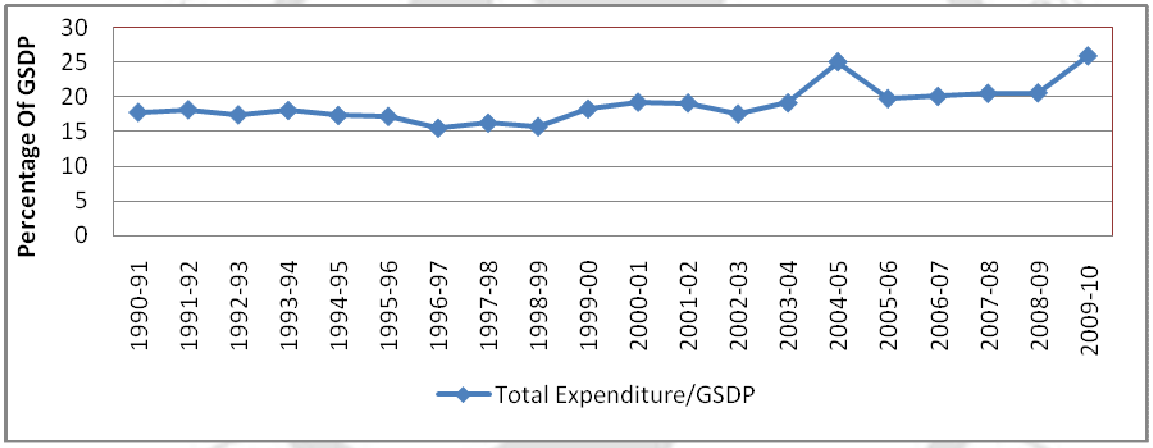
Source: Handbook of Statistics on State Government Finances, Reserve Bank of India, various issues
State Finances: A Study of Budgets, Reserve Bank of India, various issues
* Growth of total expenditure is negative in those years

It is clear from table 4.1 that total expenditure of the state government has increased from ₹ 2350 crore in 1990-91 to ₹ 23960 crore in the year 2009-10 and registering a compound annual growth rate of 13 percent during that period. This rate, however, is lesser than the compound growth rate of total expenditure of all states during the same period (14.01 percent

as per RBI, 2011). Similarly, the aggregate expenditure of the government has increased from ₹ 2689 crores in 1990-91 to ₹ 24968 crores in 2009-10 and thus registering a growth rate of 12.44 percent during that period. The average ratio of aggregate expenditure to GSDP of the state during the study period is found to be higher compared to the ratio in 1980s (RBI, 2011). The growth rate of total expenditure of the state in the second sub-period (2000-01 to 2009-10) is found to be much higher than the growth rate of total expenditure in the first sub-period under consideration. While the annual compound growth rate of total expenditure in 2000-01 to 2009-10 was 14.30 percent, the same was found to be 11.89 percent in the previous sub-period. Additionally, a wide fluctuation has been noticed in the annual growth rate of total expenditure during the study period. High and unusual increase in total expenditure of the state has been noticed in some years such as 1999-00, 2004-05, and 2009-10. The significant increase in total expenditure in 1999-00 and 2009-10 was mainly due to implementation of the revised pay scale to the government employees. The significant increase in total expenditure in 2004-05 was due to increase in non-plan revenue expenditure by ₹ 1187 crore and capital expenditure under economic services by ₹ 1545 crore which were nearly 36 percent and 46 percent respectively of the net increase of total expenditure over the previous year (Government of Assam, 2005). The state also experienced negative growth of total expenditure in the year 1996-97 and 2005-06. Decline in revenue expenditure on economic services and grants-in-aid as well as decline in capital expenditure on general services contributed towards negative growth of total expenditure in the year 1996-97. The negative growth of total expenditure in the year 2005-06 was mainly due to decrease in non-plan capital expenditure by ₹ 1333 crore and less disbursement of loans by ₹ 869 crore over the previous year (Government of Assam, 2005). It is necessary to unearth the reasons for these fluctuations in total expenditure of the state. The classification of the total expenditure into different components provides the reasons for such wide fluctuation in total expenditure which is carried out in the next sub-sections. The average ratio of total expenditure to GSDP of the state during the period of study is found to be 20.53 percent which is higher than the ratio in 1980s (which was only 18.84 percent). The total expenditure-GSDP ratio of the state was found to be more or less stable during 1990s which ranged from 15.70 percent in 1998-99 to 18.25 percent in 1999-00. After that, the ratio was found to increase and attained a high of 25.06 percent in 2004-05 which was followed by decline in the subsequent years. A

sudden increase in the ratio was observed in the year 2009-10 as total expenditure-GSDP ratio of the state jumped from 20.57 percent in 2008-09 to 25.91 percent in 2009-10. As discussed above, this was due to payment of revised pay scale to the government employees which led to sudden increase in total expenditure. During the first decade of the present century, the average ratio of total expenditure-GSDP of the state was found to be comparatively higher than the previous decade. The year wise buoyancy of total expenditure of the state has been found to be positive and more than one for most of the years implying that there was a significant increase in total expenditure with respect to growth of GSDP during the study period. The total expenditure-GSDP ratio of the state during the period of study has been provided in figure 4.1.

Figure 4.1 Ratio of Total Expenditure to GSDP of the State during the Study Period



It is evident from figure 4.1 that, during 1990s, the ratio was within the range of 15.70 percent in 1998-99 to 18.25 percent 1990-00. Increase in the ratio was noticed during the time period 2000-01 to 2009-10, particularly in the year 2004-05 and 2009-10. As increase in total expenditure has been observed during the period of study, it is necessary to unearth the reasons for such increase in expenditure during the period under study. The pattern of public expenditure over the years gives detail information regarding the nature and composition as well as reasons for increase in expenditure of the state.

4.3 Pattern of Total Expenditure in Assam:

The pattern of expenditure basically implies the allocation of expenditure under different heads such as revenue expenditure, capital outlay and disbursement of loans and advances

etc. Capital outlay represents net of capital expenditure after repayment of public debt (RBI, 2007). Capital outlay is that part of capital expenditure which is actually spent for creation of assets. The composition of total expenditure in Assam in terms of revenue expenditure, capital outlay and disbursement of loans and advances has been provided in table 4.2.

It is quite evident from table 4.2 that revenue expenditure constitutes the major portion of the total expenditure of the state during the period of study ranging from 80.21 percent in 1991-92 to 92 percent in 2001-02. On an average, revenue expenditure has constituted 87.86 percent of the total expenditure of the state during the period under study. Compared to that, revenue expenditure of all states has constituted, on an average, 84.55 percent of the total expenditure for the above mentioned period (RBI, 2011). The higher proportion of revenue expenditure to total expenditure of the state compared to all states average implies that fewer resources are available for other productive uses such as capital outlay and advancement of loans and advances. This may hamper the overall economic development of the state. Similarly, capital outlay is found to constitute, on an average, 9.01 percent of the total expenditure of the state compared to all states average of 11.52 percent during the period of study. The average expenditure on loans and advances is found to constitute 3.06 percent of the total expenditure of the state compared the all states average of 3.92 percent during the period taken for the analysis (RBI, 2011). The low average expenditure of the state on capital outlay and loans and advances indicates that fewer resources are available for meeting those expenditure.

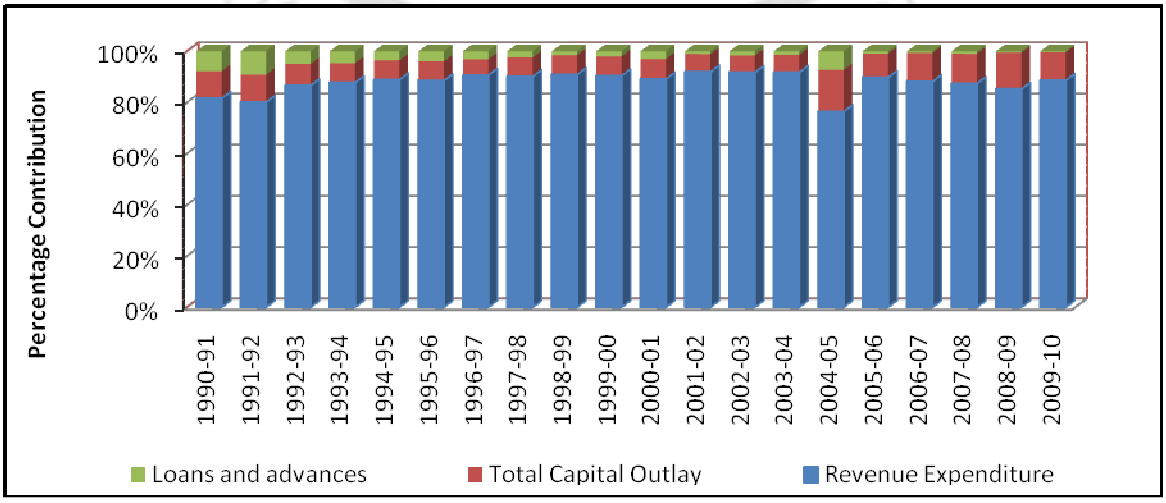
Table 4.2
Composition of Total Expenditure of Government of Assam during 1990-91 to 2009-2010 (₹ in crore)

Year	Revenue Expenditure	Capital Outlay	Disbursement of Loans and Advances	Total Expenditure
1	2	3	4	5
1990-91	1920 (81.7)	247 (10.51)	183 (7.77)	2350
1991-92	2148 (80.21)	285 (10.65)	245 (9.14)	2678
1992-93	2451 (86.67)	237 (8.39)	140 (4.34)	2828
1993-94	2901 (87.77)	251 (7.59)	153 (4.64)	3305
1994-95	3271 (88.90)	277 (7.53)	131 (3.56)	3679
1995-96	3576 (88.59)	301 (7.45)	160 (3.96)	4036
1996-97	3571 (90.69)	242 (6.15)	124 (3.16)	3938
1997-98	4039 (90.21)	329 (7.36)	109 (2.43)	4477
1998-99	4416 (90.95)	364 (7.49)	76 (1.56)	4856
1999-00	5846 (90.48)	482 (7.46)	133 (2.06)	6461
2000-01	6417 (89.18)	561 (7.80)	217 (3.01)	7196
2001-02	6846 (92)	513 (6.90)	82 (1.10)	7442
2002-03	7113 (91.79)	506 (6.52)	131 (1.69)	7749
2003-04	8450 (91.85)	622 (6.76)	128 (1.39)	9199
2004-05	10229 (76.43)	2181 (16.29)	974 (7.28)	13384
2005-06	10536 (89.84)	1085 (9.25)	106 (0.90)	11727
2006-07	11457 (88.19)	1453 (11.19)	81 (0.62)	12990
2007-08	12744 (87.44)	1688 (11.58)	143 (0.98)	14575
2008-09	14243 (85.3)	2373 (14.2)	89 (0.5)	16705
2009-10	21332 (89.03)	2629 (10.97)	99 (0.41)	23960

Figures in parentheses represent percentage of these variables to total expenditure
Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues

During 1990s, ratio of revenue expenditure to total expenditure of the state was found to be comparatively low in the year 1990-91 and 1991-92. After that, it started increasing and in the year 1999-00, revenue expenditure constituted more than 90 percent of total expenditure. There was relentless increase in expenditure on salaries, wages and pensions due to the implementation of new pay scale which led to an increase in revenue expenditure of the state government (Government of Assam, 2003). During the first decade of the present century, revenue expenditure, on an average, constituted more than 88.10 percent of the total expenditure of the state. This figure was slightly higher than the figure for the period in 1990s (87.62 percent). On the other hand, capital outlay constitutes a very small portion of total expenditure during the study period ranging from 6.15 percent in 1996-97 to 16.29 percent in the year 2004-05. The average share of capital outlay to total expenditure is found to be slightly greater during the time period 2000-01 to 2009-10 compared to the ratio in 1990s. Capital outlay, on an average, has constituted 10.15 percent of total expenditure during the first decade of the present century compared to 8.06 percent in 1990s. Loans and advances as provided by the state government are found to constitute, on an average, 4.32 percent of the total expenditure in 1990s compared to 1.79 percent during the time period 2000-01 to 2009-10. In other words, the average share of the loans and advances as provided by the state government is found to be greater in 1990s than the first decade of the present century. The composition of total expenditure during the period under study is also shown in figure 4.2.

Figure 4.2 Composition of Total Expenditure of Government of Assam



It can be seen from figure 4.2 that revenue expenditure constitutes a major portion of the total expenditure during the period of study with periodic changes in the ratio. Decline in the ratio was observed in the year 2004-05 when revenue expenditure constituted 76.43 percent of total expenditure. Decline in the share of revenue expenditure in that year was due to increase in the share of capital expenditure and loans and advances as seen in figure 4.2. Improvement in the share of capital outlay in the year 2004-05 can be explained by the fact that the state experienced sharp increase in capital expenditure under economic services. The sharp increase in capital expenditure under economic services during 2004-05 was mainly due to investment of ₹ 1350 crore in public sector undertakings in the energy sector (Government of Assam, 2005).

To have a clearer idea about the changing composition of total expenditure, it is necessary to compute growth rate of these variables over the time period. The annual growth of each components of total expenditure of the state government has been computed for the study period. Additionally, decade wise compound growth rate has also been computed to have an idea about the comparative performance of the state in the two decades. The annual and compound growth rate of these variables has been provided in table 4.3.

Table 4.3
Annual and Compound Growth rate of Components of Total Expenditure of the State (in percentage)

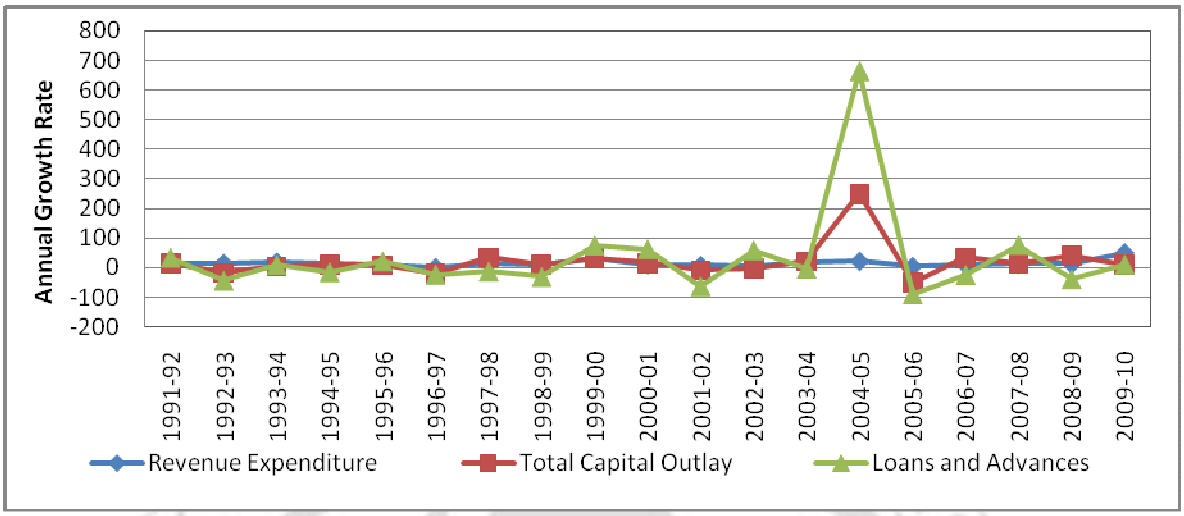
Year	Revenue Expenditure	Total Capital Outlay	Loan and Advances	Total Expenditure
1	2	3	4	5
1991-92	11.86	15.48	34.05	13.96
1992-93	14.10	-16.82	-42.98	5.59
1993-94	18.37	5.72	9.89	16.89
1994-95	12.74	10.52	-14.56	11.30
1995-96	9.33	8.49	22.01	9.72
1996-97	-0.12	-19.46	-22.32	-2.44
1997-98	13.08	35.97	-12.27	13.69
1998-99	9.35	10.47	-30.36	8.47
1999-00	32.36	32.62	75.26	33.05
2000-01	9.78	16.38	63.05	11.37
2001-02	6.69	-8.61	-62.11	3.42
2002-03	3.89	-1.48	59.38	4.13
2003-04	18.80	23.04	-2.61	18.72
2004-05	21.06	250.57	663.53	45.49
2005-06	3.00	-50.23	-89.16	-12.38
2006-07	8.73	33.88	-23.66	10.77
2007-08	11.24	16.17	77.22	12.20
2008-09	11.76	40.58	-37.71	14.61
2009-10	49.77	10.79	11.24	44.03
CAGR 1990-91 to 1999-00	13.17	7.72	-3.46	11.89
CAGR 2000-01 to 2009-10	14.28	18.71	-8.35	14.30
CAGR 1990-91 to 2009-10	13.51	13.26	-3.17	13.00

Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues
Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

From table 4.3, the growth rate of revenue expenditure of the state is found to be positive or moderately negative for most of the year during the period of study. But revenue expenditure has experienced very high annual growth rate in the year 1999-00 and 2009-10 amounting to 32.36 percent and 49.77 percent respectively. As discussed above, the state government revised the salary of its employees in the above mentioned year in line with the

recommendations of the Fifth and Sixth Pay Commission of India. It implies that increase in salary and wages of state government employees has played a significant role in increasing the revenue expenditure of the state government during the study period. In the year 2004-05, the capital outlay and loans and advances as provided by the state government registered the highest ever growth rate amounting to 250.57 percent and 663.53 percent respectively. As discussed above, the sharp increase in capital outlay in the year 2004-05 was mainly due to investment of ₹ 1350 crore in the energy sector. The high increase in loans and advances of the state government in 2004-05 can be assessed from the fact that state assembly election was held in 2005-06 which might lead to increase in government expenditure on loans and advances. Available literature on this issue points out that growth rate of government expenditure increases during the time of election (Srivastava, 2003; Srivastava, 2009). After the year 2004-05, the growth rate of these two components of total expenditure was found to decline in the subsequent years. The compound growth rate of revenue expenditure in the first decade of the present century is found to be comparatively lower than the previous decade. The positive development for the state is that it experienced a compound growth rate of capital expenditure of 18.71 percent during 2000-01 to 2009-10 compared to 7.72 percent during 1990s. The comparatively high annual compound growth rate of capital expenditure in the first decade of the present century is mainly contributed by the high growth rate of this component of expenditure in the year 2004-05. The high growth of capital expenditure may increase the developmental effectiveness of state government. But compound growth rate of the loans and advances provided by the state government is found to be negative for both the time period considered for discussion. This may be due to change in government policy whereby they stopped providing fresh loans to co-operative societies, corporations and different companies etc. The trend in the growth rate of different components of total expenditure is also shown in figure 4.3.

Figure 4.3 Annual Growth Rate of the Components of Total Expenditure



It is evident from figure 4.3 that the growth of revenue expenditure is comparatively uniform except in the year 1999-00 and 2009-10. But growth rate of capital outlay and state government's lending is found to be erratic with sudden surges in some year such as 1999-00 and 2004-05 etc. It is necessary to unearth the reasons for such variations in the growth rate. A detailed analysis of the sub-components of these broad categories of expenditure gives a better idea of such variation in the growth rate.

4.3.1 Pattern of Revenue Expenditure:

Generally speaking, revenue expenditure is an amount that is expensed immediately—thereby being matched with revenues of the current accounting period. Revenue expenditure is incurred to maintain the current level of services and does not represent any addition to the state's service network. The importance of the revenue expenditure lies in the fact that it helps to maintain and continue the existing level of services. For this, there should be proper allocation of expenditure on general services, social and community services, economic services and grants-in-aid (GIA) and contribution etc. The composition of revenue expenditure of the state of Assam for the period under consideration has been provided in table 4.4.

Table 4.4
Composition of Revenue Expenditure of Government of Assam (₹ in lakhs)

Year	General Services	Social and Community Services	Economic Services	GIA and Contributions	Total
1	2	3	4	5	6
1990-91	59583 (31.03)	78185 (40.71)	53480 (27.85)	792 (0.41)	192040
1991-92	53498 (24.90)	95111 (44.28)	65350(30.42)	850 (0.40)	214810
1992-93	86564 (35.32)	98525 (40.20)	59364 (24.22)	639 (0.26)	245093
1993-94	103705 (35.75)	121563 (41.90)	63901 (22.03)	948 (0.33)	290117
1994-95	121321(37.09)	131203 (40.11)	73963 (22.61)	584 (0.18)	327071
1995-96	122135 (34.16)	145674 (40.74)	88811 (24.84)	956 (0.27)	357576
1996-97	131639 (36.86)	155334 (43.49)	69751 (19.53)	407 (0.11)	357131
1997-98	155820 (35.58)	174527 (43.22)	73508 (18.20)	-	403855
1998-99	159355 (36.58)	196208 (44.43)	85060 (19.26)	1010 (0.23)	441634
1999-00	246190 (42.11)	237755 (40.67)	99959 (17.10)	663 (0.11)	584567
2000-01	254785 (39.70)	281460 (43.86)	104583(16.30)	883 (0.14)	641711
2001-02	292552 (42.73)	270162 (39.46)	121522(17.75)	388 (0.06)	684624
2002-03	311219 (43.76)	289801 (40.75)	109475(15.39)	754 (0.11)	711250
2003-04	352912 (41.77)	336149 (39.78)	154683 (18.31)	1235 (0.15)	844979
2004-05	368891 (36.06)	426242 (41.67)	226470 (22.14)	1311 (0.13)	1022914
2005-06	420161 (39.88)	398710 (37.84)	233671 (22.18)	1089 (0.10)	1053631
2006-07	430236 (37.55)	447748 (39.08)	266889 (23.30)	780 (0.07)	1145653
2007-08	492442 (38.64)	495675 (38.89)	285405 (22.39	894 (0.07)	1274416
2008-09	536133 (37.64)	558225 (38.19)	269330 (18.91)	60613 (4.26)	1424331
2009-10	835688 (39.35)	789128 (37.16)	341418 (16.08)	156988 (7.39)	2123200
CAGR(1990-91 to 1999-00)	17.07	13.15	7.20	-1.96	13.17
CAGR (2000-01 to2009-10)	14.11	12.14	14.05	77.82	14.22
CAGR (1990-91 to 2009-10)	14.91	12.94	10.25	32.10	13.48

Figures in parentheses represent percentage of these variables to total
Source: Directorate of Economics and Statistics, Government of Assam, various issues

It is evident from table 4.4 that major portion of the revenue expenditure of the state has been incurred on general and social and community services during the time period 1990-91 to 2009-10. During the period of study, revenue expenditure on general services is found to be comparatively higher than the expenditure on social and community services and economic services. The compound annual growth rate of general services was found to be 14.91 percent during the time period 1990-91 to 2009-10. For the same time period, expenditure on

social and community services and economic services registered a compound growth rate of 12.94 percent and 10.25 percent respectively implying that growth rate of these components of expenditure is not compatible with growth rate of general services. Grants-in-aid provided by the state government constituted less than 1 percent of the total revenue expenditure during 1990s and registered a compound growth rate of (-) 1.96 percent during that period. Significant increase in revenue expenditure on grants-in-aid was noticed during the first decade of the present century which registered a compound growth rate of 77.82 percent. But increased allocation for grants-in-aid was found to be mainly contributed by the high growth rate of this component of expenditure in the year 2009-10 amounting to 346.21 percent.

4.3.1.1 Pattern of Revenue Expenditure, General Services:

As expenditure on general services has constituted a major portion of the revenue expenditure, it is necessary to analyse the composition of revenue expenditure on general services. The composition of revenue expenditure on general services during the study period has been provided in table 4.5.

Table 4.5
Revenue Expenditure of Government of Assam on General Services (₹ in lakhs)

Year	Organ of State*	Fiscal Services#	Interest payments and Servicing of Debt	Administrative Services	Pensions	Total
1	2	3	4	5	6	7
1990-91	1579 (2.65)	3187 (5.35)	26246 (44.05)	23645 (39.65)	4946 (8.30)	59583
1991-92	2934 (5.48)	3669 (6.86)	9270 (17.33)	29259 (54.69)	8366 (15.64)	53498
1992-93	2147 (2.48)	3637 (4.20)	41073 (47.45)	29137 (33.66)	10570 (12.21)	86564
1993-94	2321 (2.24)	4289 (4.14)	49004 (47.25)	34576 (33.34)	13515 (13.03)	103705
1994-95	3024 (2.49)	489 (4.04)	58933 (48.58)	3816 (31.46)	16302 (13.44)	121321
1995-96	4629 (3.79)	5360 (4.39)	4876 (39.92)	45322 (37.11)	18062 (14.79)	122135
1996-97	2941 (2.23)	5789 (4.40)	55990 (42.53)	45494 (34.56)	21425 (16.28)	131639
1997-98	6703 (4.30)	6029 (3.87)	63893 (41.00)	54348 (34.88)	24847 (15.95)	155820
1998-99	4823 (3.03)	6765 (4.25)	52069 (32.68)	65300 (40.98)	30398 (19.08)	159335
1999-00	8746 (3.55)	9698 (3.94)	97088 (39.44)	78779 (32)	51879 (21.07)	246190
2000-01	6792 (2.67)	9807 (3.85)	88511 (34.74)	82292 (32.30)	67383 (26.45)	254785
2001-02	6832 (2.34)	9338 (3.19)	112199 (38.35)	91045 (31.12)	73138 (25)	292552
2002-03	582(1.87)	10188 (3.27)	131674 (42.31)	85847 (27.58)	77 686(24.96)	311219
2003-04	9701 (2.75)	10186 (2.89)	15421 (43.70)	87884 (24.90)	90931 (25.77)	352912
2004-05	9800 (2.66)	16160 (4.38)	14475 (39.24)	9186 (24.90)	106314 (28.82)	368891
2005-06	11373 (2.71)	12035 (2.86)	165412 (39.37)	13104 (31.19)	101199 (24.09)	420161
2006-07	8580 (1.99)	13538 (3.15)	169167 (39.32)	121112 (28.15)	117839 (927.39)	430236
2007-08	10054 (2.04)	13497 (2.74)	171624 (34.78)	163150 (33.13)	134068 (27.23)	492442
2008-09	17743 (3.30)	16192 (3.02)	170133 (31.73)	188235 (35.10)	143737 (21.71)	536133
2009-10	15345 (1.84)	18731 (2.24)	194058 (23.22)	289314 (34.62)	176928 (21.17)	835686
CAGR (1990-91 to 1999-00)	20.95	13.16	15.64	14.31	29.84	17.07
CAGR (2000-01 to2009-10)	9.48	7.45	9.11	14.99	11.32	14.11
CAGR (1990-91 to 2009-10)	12.71	9.77	11.10	14.09	20.72	14.91

Figures in parentheses represent percentage of these variables to total
Source: Directorate of Economics and Statistics, Government of Assam, various issues
* 1. State Legislature 2. Governor 3. Council of Minister 4. Administration of Justice, Plain areas 5. Administration of Justice, Hill Areas 6.Elections
# Collection of taxes and duties and other fiscal services

It is evident from table 4.5 that interest payments and servicing of debt, administrative services and pension constitute major portion of the expenditure on general services during the period of study. These three components together constitute more than 90 percent of the

revenue expenditure on general services during the study period. The compound growth rate of expenditure on interest payments, administrative services and pension during the time period 1990-91 to 2009-10 is found to be 11.10, 14.09 and 20.72 percent respectively. The growth rate of revenue expenditure on administrative services in the first decade of the present century was found to be slightly higher than in 1990s. On the other hand, compound growth rate of revenue expenditure on interest payments and servicing of debt and pensions was declined during the first decade of the present century compared to the time period 1990-91 to 1999-00. The initiative by the recent Finance Commissions of India to reduce the interest burden of the state governments may contribute towards reduction of growth rate of interest payments of the state during the time period 2000-01 to 2009-10.

4.3.1.2 Pattern of Revenue Expenditure, Social and Community Services:

Apart from the expenditure on general services, it is necessary to analyse the composition of revenue expenditure on social and community services and economic services which has a positive impact on the economic development of the state. The composition of expenditure on social and community services has been provided in table 4.6.

It is evident from table 4.6 that the expenditure on education, sports, art and culture has constituted the major portion of the revenue expenditure on social and community services during the time period 1990-91 to 2009-10. On an average, it constitutes almost 64 percent of the total revenue expenditure on social services during the period of study. But decline in the share of expenditure on education, sports, art and culture has been noticed during the period of study. In the year 2009-10, the expenditure on education, sport, art and culture constituted 51.85 percent of the total expenditure on social and community services compared to 57.42 percent in the year 1990-91. The expenditure on medical, family plan, public health and sanitation constitutes, on an average, 21.36 percent of the total revenue expenditure on social and community services during the study period. The compound growth rate of medical, family plan, public health and sanitation is found to be slightly lower than the compound growth rate of expenditure on education, sports, art and culture during the period taken for the analysis.

Table 4.6
Revenue Expenditure of Government of Assam on Social and Community Services (₹ in lakhs)

Year	Education, Sports, Art and Culture	Medical, Family Plan, Public Health and Sanitation	Others*	Total
1	2	3	4	5
1990-91	44894 (57.42)	22448 (28.71)	10753 (13.75)	78185
1991-92	55990 (58.87)	25980 (27.32)	13141 (13.82)	95111
1992-93	64623 (65.59)	22559 (22.90)	11343 (11.51)	98525
1993-94	79191 (65.14)	25768 (21.20)	16604 (13.66)	121563
1994-95	87003 (66.31)	28860 (22.00)	15340 (11.69)	131203
1995-96	97438 (66.89)	32712 (22.46)	15524 (10.66)	145674
1996-97	103462 (66.61)	33999 (21.89)	17873 (11.51)	155334
1997-98	116250 (66.61)	3817 (21.87)	20106 (11.52)	174527
1998-99	136198 (69.42)	36906 (18.81)	23103 (11.77)	196208
1999-00	166437 (70)	47714 (20.07)	23604 (9.93)	237755
2000-01	194116 (68.97)	56751 (20.16)	30593 (10.87)	281460
2001-02	187137 (69.27)	52548 (19.45)	30477 (11.28)	270162
2002-03	199706 (68.91)	51964 (17.93)	38131 (13.16)	289801
2003-04	236248 (70.28)	56438 (16.79)	43463 (12.93)	336149
2004-05	250251 (58.71)	82398 (19.33)	93593 (21.96)	426242
2005-06	251560 (63.09)	82123 (20.60)	65027 (16.31)	398710
2006-07	275112 (61.44)	89728 (20.04)	82908 (18.52)	447748
2007-08	304705 (61.47)	96441 (19.46)	94529 (19.07)	495675
2008-09	329138 (58.96)	123624 (22.14)	105495 (18.90)	558257
2009-10	409194 (51.85)	190086 (24.09)	189848 (24.06)	789128
CAGR (1990-91 to 1999-00)	15.67	8.74	9.13	13.15
CAGR (2000-01 to 2009-10)	8.64	14.37	22.49	12.14
CAGR (1990-91 to 2009-10)	12.33	11.90	16.31	12.94

Figures in parentheses represent percentage of these variables to total

Source: Directorate of Economics and Statistics, Government of Assam, various issues

*includes expenditure on urban development, welfare of SC, ST and OBCs, labour welfare, social security and welfare, nutrition

4.3.1.3 Pattern of Revenue Expenditure, Economic Services:

As the state suffers from lots of bottlenecks particularly in infrastructure sector, it is necessary that the state should spend sufficiently on economic services to remove those bottlenecks. The amount of revenue expenditure on different economic services of the state has been provided in table 4.7.

It is evident from figure 4.7 that agriculture and allied activities has constituted the major portion of the revenue expenditure on economic activities during the period of study. Although the share of this sector has declined due to low growth rate compared to the other components, but still it constitutes 29.75 percent of the revenue expenditure on economic services in 2009-10. Increase in the share of rural development has been observed during the period of study. The share of expenditure on rural development has increased from 15.15 percent in the year 1990-91 to 22.64 percent in the year 2009-10. The compound growth rate of this component of expenditure during the time period 2000-01 to 2009-10 is found to be 25.20 percent compared to 5.29 percent in 1990s. The compound growth rate of energy is found to be the highest among the all categories of expenditure as it registered a compound growth rate of 25.83 percent during the period of study. Transport and communication is found to be another significant component which shares, on an average, 17.30 percent of the revenue expenditure on economic services during the study period.

Table 4.7
Composition of Revenue Expenditure on Economic Services (₹ in crore)

Year	Agriculture and Allied Activities	Rural Development	Special Area Programme	Irrigation and Flood Control	Energy	Industry and Mineral	Transport & Communication	General Economic Services	Science, Technology and Environment
1	2	3	4	5	6	7	8	9	10
1990-91	24337 (45.51)	8101 (15.15)	570 (1.07)	4409 (8.24)	15 (0.03)	4999 (9.35)	8870 (16.59)	2050 (3.83)	129 (0.24)
1991-92	27831 (42.59)	8864 (13.56)	666 (1.02)	5570 (8.52)	35 (0.05)	8187 (12.53)	11826 (18.10)	2196 (3.36)	175 (0.27)
1992-93	23966 (40.37)	8849 (14.91)	535 (0.90)	5286 (8.90)	22 (0.04)	5974 (10.06)	12485 (21.03)	2098 (3.53)	149 (0.25)
1993-94	25362 (39.69)	10963 (17.16)	712 (1.11)	4455 (6.97)	44 (0.07)	6717 (10.51)	11596 (18.15)	3816 (5.97)	236 (0.37)
1994-95	28600 (38.67)	11492 (15.54)	1196 (1.62)	5060 (6.84)	45 (0.06)	9091 (12.29)	13496 (18.25)	4742 (6.41)	241 (0.33)
1995-96	45782 (51.55)	9855 (11.10)	1417 (1.60)	5069 (5.71)	48 (0.05)	8341 (9.39)	12927 (14.56)	5070 (5.71)	302(0.34)
1996-97	29408 (42.16)	10491 (15.04)	536(0.77)	6025(8.64)	12 (0.02)	5891 (8.45)	13029 (18.68)	4234 (6.07)	125 (0.18)
1997-98	30775 (41.87)	9181 (12.49)	1163 (1.58)	6792 (9.24)	52 (0.07)	6962 (9.47)	13398 (18.23)	5132 (6.98)	53 (0.07)
1998-99	32937 (38.72)	10173 (11.96)	1831 (2.15)	9099 (10.70)	5 (0.01)	9011 (10.59)	16518 (19.42)	5407 (6.36)	80 (0.09)
1999-00	40751 (40.77)	12878 (12.88)	919 (0.92)	10716 (10.72)	14(0.01)	9088 (9.09)	19237 (19.24)	6258 (6.26)	98 (0.10)
2000-01	40622 (38.84)	10178 (9.73)	1302 (1.24)	14718 (14.07)	12 (0.01)	9424 (9.01)	20818 (19.91)	7398 (7.07)	111 (0.11)
2001-02	42542 (35.01)	27424 (22.57)	1872 (1.54)	12628 (10.39)	1816 (1.49)	8040 (6.62)	20451 (16.83)	6593 (5.43)	156 (0.13)
2002-03	36221 (33.09)	21896 (20)	941 (0.86)	12878 (11.76)	508 (0.46)	8716 (7.96)	22238 (20.31)	5980 (5.46)	97 (0.09)
2003-04	47814 (30.91)	26462 (17.11)	2124 (1.37)	17718 (11.45)	14202 (9.18)	9647 (6.24)	24691 (15.96)	11886 (7.68)	139 (0.09)
2004-05	48791 (21.54)	43616 (19.26)	1998 (0.88)	20784 (9.18)	31225(13.79)	12956 (5.72)	30900 (13.64)	35876 (15.84)	324 (0.14)
2005-06	54779 (23.44)	37683 (16.13)	2177 (0.93)	21866 (9.36)	32259(13.81)	13390 (5.73)	34662 (14.83)	36683 (15.70)	172 (0.07)
2006-07	61358 (22.99)	56136 (21.03)	2701 (1.01)	26922 (10.09)	29094 (10.90	11274 (4.22)	38665 (14.49)	40537 (15.19)	201
2007-08	67232 (23.56)	78576 (27.53)	5322 (1.86)	29205 (10.23)	3082 (1.08)	17792 (6.23)	50372 (17.65)	33255 (11.65)	568
2008-09	80349 (29.83)	6515 (24.19)	10596(3.93)	29483(10.95)	8 (.0030)	16908 (6.28)	40339 (14.98)	24601 (9.13)	1894 (0.70)
2009-10	10107 (29.75)	7693 (22.64)	2111 (6.22)	3206 (9.44)	1181 (0.35)	21771(6.41)	51557(15.17)	183(0.05)	33883(9.97)
CAGR (1990-91 to 1999-00)	5.89	5.29	5.45	10.37	-0.76	6.87	8.98	13.20	-3.01
CAGR (2000-01 to2009-10)	10.66	25.20	36.29	9.04	66.51	9.75	10.60	-33.70	88.83
CAGR (1990-91 to 2009-10)	7.78	12.58	20.94	11.01	25.83	8.05	9.71	-11.94	34.07

Source: Figures in parentheses represent percentage of these variables to total
Directorate of Economics and Statistics, Government of Assam, various issues
Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

4.3.2 Pattern of Capital Expenditure:

Capital expenditure is the amount spent to acquire or improve long-term asset such as equipment or buildings. For a proper analysis of capital expenditure, it is necessary to differentiate between capital expenditure and capital outlay. Capital outlay is that part of the capital expenditure which is used for different activities of the state government which are of capital nature (RBI, 2007). As mentioned in the section 4.3, capital outlay excludes expenditures such as discharge of internal debt and repayment of loans to centre. Actually, it is capital outlay that leads to creation of long term assets (Sarma, 2004). The higher proportion of capital outlay to capital expenditure helps in development of social and economic infrastructure of a state. The amount and percentage of capital outlay to total capital expenditure of the state government has been provided in table 4.8.

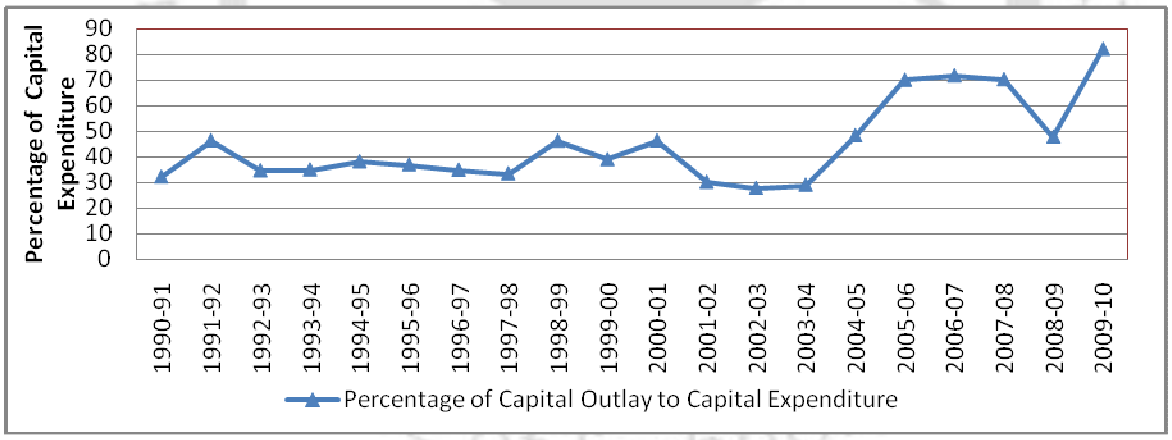
Table 4.8
Amount of Capital Expenditure and Capital Outlay of the State Government (₹ in crore)

Year	Capital Expenditure	Capital Outlay	Percentage of capital Outlay to Capital Expenditure
1	2	3	4
1990-91	769	247	32.12
1991-92	615	285	46.34
1992-93	685	237	34.60
1993-94	719	251	34.91
1994-95	727	277	38.10
1995-96	815	301	36.93
1996-97	695	242	34.82
1997-98	984	329	33.43
1998-99	788	364	46.19
1999-00	1240	483	38.95
2000-01	1214	562	46.29
2001-02	1704	513	30.11
2002-03	1824	506	27.74
2003-04	2146	622	28.98
2004-05	4516	2181	48.29
2005-06	1551	1085	69.95
2006-07	2028	1453	71.65
2007-08	2406	1688	70.16
2008-09	3243	2373	73.17
2009-10	5666	4716	83.23

Source: Directorate of Economics and Statistics, Government of Assam, various issues

It is evident form table 4.8 that a major portion of the capital expenditure has been spent for repayment of public debt during most of the years under study. During 1990s, capital outlay constituted, on an average, 37 percent of the total capital expenditure implying that there had been huge burden of repayment of public debt during that period. An improvement in the ratio has been noticed in recent years. Capital outlay has constituted 69.95, 71.65, 70.16, 73.17 and 83.23 percent of the capital expenditure in the year 2005-06, 2006-07, 2007-08, 2008-09 and 2009-10 respectively. This is mainly due to the improvement of the fiscal situation of the state in recent years. This allows the state government to invest more on capital assets. The recent initiative by the central government to reduce the debt burden of the state governments also helped to reduce the share of repayment of public debt. The state received a debt relief under 'Debt Consolidation and Relief Facility (DCRF) [1] Scheme' in the year 2007-08, 2008-09 and 2009-10 (Government of Assam, 2010). All the factors contributed towards increased capital outlay of the state in those years. This ratio of capital outlay to capital expenditure of the state is also shown in figure 4.4.

Figure 4.4 Percentage of Capital Outlay to Capital Expenditure



It can be seen from figure 4.4 that the ratio of capital outlay to capital expenditure has increased during the period of study. The improvement is found to be significant particularly during the time period 2004-05 to 2009-10 when capital outlay, on an average, constituted 69.40 percent of the capital expenditure. Improvement in the ratio of capital outlay to capital expenditure in the above time period is mainly due to reduction in repayment obligations of the state government (Government of Assam, 2011). Prior to that, the average ratio of capital

outlay to capital expenditure of the state was found to be 36.39 percent during the time period 1990-91 to 2004-05.

4.3.2.1 Composition of Capital Outlay on Different Services:

The composition of capital outlay on different services provides information about the quality of capital outlay of a state (Das Gupta, 2012). The composition of capital outlay in terms of general services, social services and economic services has been provided in table 4.9.

Table 4.9
Composition of Capital Outlay of Government of Assam (₹ in lakh)

Year	General services	Social Services	Economic Services	Total Capital Outlay
1	2	3	4	5
1990-91	487 (1.97)	3058 (12.38)	21152 (85.6)	24697
1991-92	666 (2.34)	2509 (8.80)	25346 (88.87)	28521
1992-93	740 (3.12)	2248 (9.48)	20735 (87.40)	23723
1993-94	664 (2.65)	2695 (10.75)	21720 (86.61)	25079
1994-95	986 (3.56)	3330 (12.01)	23402 (84.43)	27718
1995-96	1574 (5.23)	3995 (13.29)	24501 (81.48)	30070
1996-97	484 (2)	1635 (6.75)	22100 (91.25)	24219
1997-98	607 (1.84)	2800 (8.50)	29524 (89.65)	32931
1998-99	340 (0.93)	4643 (12.76)	31397 (86.30)	36380
1999-00	1054 (2.18)	5152 (10.68)	42041 (87.14)	48247
2000-01	787 (1.40)	3469 (6.18)	51892 (92.42)	56148
2001-02	980 (1.91)	3433 (6.69)	46902 (91.0)	51315
2002-03	1125 (2.23)	2195 (4.34)	47233 (93.43)	50553
2003-04	1762 (2.83)	3947 (6.35)	56490 (90.82)	62199
2004-05	2320 (1.06)	4740 (2.17)	210993 (96.76)	218052
2005-06	1041 (0.96)	4507 (4.15)	102984 (94.89)	108532
2006-07	2317 (1.59)	15514 (10.68)	127469 (87.73)	145300
2007-08	4328 (2.56)	26561 (15.73)	137922 (81.70)	168811
2008-09	3564 (1.50)	49438 (20.83)	184299 (77.64)	237301
2009-10	7186 (2.73)	45084 (17.15)	210665 (80.12)	262935
CAGR (1990-91 to 1999-00)	8.96	5.97	7.93	7.72
CAGR (2000-01 to2009-10)	27.86	32.97	16.85	18.71
CAGR (1990-91 to 2009-10)	15.22	15.21	12.86	13.26

Figures in parentheses represent percentage of these variables to total
Source: Directorate of Economics and Statistics, Government of Assam, various issues

From table 4.9, it is evident that expenditure on economic services constitutes the major portion of total capital outlay during the study period. The compound growth rate of this component of expenditure is found to be 12.86 percent during the period 1990-91 to 2009-10. For the same time period, the compound growth rate of general and social services is found to be 15.22 percent and 15.21 percent respectively implying that the growth rate of these components of expenditure is comparatively higher than the growth rate of capital expenditure on economic services. As economic services constitutes major portion of the capital outlay, it is necessary to analyse the pattern and composition of expenditure on economic services. The composition and pattern of capital expenditure on economic services has been provided in table 4.10.

From table 4.10, increase in the capital outlay on economic services has been noticed during the time period from 2000-01 to 2009-10 compared to the previous decade. The state registered a compound growth of 16.85 percent on capital expenditure on economic services during the time period 2000-01 to 2009-10 compared to 7.93 percent in the previous decade. Water and power development constitute the major portion of the capital outlay of the state during the period of study. It contributed, on an average, 42 percent of the total capital expenditure on economic services during the study period. Expenditure on transport and communication constituted, on an average, 35 percent of the total capital outlay on economic services for the study period. Capital outlay on industry and minerals is found to be comparatively low for the entire time period taken for the study. Although it registered a high growth rate in the first decade of the present century compared to the previous decade, it shared only 4.81 percent of the capital expenditure on economic services during the period of study. But the share of agriculture and allied activities has been increasing during the period under consideration indicating that greater importance is assigned to this sector.

Table 4.10
Capital Outlay on Economic Services of the State (₹ in lakh)

Year	Agriculture and Allied Activities	Industry and Minerals	Water and Power Development	Transport and Communication	General Economic Services	Total
1	2	3	4	5	6	7
1990-91	2003 (9.47)	2061 (9.74)	10216 (48.30)	6789 (32.10)	83 (0.39)	21152
1991-92	2494 (9.84)	2285 (9.02)	12515 (49.38)	7925 (31.27)	127 (0.50)	25346
1992-93	1355 (6.53)	888 (4.28)	9701 (46.79)	8733 (42.12)	58 (0.28)	20735
1993-94	2229 (10.26)	1807 (8.32)	9954 (45.83)	7584 (34.92)	146 (0.67)	21720
1994-95	2584 (11.04)	2019 (8.63)	10594 (45.27)	8018 (34.26)	187 (0.80)	23402
1995-96	1715 (7)	1984 (8.10)	9736 (39.74)	10994 (44.87)	72 (0.29)	24501
1996-97	147 (0.67)	2679 (12.12)	1085(49.13)	8359 (37.82)	57 (0.26)	22100
1997-98	1198 (4.06)	3174 (10.75)	15883 (53.80)	9217 (31.22)	52 (0.18)	29524
1998-99	1859 (5.92)	2546 (8.11)	13165 (41.93)	13705 (43.65)	122 (0.39)	31397
1999-00	4608 (10.96)	297 (0.71)	18668 (44.40)	18276 (43.47)	192 (0.46)	42041
2000-01	13514(26.04)	931 (1.80)	15002 (28.91)	22222 (42.82)	223 (0.43)	51892
2001-02	9626 (20.52)	161 (0.34)	17964 (38.30)	18739 (39.95)	412 (0.88)	46902
2002-03	10824 (22.92)	149 (0.32)	17611 (37.29)	18613 (39.41)	36 (0.08)	47233
2003-04	21397 (37.88)	81 (0.14)	16345 (28.93)	18559 (32.85)	108 (0.19)	56490
2004-05	32372 (15.34)	200 (0.09)	148408 (70.34)	29929 (14.18)	83 (0.04)	210993
2005-06	27545 (26.75)	197 (0.19)	31735 (30.82)	43378 (42.12)	129 (0.13)	102984
2006-07	40158 (31.50)	9989 (7.84)	40524 (31.79)	35732 (28.03)	1066 (0.84)	127469
2007-08	22905 (16.61)	1760 (1.28)	61554 (44.63)	51662 (37.46)	41 (0.03)	137922
2008-09	46062 (24.99)	1544 (0.84)	83601 (45.36)	52872 (28.69)	261 (0.14)	184299
2009-10	41208 (19.56)	10595 (5.03)	93816 (44.53)	63187 (29.99)	1859 (0.88)	210665
CAGR (1990-91 to 1999-00)	9.70	-19.37	6.93	11.63	9.77	7.93
CAGR (2000-01 to2009-10)	13.19	31.01	22.59	12.31	26.63	16.85
CAGR (1990-91 to2009-10)	17.25	9.00	12.38	12.46	17.78	12.86

Figures in parentheses represent percentage of these variables to total
Source: Directorate of Economics and Statistics, Government of Assam, various issues

The above discussion gives an idea about the pattern and growth of expenditure of the state during the period of study. While the growth in public expenditure is important, the quality of expenditure is of more significance from the point of view of overall economic development. As such, an attempt has been made in the following section to examine the quality of public expenditure in the state.

4.4 Quality of expenditure of the State:

Quality of expenditure is basically related to proper allocation of expenditure on different heads. The availability of resources for improvement in social and physical infrastructure of the state generally reflects the quality of expenditure (Howes and Jha, 2004; Sen and Karmakar, 2007). The improvement in the quality of expenditure basically involves two aspects, viz., adequacy of expenditure (adequate provision for providing public services) and efficiency of expenditure use. Getting the right size and right composition of government expenditure to achieve the highest attainable growth rates after meeting the government's obligations is known as the adequacy of expenditure. The efficiency of public expenditure relates to both size and sectoral allocations aimed at removing inefficiencies arising from misallocations, and implementation of the schemes and delivery of services. In view of the importance of these factors, the Thirteen Finance Commission gave importance on the need to improve the quality of public expenditure to obtain better outputs and outcomes (TFC, 2009). It is necessary to determine whether the public expenditure of the state government is adequate enough to meet the social and economic responsibilities of the government.

4.4.1 Adequacy of Public Expenditure:

The amount of fund available for social and economic services after meeting the expenditure on general services actually implies the adequacy of expenditure of a state, which is popularly known as developmental expenditure (Gupta and Sarkar, 1994; Das Gupta, 2012). The quality of expenditure in terms of adequacy can be assessed by the total developmental revenue and capital expenditure of the state government during the period of study. The development expenditure as a ratio of to total and aggregate expenditure as well as GSDP of the state has been computed to examine the relative growth of development expenditure with respect to the above mentioned variables. Apart from the components of total expenditure, aggregate expenditure includes expenditure on repayment of public debt. The amount and growth of developmental revenue and capital expenditure as well as development expenditure (DE) of the state has been provided in 4.11.

Table 4.11
Amount and Growth of Developmental Expenditure of the State (₹ in crore)

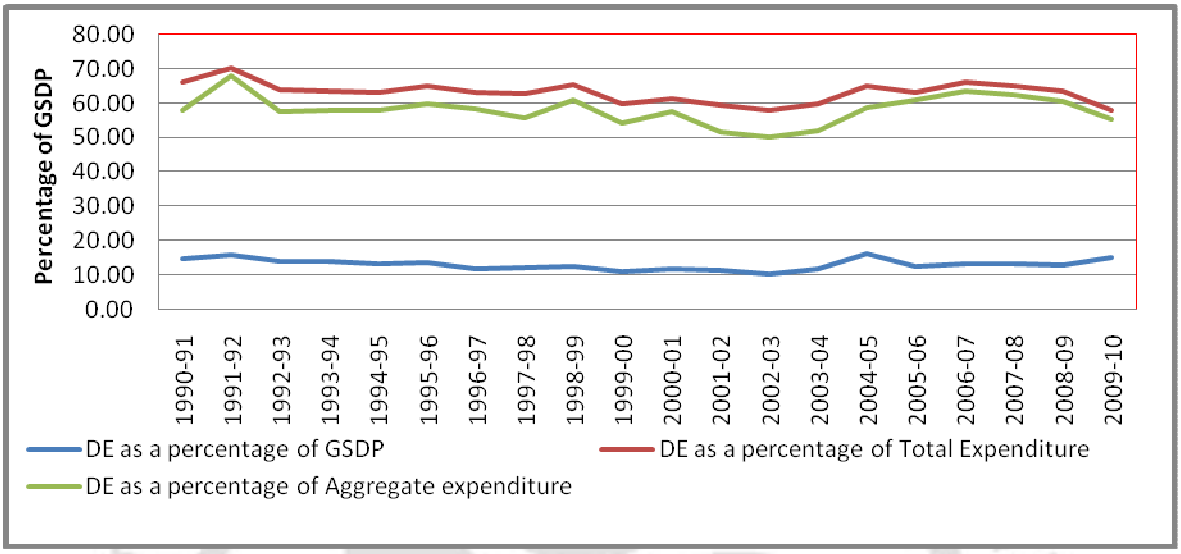
Year	Total Developmental Revenue Expenditure	Total Developmental Capital Expenditure	Developmental Expenditure(DE)	DE as percentage of Total expenditure	DE as a percentage of Aggregate Expenditure	DE as a percentage of GSDP
1	2	3	4	5	6	7
1990-91	1317 (84.47)	242 (15.53)	1559	66.33	57.97	14.68
1991-92	160 (85.21)	279 (14.79)	1883	70.31	68.16	15.89
1992-93	1579 (87.29)	230 (12.71)	1809	63.96	57.68	13.86
1993-94	1855 (88.37)	244 (11.63)	2099	63.50	57.98	13.86
1994-95	2052 (88.47)	267 (11.53)	2319	63.03	58.00	13.21
1995-96	2345 (89.16)	285 (10.84)	2630	65.15	59.90	13.55
1996-97	2251 (90.46)	237 (9.54)	2488	63.19	58.31	11.84
1997-98	2480 (88.47)	323 (11.53)	2804	62.62	55.83	12.29
1998-99	2813 (88.64)	360 (11.36)	3173	65.34	60.97	12.41
1999-00	3377 (87.74)	472 (12.26)	3849	59.57	54.32	11.05
2000-01	3860 (87.46)	554 (12.54)	4414	61.34	57.84	11.99
2001-02	3917 (88.61)	503 (11.39)	4420	59.40	51.70	11.54
2002-03	3993 (88.98)	494 (11.02)	4487	57.90	50.21	10.34
2003-04	4908 (89.04	604 (10.96)	5513	59.92	52.03	11.65
2004-05	6527 (75.16)	2157 (24.84)	8684	64.89	58.90	16.26
2005-06	6324 (85.47)	1075 (14.53)	7399	63.09	61.21	12.46
2006-07	7146 (83.33)	1430 (16.67)	8576	66.02	63.60	13.26
2007-08	7811 (82.60)	1645 (17.40)	9456	64.88	62.41	13.30
2008-09	8276 (77.98)	2337 (22.02)	10613	63.53	60.70	13.07
2009-10	11305 (81.55)	2557 (18.45)	13862	57.85	55.30	14.99

Figures in parentheses represent percentage of this variable to total developmental expenditure
Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

It is evident from table 4.11 that developmental revenue expenditure of the state government has increased from ₹ 1317 crore in 1990-91 to ₹ 11305 crore in 2009-10 and thus registering a compound growth rate of 11.98 percent. The compound growth rate of developmental capital expenditure of the state during the study period is found to be 13.28 percent as it has increased from ₹ 242 crore in 1990-91 to ₹ 11305 crore in 2009-10. The high growth rate of developmental capital expenditure compared to developmental revenue expenditure implies that the state has put more effort on creation of capital asset during the period of study. Compared to this, the compound growth rate of developmental revenue and capital expenditure of all states is found to be 12.74 and 15.72 percent respectively during the above mentioned period (RBI, 2011). Again, the compound growth rate of developmental expenditure of the state during the period of study is found to be 12.19 percent compared to all states compound growth rate of 13.31 percent (RBI, 2011). Thus, it implies that growth of development expenditure of the state is not compatible with that of all states average during the period of study.

Developmental expenditure constituted a major portion of total expenditure of the state ranging from 70.31 percent in the year 1991-92 to 57.85 percent in 2009-10. On an average, the developmental expenditure has constituted 62.99 percent of the total expenditure of the state during the period of study. Compared to this, average ratio of developmental expenditure to total expenditure of all states during the period of study is found to be 61.54 percent. But the average ratio development expenditure to total expenditure of the special category states is found to be greater than the state's average during the period of study. The average ratio special category state is found to be 65.68 percent compared to the state's average of 62.99 percent during the study period. Sudden decline in the ratio of development expenditure to total and aggregate expenditure of the state is noticed in the year 2009-10. This is due to the fact that there was a significant increase in total and aggregate expenditure in the year 2009-10 amounting to 44.03 and 43.37 percent respectively without commensurate increase in developmental expenditure. Increase in total expenditure in that year was mainly contributed by increase in revenue expenditure on general services. The ratio of developmental expenditure as a ratio of GSDP, total expenditure and aggregate expenditure of the state has been shown in figure 4.5.

Figure 4.5 Development Expenditure as a percentage of GSDP, Total Expenditure and Aggregate Expenditure of the State



As evident from figure 4.5, development expenditure has maintained a stable ratio with GSDP for the time period taken for the analysis. The divergence between the ratio of development expenditure to total and aggregate expenditure of the state is found to decline during the period of study.

The growth in the absolute value of development expenditure itself is not enough to explain the process of development, as population is also on the rise. As such, it is necessary to analyse the per-capita development expenditure in terms of per-capita expenditure on social services and per-capita expenditure on economic services. The classification of the developmental expenditure on per-capita basis actually reflects the quality of expenditure (Shariff et al. 2002; Choudhury, 2002). Here, real per-capita expenditure is used. For doing this, as done in the previous chapter, the variables are converted into constant 2004-05 prices by splicing to make it comparable for the whole time period taken for the analysis. Mid-year population figures have been taken from CSO and price deflators have been computed from the ratio of current to constant price GSDP figures. The per-capita expenditure on social, economic and per-capita developmental expenditure of the state has been provided in table 4.12.

Table 4.12
Per-capita Expenditure on Social Services, Economic Services and Developmental Services (In ₹)

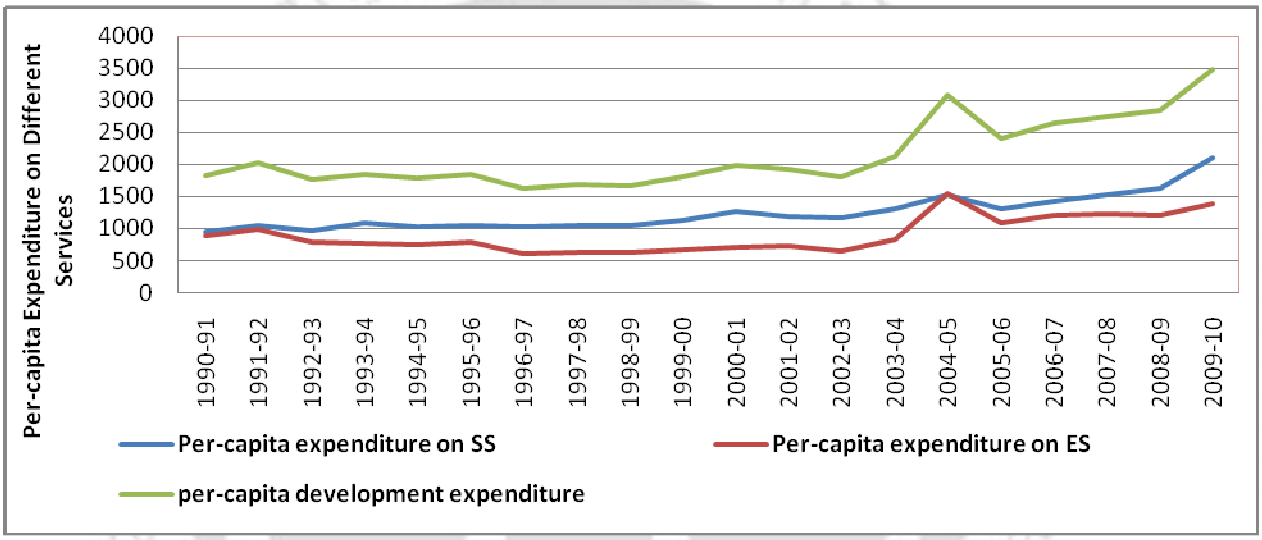
Year	Per-capita Expenditure on Social Services	Per-capita Expenditure on Economic Services	Per-capita Development Expenditure
1	2	3	4
1990-91	955	877	1833
1991-92	1052	977	2029
1992-93	978	777	1755
1993-94	1095	755	1850
1994-95	1032	747	1778
1995-96	1047	792	1839
1996-97	1025	600	1624
1997-98	1061	616	1677
1998-99	1054	611	1666
1999-00	1135	663	1798
2000-01	1276	701	1977
2001-02	1185	730	1915
2002-03	1176	631	1807
2003-04	1313	816	2129
2004-05	1533	1556	3089
2005-06	1315	1098	2413
2006-07	1432	1219	2651
2007-08	1520	1232	2752
2008-09	1632	1218	2850
2009-10	2100	1388	3488

Source: A Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

It is evident from table 4.12 that per-capita developmental expenditure has increased from ₹ 1833 in 1990-91 to ₹ 3488 in 2009-10 and thus registered a compound growth rate of 4.23 percent during that period. Similarly, per-capita expenditure on economic and social services has increased from ₹ 955 and ₹ 877 in 1990-91 to ₹ 2100 and ₹ 1388 in 2009-10 respectively. The compound growth rate of these two components of expenditure is found to be 4.23 and 2.44 percent respectively during the above mentioned period. During 1990s, per-capita developmental expenditure has declined from ₹ 1833 in 1990-91 to ₹ 1798 in 1999-00 and thus registering negative compound growth rate of (-) 0.21 percent. After that, increase was observed in per-capita development expenditure during the first decade of the present

century with a compound growth rate of 6.51 percent. This was mainly due to the improvement in the fiscal position of the state in recent years. The improvement in the fiscal position of the state gives the flexibility in investing more in developmental activities. The per-capita expenditure on social services, economic services and per-capita development expenditure of the state is also shown in figure 4.6.

Figure 4.6 Per-capita Expenditure of the State on Social Services, Economic Services and Per-capita Development Expenditure



It is evident from in figure 4.6 that these three categories of expenditure have shown improvement during the time period 2000-01 to 2009-10. Per-capita expenditure on social services has been found to be higher than the per-capita expenditure on economic services during the period of study except in the year 2004-05 when per-capita expenditure on economic services is found to be marginally greater than the per-capita expenditure on social services.

It is evident from the above discussion that the state has experienced an increase in per-capita development expenditure in recent years. Since development expenditure is a component of total expenditure, it is also necessary to analyze the relative increase in development expenditure with respect to increase in total and aggregate expenditure of the state. As discussed in the previous chapter, some broad conclusions can be drawn by simple tools such as annual and compound growth rate. But the conclusions based on these simple tools may

not be rigorous enough and may sometime be misleading too. To be able to draw inferences in a more rigorous manner, some sophisticated statistical tools should be incorporated. Keeping this fact in mind, two regression analyses have been carried out to observe the relative growth of development expenditure with respect to both total and aggregate expenditure of the state. The time period from 1990-91 to 2009-10 is considered to carry out this analysis. As the variables are in current prices, they are converted into constant prices by using appropriate price deflator. The GSDP price deflator is calculated as a ratio of current to constant prices as done in chapter 3. Gross domestic product data at current and constant prices in the series 1980-81, 1993-94, 1999-00 and 2004-05 are obtained from the Central Statistical Organization. All the data are converted into 2004-05 prices by splicing to make it comparable with the above mentioned series. All the variables are found to be integrated of order 1. The Dickey Fuller and Philips-Perron unit root test are applied to determine the order of integration. The regression diagnosis test, called Ljung-Box or Portmanteau test is also used to test if the residuals of the regression are white noise or it has some autocorrelation still left. The variables have been transformed in to stationary state before carrying out the regression analyses. The results of the regression have been provided in table 4.13 and table 4.14.

Table 4.13
Results of the Regression Analysis of Impact of Total Expenditure on Developmental Expenditure

Variable	Coefficient	t statistic
Total Expenditure	.5899371*** (.0532362)	11.08
Constant	-34.53817 (85.13003)	-0.41
R^2	0.8009	LB statistic = 7.9126
F(1, 18)	122.77***	

Figures in parentheses represent standard error of the estimated coefficients
***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

Table 4.14
Results of the Regression Analysis of Impact of Aggregate Expenditure on Developmental Expenditure

Variable	Coefficient	t statistic
Aggregate Expenditure	.5060469*** (.0611564)	8.27
Constant	21.61483 (107.0635)	0.20
R^2	0.8009	LB statistic = 6.0167
F(1,17)	68.49***	

Figures in parentheses represent standard error of the estimated coefficients
***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

From table 4.13 and 4.14, the values of the F-statistic for overall significance are found to be highly significant. No auto-correlation has been found in the residuals of the regression models. Thus, on the whole, the results obtained from the regression analyses are credible. The coefficients of both total and aggregate expenditure are found to be positive and significant at 1 percent level implying that increase in total and aggregate expenditure of the state has led to increase in development expenditure of the state. The coefficient of the regression of development expenditure on total expenditure is found to be .5899371 which implies that 1 percent increase in total expenditure has led to less than proportionate increase in development expenditure of the state. Similarly, 1 percent increase in aggregate expenditure has led to only .5060469 percent increase in development expenditure of the state.

4.4.2 Efficiency of Government Expenditure:

Efficiency of resource use basically relates to reduction of structural rigidities (Gupta, 2001; Gillingham et al. 2008). The inherent structural rigidities of the state government may lead to misallocation of expenditure and in turn quality of expenditure. This happens particularly during the time of fiscal imbalances when government fails to control the expenditure on those unproductive components such as guarantees, interest payments, pension and wages and salaries etc. Guarantees provided by the state government to the state public sector

enterprises have been considered as one of the unproductive expenditures of the states in India (Thorat and Roy, 2004). Guarantees are liabilities contingent on the consolidated fund of the state in case of default by the borrower from whom the guarantees have been extended. But when the public sector fails to pay the guarantees, ultimately the state governments have to repay it. Most of the Public Sector Undertakings in Assam failed to repay the government guaranteed loans and it became liability of the respective governments. Many enterprises in Assam work under the psychology that if the state government provides a guarantee, it no longer is the responsibility of the enterprise to service the debt (Srivastava et al., 1999). To sort out this problem, the state government laid down the procedure for issues of guarantees and fixed a ceiling of ₹ 1,500 crore on guarantees to be given with effect from April 2000 (Government of Assam, 2003). After that, the Government of Assam revised the targets on guarantees under Assam Fiscal Responsibility and Budget Management Act (AFRBM). As per AFRBM Act, state government guarantees should be equal to or less than 50 percent of state's own tax and non-tax revenues of the second preceding year (Government of Assam, 2010). The outstanding guarantees of the state government during the study period have been provided in table 4.15.

It is evident from table 4.15 that the outstanding guarantees of the state government increased from ₹ 1430 crore in 1998-99 to ₹ 1883 crore in 2003-04. The Government of Assam failed to meet the norms on guarantees (a ceiling of ₹ 1,500 crore) for consecutive years for the period from 2001-02 to 2003-04. This was a clear case of fiscal indiscipline. The compound annual growth rate of guarantees provided by the state government was 5.65 percent during this period. It implied that instead of reducing the amount of guarantees, state government provided more guarantees to the State Public Sector Enterprises. As most of the Public Sector Enterprises were not viable, the state government had to repay the guaranteed amount along with the interest. It ultimately created pressure on revenue expenditure of the state government. The state was able to meet the revised target on guarantees prescribed by AFRBM Act for consecutive years during 2004-05 to 2009-10. The outstanding amount of the guarantees of the state government was found to be below 50 percent of state's own revenues of the second preceding year during the above mentioned time period.

Table 4.15

Outstanding Guarantees of the State during the Study Period (₹ in crore)

Year	Outstanding Guarantees	As a percentage of State's Own Resources of the Second Preceding year
1	2	3
1991-92	1028	186.91
1992-93	1094	156.73
1993-94	1230	158.71
1994-95	1384	141.51
1995-96	1250	129.94
1996-97	1150	119.92
1997-98	1430	137.76
1998-99	1430	131.31
1999-00	1477	116.94
2000-01	1583	110.31
2001-02	1853	110.96
2002-03	1881	96.96
2003-04	1883	89.71
2004-05	711	27.05
2005-06	1273	42.21
2006-07	904	23.90
2007-08	951	20.27
2008-09	796	14.90
2009-10	299	5.44

Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

Report of the Comptroller and Auditor General of India, Government of Assam, various issues

To have a proper idea about efficiency of public expenditure, it is also necessary to observe the expenditure on interest payments, pension and salary and wages which are popularly known as committed expenditure. The higher proportion of committed expenditure to revenue expenditure reduces the expenditure on maintenance activities which in turn may deteriorate the existing infrastructure of a state (Jagannathan, 1986). The expenditure on these three items constitutes a major portion of the revenue expenditure of the state government. Due to the nature of downward rigidity of these components of expenditure, the government fails to reduce committed expenditure particularly during the time of fiscal imbalances. The factors which normally contribute towards enhancement of those

expenditure are revision of the pay scale of the government employees and increase in high cost public debt etc. As data on salary and wages of the state before the year 1999-00 is not available, the data considered for this analysis includes the time period 1999-00 to 2009-10. The committed expenditure of the Government of Assam during the study period has been provided in 4.16.

Table 4.16
Amount of Committed Expenditure and its Share to Revenue Receipt and Expenditure of Assam (₹ in crore)

Year	Salaries and Wages	Pensions	Interest Payment	Committed Expenditure (CE)	CE as % of Revenue Receipt	CE as % of Revenue Expenditure
1	2	3	4	5	6	7
1999-00	3452 (59.05)	518 (8.86)	971 (16.61)	4941	102.06	84.5
2000-01	3688 (57.47)	673 (10.49)	884 (13.78)	5245	93.04	81.73
2001-02	3814 (55.71)	731 (10.68)	1059 (15.47)	5604	93.95	81.86
2002-03	3883 (54.59)	776 (10.91)	1244 (17.49)	5903	86.89	82.99
2003-04	4462 (52.81)	909 (10.76)	1446 (17.11)	6817	87.79	80.68
2004-05	5194 (50.78)	1062 (10.38)	1404 (13.73)	7660	77.09	74.89
2005-06	4238 (40.22)	1011 (9.60)	1510 (14.33)	6759	56.11	64.15
2006-07	4684 (40.89)	1178 (10.28)	1516 (13.23)	7378	53.98	64.40
2007-08	5241 (41.13)	1341 (10.52)	1512 (11.86)	8094	52.66	63.51
2008-09	5840 (41.00)	1437 (10.09)	1593 (11.18)	8870	49.07	62.28
2009-10	8193 (38.58)	1769 (8.33)	1833 (8.63)	11795	59.31	55.55

Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues
Figures in parentheses represent percentage of these variables to revenue expenditure

It is evident from table 4.16 that during the period 1999-2004, committed expenditure, on an average, constituted more than 80 percent of revenue expenditure leaving little fund available for developmental activities. Similar to this, committed expenditure constituted, on an average, more than 92 percent of revenue receipt during the same period implying that revenue earned by the government was used mainly to pay salaries and wages, pension and interest payments. The percentage share of committed expenditure to revenue receipt was found to be the highest in the year 1999-00 when it constituted more than 100 percent (102.06%) of revenue receipt. It implies that even the entire revenue earned by the state was not sufficient to meet the committed expenditure and borrowed funds were used to meet that expenditure in that year. But significant improvement was noticed during the time period 2005-06 to 2008-09 as government was able to reduce the ratio in the above mentioned years. In the year 2008-09, committed expenditure constituted 49.07 percent of the revenue receipt and 62.28 percent of the revenue expenditure of the state. This reflects better efficiency of government expenditure as more funds are available for the state after meeting the committed expenditure. As improvement in quality of expenditure has been observed in recent years, it is necessary to analyse the reasons for such improvement in expenditure quality of the state. Actually, the state has undertaken different reform measures in recent years particularly aimed at reduction of government expenditure. Under these circumstances, it is necessary to analyse the role of those reform measures in controlling expenditure of the state government.

4.5 Expenditure Implication of Different Fiscal Reform Measures:

As existing review of literature indicates that although revenue enhancement is a desirable instrument for fiscal adjustment, but fiscal consolidation attempted through reduction of expenditure are found to be more successful. But in a state like Assam, where state government has to play a significant role in economic development, cuts in expenditure may have serious consequences in terms of reduction of expenditure in desired areas. The continuing fiscal imbalances of the state in the 1990s forced the Assam government to undertake various expenditure reform measures. A few of them are outlined below:

4.5.1 Agreements with the Central Government:

In pursuance of the decision taken by the Committee of the National Development Council, an agreement was signed (13 January, 2000) between Ministry of Finance, Government of India and the State Government regarding measures to be adopted to deal with the fiscal imbalances arising out of the revenue deficits and resultant recurring overdrafts of the State Government (Government of Assam, 2001). A Memorandum of Understanding (MoU) was signed by the State Government with the Central Government on March 26, 2003. The key performance indicator as detailed in the MoU was to reduce the ratio of revenue deficit to revenue receipts by five percentage points every year from an estimated 14.54 percent in 2000-01 to 0.84 percent in 2004-05. The state government was not able to achieve this target as the ratio declined from 13.82 percent in 2000-01 to 2.92 percent in 2004-05 (Government of Assam, 2003).

4.5.2 Fiscal Responsibility Legislation: A major fiscal development of the state of Assam in terms of fiscal reforms was the adoption of the Assam Fiscal Responsibility and the Budget Management Act (AFRBM) in line with the recommendation of the Twelfth Finance Commission. The act was influenced by Maastricht Treaty and U. K. Golden rule (Srivastava, 2003). The AFRBM Act was enacted in May 2005 to ensure fiscal stability, sustainability, improve efficiency and transparency in public finances. The Act prescribed different fiscal targets for the state government such as elimination of revenue deficit, reduce the fiscal deficit to 3 percent of GSDP, expenditure on account of salary and wages of the employees of the State Government to be contained within 60 percent of the total tax and non-tax revenue of the State Government and restrict the total debt stock of the state government including the government guarantees to 45 percent of the GSDP etc.

4.5.3 New Pension Scheme: The expenditure on pension is one of the biggest liabilities of the state government. Pension expenditure has been increasing at a very high rate during nineties of the previous century as discussed in the above sections. Considering the gravity of the problem, the Central government urged the state government to impose new pension scheme. Karnataka was the first state to implement the new pension scheme in September 2002. The Government of Assam introduced the New Pension Scheme in September 2002.

4.5.4. Consolidated Sinking Fund: Another important fiscal development for the state was that in line with the recommendations of the Twelfth Finance Commission, the state government set up the Sinking fund for amortization of the market borrowings as well as other loans and debt obligations. As on 31 March 2009-10, the balance in the sinking fund was ₹ 1056.75 crore. During the year 2009-10, ₹ 108 crore was invested in the sinking fund.

All the above mentioned reform measures have helped the state to achieve the target on expenditure as particularly set by the Assam Fiscal Responsibility and Budget Management Act (RBI, 2010; Government of Assam, 2009). As discussed above, significant decline in percentage of revenue expenditure on salaries and wages, pension and interest payments has been observed during the time period 2005-06 to 2008-09. Similarly, decline in percentage of revenue expenditure on guarantees has been observed in the first decade of present century compared to the previous decade. But reduction of expenditure is not the only objective of the state government. The reform measures must ensure that there is no lack of fund for different expenditure responsibilities of the state. Additionally, quality of expenditure should be comparable to other states of the country. Considering the above fact, a composite expenditure management index has been computed including some of the important dimensions of management of expenditure.

4.6 Composite Expenditure Management Index (EMI):

From the above analysis, it is quite clear that expenditure management is a multi-dimensional concept which cannot be explained with the help of a single indicator. As a single indicator is unable to explain the quality of expenditure, it is required to construct a composite index capturing the important components of expenditure. The following parameters have been selected for construction of the expenditure management index.

1. Ratio of Development Expenditure to Total Expenditure (DE/TE)
2. Ratio of Capital Expenditure to Total Expenditure (CE/TE)
3. Ratio of Revenue Expenditure being met by Own Resources in terms of Own tax and Non-tax (OW/RE)
4. Ratio of Interest Payments to Revenue Receipt (IP/RR)

As used in the revenue chapter, the methodology applied for construction of this index is similar to the Human Development Index of UNDP. In all the parameters, no normal or goal post value has been defined. The observed maximum value of the parameters during the study period has been taken as the maximum or goal post value. In case of the parameters where a decline in the value would indicate an improvement, inverse of the observed values have been used in computing the index. For aggregation of the different dimensions, geometric mean is used as it gives more weightage to the lower values. The index is computed for two sub-periods. As, geometric mean is used for aggregation, natural zeros are used as a minimum value of the parameters. The dimension of each parameter is expressed as a value between 0 and 1 by applying the following formula.

$$\text{Dimension Index} = \frac{\text{Actual Value - Minimum Value}}{\text{Maximum Value - Minimum Value}}$$

From the above dimension index, it is clear that the state whose performance is found to be the best gets the maximum value of 1. But in case of the interest payments-revenue receipts ratio, the state whose performance is found to be the worst gets the maximum value of 1. As natural zeros are used as minimum values, the lowest performer among all the states gets the minimum value which is greater than 0. The time period taken for the analysis is from 2000-01 to 2009-10. Although the study period covers the time period 1990-91 to 2009-10, the dimension index includes only the first decade of the present century. This is due to lack of data on each of the state during 1990s. The index is computed for two sub-periods with five year average so that it is not highly influenced by the value of a particular year. The dimension indices of development expenditure to total expenditure, capital expenditure to total expenditure, revenue expenditure to own resources and interest payments to revenue expenditure have been computed separately by applying the above discussed formula. D_1, D_2, D_3, and D_4 are used to represent the value of the dimension index for the parameters development expenditure to total expenditure, capital expenditure to total expenditure, revenue expenditure to own resources and interest payments to revenue expenditure respectively. The computed expenditure management index has been given in table 4.17 and 4.18.

Table 4.17
Expenditure Management Index for the Time Period 2000-05

States	DE/TE	CE/TE	RE/OW	IP/RE	D1	D2	D3	D4	EMI
1	2	3	4	5	6	7	8	9	10
Assam	0.607	0.241	0.341	6.541	0.839	0.569	0.391	0.406	0.525
Andhra Pradesh	0.655	0.274	0.609	4.898	0.905	0.648	0.699	0.304	0.594
Bihar	0.513	0.224	0.244	4.717	0.709	0.530	0.280	0.293	0.419
Chhattisgarh	0.663	0.217	0.596	6.370	0.916	0.513	0.684	0.396	0.597
Goa	0.617	0.198	0.806	6.060	0.852	0.468	0.924	0.376	0.610
Gujarat	0.650	0.261	0.617	4.911	0.898	0.618	0.707	0.305	0.588
Haryana	0.570	0.234	0.816	4.967	0.787	0.554	0.936	0.309	0.596
Jharkhand	0.658	0.257	0.456	8.512	0.909	0.607	0.523	0.529	0.625
Karnataka	0.614	0.234	0.681	6.389	0.848	0.554	0.781	0.397	0.618
Kerala	0.532	0.155	0.558	4.872	0.735	0.367	0.640	0.303	0.478
Madhya Pradesh	0.622	0.249	0.520	5.911	0.859	0.589	0.596	0.367	0.577
Maharashtra	0.580	0.213	0.677	5.919	0.802	0.503	0.776	0.368	0.583
Orissa	0.507	0.262	0.376	3.665	0.701	0.619	0.431	0.228	0.454
Punjab	0.533	0.260	0.872	3.408	0.737	0.615	1.000	0.212	0.556
Rajasthan	0.591	0.246	0.480	4.073	0.817	0.582	0.551	0.253	0.507
Tamil Nadu	0.564	0.211	0.681	6.165	0.779	0.500	0.781	0.383	0.584
Uttar Pradesh	0.534	0.236	0.394	4.282	0.738	0.559	0.453	0.266	0.472
West Bengal	0.462	0.227	0.346	3.325	0.638	0.538	0.397	0.207	0.410
Arunachal	0.724	0.302	0.114	9.057	1.000	0.714	0.130	0.563	0.478
Manipur	0.618	0.423	0.080	6.391	0.855	1.000	0.091	0.397	0.420
Meghalaya	0.637	0.244	0.207	8.634	0.880	0.576	0.237	0.536	0.504
Mizoram	0.680	0.227	0.067	8.344	0.940	0.537	0.077	0.518	0.377
Nagaland	0.577	0.261	0.075	7.057	0.797	0.616	0.086	0.438	0.369
Sikkim	0.428	0.175	0.627	16.099	0.591	0.414	0.720	1.000	0.648
Tripura	0.617	0.289	0.172	6.965	0.853	0.684	0.197	0.433	0.472
Himachal Pradesh	0.616	0.276	0.241	4.317	0.851	0.654	0.277	0.268	0.451
Jammu and Kashmir	0.591	0.243	0.205	6.409	0.817	0.576	0.235	0.398	0.458
Uttarakhand	0.664	0.239	0.381	7.038	0.917	0.565	0.437	0.437	0.561
All States	0.572	0.234	0.520	4.952	0.790	0.553	0.638	0.308	0.541

Source: Calculated by the author (basic data from various issues of Handbook of Statistics of State Government Finances, Reserve Bank of India and CSO reports)

Table 4.18
Expenditure Management Index for the Time Period 2005-10

States	DE/TE	CE/TE	RE/OW	IP/RE	D1	D2	D3	D4	EMI
1	2	3	4	5	6	7	8	9	10
Assam	0.627	0.163	0.369	9.612	0.761	0.447	0.423	0.562	0.533
Andhra Pradesh	0.701	0.284	0.687	6.862	0.851	0.779	0.789	0.401	0.677
Bihar	0.654	0.258	0.224	6.869	0.794	0.707	0.257	0.402	0.491
Chhattisgarh	0.824	0.288	0.775	9.372	1.000	0.788	0.889	0.548	0.787
Goa	0.701	0.231	0.826	2.936	0.851	0.634	0.948	0.172	0.544
Gujarat	0.665	0.247	0.745	4.642	0.808	0.678	0.855	0.272	0.597
Haryana	0.701	0.190	0.871	7.709	0.851	0.520	1.000	0.451	0.668
Jharkhand	0.665	0.268	0.442	9.871	0.807	0.735	0.507	0.577	0.646
Karnataka	0.680	0.230	0.775	8.181	0.826	0.629	0.889	0.479	0.686
Kerala	0.480	0.132	0.606	5.483	0.583	0.362	0.695	0.321	0.466
Madhya Pradesh	0.634	0.270	0.555	6.492	0.769	0.739	0.637	0.380	0.609
Maharashtra	0.647	0.217	0.794	5.851	0.786	0.595	0.912	0.342	0.618
Orissa	0.589	0.178	0.464	5.311	0.716	0.489	0.533	0.311	0.491
Punjab	0.477	0.192	0.686	5.126	0.579	0.527	0.787	0.300	0.518
Rajasthan	0.657	0.223	0.577	4.966	0.798	0.612	0.663	0.291	0.554
Tamil Nadu	0.585	0.220	0.765	7.902	0.711	0.603	0.878	0.462	0.646
Uttar Pradesh	0.611	0.257	0.471	6.313	0.741	0.703	0.540	0.369	0.568
West Bengal	0.525	0.200	0.380	3.719	0.637	0.549	0.436	0.218	0.427
Arunachal	0.780	0.326	0.189	12.478	0.947	0.893	0.217	0.730	0.605
Manipur	0.665	0.365	0.120	8.489	0.807	1.000	0.138	0.497	0.485
Meghalaya	0.703	0.196	0.218	11.700	0.853	0.537	0.250	0.684	0.529
Mizoram	0.712	0.250	0.109	8.212	0.865	0.685	0.125	0.480	0.434
Nagaland	0.613	0.310	0.098	8.640	0.744	0.848	0.113	0.505	0.436
Sikkim	0.474	0.220	0.618	17.095	0.575	0.603	0.709	1.000	0.704
Tripura	0.603	0.294	0.167	7.927	0.733	0.806	0.192	0.464	0.478
Himachal Pradesh	0.629	0.263	0.398	4.745	0.764	0.720	0.457	0.278	0.514
Jammu and Kashmir	0.658	0.319	0.275	7.585	0.799	0.874	0.315	0.444	0.559
Uttarakhand	0.644	0.255	0.458	6.798	0.782	0.698	0.526	0.398	0.581
All States	0.639	0.216	0.538	7.191	0.776	0.592	0.618	0.421	0.588

Source: Calculated by the author (basic data from various issues of Handbook of Statistics of State Government Finances, Reserve Bank of India and CSO reports)

From table 4.17 and 4.18, it has been found that the value of expenditure management indices is low compared to most of the other states in India as well as all states average. Slight improvement of the value of the indices has been observed in the sub-period 2005-10 compared to the previous sub-period. The value of the indices has increased from 0.525 in 2000-05 to 0.533 in 2005-10. The poor performance of the state was due to the fact that the ratio of development expenditure to total expenditure, capital expenditure to total expenditure and own resources to revenue expenditure was low compared to other states. In other words, the quality of expenditure of Assam is not comparable to other developed states in India.

4.7 Conclusion:

From the above discussion, it is quite clear that there has been significant increase in total expenditure of the state during the period of study. Wide fluctuations have been observed in annual growth rate of total expenditure during the study period. The total expenditure-GSDP ratio of the state is found to increase during the period of study with the increase in GSDP implying the applicability of Wagner law in the state. The composition of total expenditure reveals that revenue expenditure has a dominant share in total expenditure of the state leaving fewer resources available for capital expenditure and for advancement of loans and advances for developmental purposes. The average ratio of revenue expenditure to total expenditure of the state is found to be higher than all states average during the period of study. The capital outlay constitutes, on an average, less than 10 percent of the total expenditure of the state during the study period. The average ratio of capital outlay to total expenditure of the state is found to be less compared to all states average during the period of study. Similarly, the average ratio of loans and advances to the total expenditure of the state is found to be low compared to the all states average during the period taken for the analysis. The loan and advances provided by the state government, on an average, comprises less than 1 percent of the total expenditure for the study period.

Among the constituents of revenue expenditure, expenditure on general services has been found to accounts for the major portion of revenue expenditure during the period of study. The administrative services, pension and interest payments constitute the major portion of the revenue expenditure on general services. The increase in salaries and wages of the employees

due to implementation of Fifth and Sixth Pay Commission's recommendations in the year 1999-00 and 2009-10 also contributes towards increased expenditure on general services. The positive fiscal development for the state during the study period is that there has been increase in the share of capital outlay to total capital expenditure which provides opportunity for allocation of resources for creation of social and physical assets instead of repayment of public debt. The composition of capital outlay reveals that expenditure on economic services constitutes major portion of the expenditure on capital outlay.

Increase in developmental expenditure of the state government during the study period implies that more resources are available for social and economic services. But decline in the ratio of development expenditure to total expenditure as well as development expenditure to aggregate expenditure of the state has been observed during the period of study. The compound growth rate of developmental expenditure of the state is found to be less than total and aggregate expenditure of the state. The average ratio of development expenditure to total expenditure of the state is found to be greater than all states average during the study period. But the ratio is found to be lower than the average value of the special category states. The regression results show less than proportionate growth of development expenditure with respect to both total and aggregate expenditure of the state.

The expenditure on guarantees has been declining significantly as guarantees outstanding constitute only 5.44 percent of the state's own resources of the second preceding year in the year 2009-10. Decline in the ratio of commuted expenditure to revenue receipts and revenue expenditure has been observed during the time period 2005-06 to 2008-09. The decline is found to be significant in case of interest payments as payments of interest constitutes only 8.63 percent of the revenue expenditure in the year 2009-10. It is well below the target of the Twelfth Finance Commission.

Different fiscal reform measures adopted by the state government particularly during the time period 2005-06 to 2009-10 has helped to control the total expenditure of the state. But recent increase in total expenditure in the year 2009-10 is matter of concern for the state government. The computed value of the expenditure management index of the state is found

to be low compared to the other developed states and all states average for both the time period taken for the analysis. It implies that overall management of expenditure of the state is comparatively low than other developed states in India. But slight improvement of the indices has been observed during the time period 2005-06 to 2009-10 compared to 2000-01 to 2004-05. The state government has to put effort for better management of public expenditure. At the same time, efforts are required to maintain the existing quality of expenditure through fiscal stability. To ensure fiscal stability, state government has to maintain a sustainable fiscal policy. An unsustainable fiscal policy may lead to deterioration of the deficit indicators of the state. Under these circumstances, there is need to have a detailed analysis of fiscal and debt sustainability of the state.

Note:

1. DCRF: In Pursuance of the recommendations of the Twelve Finance Commission (TFC) for fiscal consolidation and elimination of revenue deficit of the State, Government of India formulated this scheme (2005-06 to 2009-10) under which general debt relief is provided by consolidating and rescheduling at substantially reduced rates of interest, the Central loans granted to the States on enacting the FRBM Act and debt waiver is granted based on fiscal performance, linked to reduction in revenue deficits of States.

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Chapter 5

Fiscal and Debt Sustainability of the State

In the previous chapter, the pattern and composition of government expenditure has been studied to see the growth and quality of public expenditure of the state. Implication of recent fiscal reform measures on government expenditure has also been examined to know the allocation and prioritization of expenditure. Available literature states that proper allocation of resources with emphasis on developmental expenditure is the main requirement for overall development of the states (Howes et al, 2004; Dasgupta, 2012). The state needs sufficient amount of revenues to discharge those expenditure responsibilities. Otherwise, there will be imbalances between total resources of the government and their expenditure obligations. Under these circumstances, it is pertinent to study whether total receipts of the state government are sufficient to meet the expenditure responsibilities of the government. Available literature on this issue opines that while revenue receipts of the governments should be adequate to meet the revenue expenditure, capital expenditure could be incurred out of the borrowed funds (Srivastava, 2009; Rao, 2002; Lahiri, 2000). The above two rules are basically influenced by the Maastricht Treaty and U.K. Golden rule. The Maastricht Treaty which was signed in February 1992 by the members of the European community in Maastricht, Netherlands stated that country's overall budget deficit for each fiscal year must be equal to or below 3 percent of GDP. The U.K. has been operating a Golden rule since 1997 whereby borrowing should be made only to finance capital spending. Fiscal imbalances of a state generally occur mainly due to excessive growth of expenditure and inability of the state government to meet that expenditure out of their revenue and capital receipts. The theoretical underpinning of the budget deficit lies in the fact that until the Keynesian revolution (Keynes, 1936), budget deficits were considered as signs of profligacy. Governments were often forced to incur large deficits in times of war or natural calamities; but the prudent ones used to pay off debt by running surplus budget when normalcy had returned (Rajaraman and Mukhopadhyay, 2005). With the advent of Keynesian economics, budget deficit was even considered essential for macro stabilization. Counter-cyclical fiscal policies require the government to run budget deficits in times of demand deficiency and fiscal squeeze during booms. If the business cycle is symmetrical around the economy's full

employment growth path, such policies help to keep the budget balance over a typical cycle and there is no tendency for a secular increase in public debt. But if the budget deficit is chronic instead of cyclical, then resulting accumulation of debt make the budgetary process unsustainable. Debt financing is problematic in the demand deficient economy when the deficiency is chronic or structural rather than cyclical (Rakshit, 2005).

There is a growing awareness among the states in India in recent decades to contain fiscal imbalances which has led to accumulation of debt and deterioration in the fiscal indicators (Rao, 2002; Srivastava, 2009). Earlier, most Indian economists were of the view that the growth of public debt in planned magnitude was normal and desirable in a developing country like India where borrowing represents the absorption by the government of a part of domestic savings and the inflow of capital from abroad to finance and promote capital formation in the public sector and priority areas in the private sector (Chelliah, 1996). But this view was based on the assumption that borrowed funds would be used only for capital purposes and the resultant investment would yield adequate direct and or indirect returns. But these assumptions were not often fulfilled in case of both central and state governments in India. The fiscal crisis and the resultant exponential growth of public debt in India in later part of 1990s was not merely because of rising revenue expenditure ahead of current revenues, but also because capital expenditure financed by borrowings did not yield adequate returns (Chelliah, 1996). The deterioration in the fiscal indicators and rising public debt of the state governments in India during that period disrupted the normal functioning of the economy (Rao, 2005). Deterioration in the fiscal indicators of the state governments contributed towards macroeconomic instability of the whole nation. Considering that fact, the recent Finance Commissions of Government of India in their terms of reference have given importance on fiscal and debt sustainability (TFC, 2009). A sustainable fiscal policy helps a state to maintain a stable fiscal position without undertaking drastic and painful reforms measures. The significance of fiscal sustainability is more for poor and backward states as deterioration in their fiscal position may hamper the overall economic development of those states. As Assam is a poor state with lots of deficiencies particularly in the infrastructure sector, it is necessary to study the sustainability of the fiscal position of the state. Considering

the significance of fiscal and debt sustainability on state finances, issue of fiscal and debt sustainability of the state has been carried out in this chapter.

5.1 Theoretical Framework for Examining Fiscal and Debt Sustainability:

The issue of fiscal sustainability and solvency is usually addressed by analyzing the variables such as growth rate of GSDP, average interest rate on public debt and growth rate of public debt etc. The concept of solvency and sustainability are closely related in the sense that an unsustainable time path will ultimately threaten the solvency of a state (Rajaraman et al., 2005). The earlier statement of debt dynamics by Domar (1944) remains the simplest guide for the policy maker for fiscal and debt sustainability which states that "If the government finances a part of the expenditure (amounting to a given fraction of full employment output) through borrowings, in a growing economy, public debt and the government interest outgo as a proportion of GDP will be stable in the long run provided that growth rate exceeds the interest rate." Subsequent restatements in terms of infinite horizon constraint on the present discounted value (PDV) of debt have not changed the fundamental Domar condition for stabilization of debt as a ratio to GDP (Rajaraman, 2005; Rakshit, 2005; Rath, 2005). Fiscal and debt sustainability of the state have been analysed with the help of the following equations as provided below.

According the Domar's model for solvency of public debt,

$$D_0 = -\sum \frac{PD_t}{(1+r)^t} \quad \text{.....(i)}$$

Here, D_0 = Present stock of outstanding debt

PD_t = Primary deficit for the time period t

r = interest rate on public debt

The above equation implies that for solvency, present outstanding stock of public debt must be equal to the summation of discounted primary surplus of future years expressed in terms of present value. Primary deficit incurred in a particular year can be expressed as,

$$PD_t = D_t - (1+r)D_{t-1} \quad \text{.....(ii)}$$

Equation (ii) simply states that primary deficit plus interest on past debt (rD_{t-1}) has to be financed by a built-up debt itself ($D_t - D_{t-1}$) (Lahiri and Kannon, 2004).

Now, equation (i) can be rewritten by replacing the value of PD_t as obtained from equation (ii)

$$D_0 = -\sum \frac{D_t-(1+r)D_{t-1}}{(1+r)^t} \quad \text{.....(iii)}$$

Let us, consider that the variable D_t is growing at the rate of k, so that

$$D_t = (1+k)D_{t-1}$$

Replacing the value of D_t in equation (iii)

$$\Rightarrow D_0 = -\sum \frac{(1+k)\,D_{t-1} - (1+r)D_{t-1}}{(1+r)^t}$$

$$\Rightarrow D_0 = -\sum \frac{(k-r)D_{t-1}}{(1+r)^t}$$

$$\Rightarrow D_0 = (r-k)\sum \frac{D_{t-1}}{(1+r)^t} \quad \text{.....(iv)}$$

$$\Rightarrow D_0 = (r-k)\sum \frac{(1+k)^{t-1}D_0}{(1+r)^t}$$

$$\Rightarrow D_0 = \frac{(r-k)}{(1+r)}\sum \left(\frac{(1+k)}{(1+r)}\right)^{t-1} D_0 \quad \text{.....(v)}$$

$$\Rightarrow D_0 = 0 \text{ if } r = k \quad \text{.....(vi)}$$

The above equation implies that for solvency of public debt, the interest rate on public debt must be equal to growth rate of public debt. Apart from solvency, it is also necessary to examine the conditions for sustainability of public debt.

To examine sustainability, the equation (ii) can be expressed as

$$D_t = (1+r)D_{t-1} + PD_t \quad \text{.....(1)}$$

Dividing both sides by Y_t

$$\frac{D_t}{Y_t} = \frac{(1+r)D_{t-1}}{Y_t} + \frac{PD_t}{Y_t} \quad \text{.....(2)}$$

$$\Rightarrow \left(\frac{D}{Y}\right)_t = \left(\frac{1+r}{1+g}\right)\left(\frac{D}{Y}\right)_{t-1} + \left(\frac{PD}{Y}\right)_t \quad \text{.....(3)}$$

Writing $d_t = \left(\frac{D}{Y}\right)_t$ as the debt-GSDP ratio and $pd_t = \left(\frac{PD}{Y}\right)_t$

$$\Rightarrow d_t = \left(\frac{1+r}{1+g}\right)d_{t-1} + pd_t \quad \text{.....(4)}$$

Now, pd_t can be assumed as pd as the ratio of primary deficit to GSDP is targeted to a constant value (Rath, 2005). Now, equation (4) can be rewritten as

$$\Rightarrow d_t = \left(\frac{1+r}{1+g}\right)d_{t-1} + pd \quad \text{.....(5)}$$

Equation 5 is a first order difference equation. On solving the equation, it is found,

$$d_t = [d_0 - \left(\frac{1+g}{g-r}\right)pd]\left(\frac{1+r}{1+g}\right)^t + \left(\frac{1+g}{g-r}\right)pd \quad \text{.....(6)}$$

d_t tends to $\left(\frac{1+g}{g-r}\right)$ PD if and only if $\left(\frac{1+r}{1+g}\right)^t$ tends to zero as t tends to infinity.

This is possible if

$$0 < \left(\frac{1+r}{1+g}\right) < 1$$

$$\Rightarrow (1+r) < (1+g)$$

$$\Rightarrow r < g$$

i.e., interest rate on public debt must be less than the annual growth rate of GSDP. Domar model concludes that for solvency and sustainability of public debt, the following condition must be satisfied, i.e., growth rate of public debt (k) ≤ interest rate on public debt (r) < growth rate of GSDP (g) when an economy is running by the accumulation of primary deficit.

It is also necessary to determine the conditions for sustainability of public debt when the rate of interest on public debt is greater than the growth rate of GSDP. For doing this, equation (4) can also be expressed as

$$d_t = (r-g)d_{t-1} + pd_t \quad \text{.....(7)}$$

From the above equation, it is evident that when r > g, for the sustainability of public debt, i.e., to keep $d_t = d_{t-1}$ or for achieving a stable constant debt-GSDP ratio for the future, there must be targeted primary surplus to GSDP ratio. This can be derived in the following manner:

$$d_t = \left(\frac{1+r}{1+g}\right) d_{t-1} + pd_t$$

$$d_t = \left(\frac{1+r}{1+g}\right) d_{t-1} - pd_t \text{ if there is primary surplus}$$

$$ps = \left(\frac{1+r}{1+g}\right) d - d \text{ in static sense}$$

$$ps = \left(\frac{r-g}{1+g}\right) d \quad \text{.....(8)}$$

Therefore, when r > g, for an economy to achieve debt sustainability, the following conditions must be satisfied

$$ps = \left(\frac{r-g}{1+g}\right) \frac{debt}{GSDP} \quad \text{.....(9)}$$

From equation (9), it is possible to determine amount of primary surplus required when r > g. It is also necessary to determine the amount of fiscal deficit for debt sustainability. The sustainability condition can also be derived from the concept of fiscal deficit (Rajaraman et al. 2005). Fiscal deficit is nothing but total net borrowings of the government as given in equation 10 as produced below:

$$(\text{Fiscal Deficit})_t = D_t - D_{t-1} \quad \text{.....(10)}$$

$$\Rightarrow D_t = D_{t-1} + (FD)_t \quad \text{.....(11)}$$

Diving both side by Y_t

$$\Rightarrow \frac{D_t}{Y_t} = \frac{D_{t-1}}{Y_t} + \frac{(FD)_t}{Y_t} \text{.....(12)}$$

$$\Rightarrow \frac{D_t}{Y_t} = \frac{D_{t-1}}{(1+g)Y_{t-1}} + \frac{(FD)_t}{Y_t} \text{.....(13)}$$

$$\Rightarrow \frac{D}{Y} - \frac{D}{(1+g)Y} = \frac{FD}{Y} \text{.....(14) in static sense}$$

$$\Rightarrow \frac{D}{Y}\left(1-\frac{1}{1+g}\right) = \frac{D}{Y}\left(\frac{g}{1+g}\right) = fd \text{.....(15) where } fd = \frac{FD}{GSDP}$$

It implies for debt sustainability;

$$\frac{Debt}{GSDP} = \left(\frac{1+g}{g}\right)\left(\frac{Fiscal\ Deficit}{GSDP}\right) \text{.....(16)}$$

The above equation gives the relationship between the fiscal deficit and debt-GSDP ratio. It tells about the amount of fiscal deficit an economy can incur with a given growth rate. To illustrate, if there is a 3 percent limit on the fiscal deficit as a percent of GSDP, following the Maastricht Treaty imposed by the consensus on EU member countries, and if g is 10 percent, d will stabilize at 33 percent of GSDP.

The above theoretical framework provides an idea about the crucial variables and their relationship which are used for studying the fiscal and debt sustainability of the state. It is found from the above discussion that deficit indicators have a significant impact on the sustainability of fiscal position of a state. The next section of the chapter is carried out to examine fiscal sustainability of the state with the help of the deficit indicators.

5.2 Fiscal Sustainability of the State:

Fiscal sustainability is a concept that refers to the ability of a government to sustain its current spending, tax and other policies in the long run without threatening government solvency or defaulting some of its liabilities or promised expenditures. There is no precise or exact definition of fiscal sustainability (Chalk and Hemming, 2000). The trend and composition of the deficit indicators provide vital inputs towards sustainability status of a government. The deterioration of the fiscal indicators may push the state into deep fiscal crisis which ultimately may lead to the overall deterioration of the state‘s economy. Considering the above fact, sustainability of fiscal position of the state government has been

carried out with the help of those deficit indicators. Deficits are customarily categorized as revenue deficit, fiscal deficit and primary deficit.

5.2.1 Trend and Pattern of Revenue Deficit in Assam:

Revenue deficit is excess of revenue expenditure of the government over revenue receipts. It represents dis-saving of a government and shift to present consumption. The revenue deficit has an adverse impact on the capital formation of the government and as such considered as the most undesirable of all such deficits. Revenue deficit also does not have any asset back up as it is incurred to meet the current expenditure. The revenue deficit incurred by the state governments over the study period has been given in table 5.1.

It is evident from table 5.1 that the state has been experiencing fluctuations in revenue deficit during the period under study. During the first half of the 1990s, the state experienced revenue surplus in the year 1991-92, 1992-93 and 1993-94 followed by moderate revenue deficit in the year 1994-95. This trend continued with moderate revenue deficit or surplus up to the year 1998-99 when the state experienced a revenue surplus amounting to ₹ 90 crore. But in the year, 1999-2000, the state experienced an increase in revenue expenditure of 32.36 percent compared to the increase in revenue receipt of 7.43 percent. In fact, the state incurred a huge revenue deficit of ₹ 1005 (3.34 percent of GSDP) crore in 1999-2000. The growth rate of revenue expenditure was found to decline in subsequent years. But the amount of revenue expenditure remained greater than revenue receipt up to the year 2004-05. The continuous revenue deficit during the period 1990-00 to 2004-05 pushed the state into a deep fiscal crisis (Government of Assam, 2003; Government of India, 2002). As discussed in the previous chapter, principal factors responsible for the burgeoning revenue expenditure in that period were the relentless increase in expenditure on salaries, wages and pension, known as committed expenditure and growing debt servicing obligations on account of a significant increase in borrowings mostly to meet revenue expenditure requirements. The increase in revenue expenditure on salaries and wages was mainly due to implementation of the new pay scale in line with the recommendations of the Fifth Central Pay Commission which imposed an additional fiscal burden on the state government. Moreover, high level of financial support to Public Sector Undertakings necessitated by their inability to meet their obligations led to increase in revenue expenditure during that period (Government of India, 2002).

Table 5.1
Revenue Deficit of Assam during 1990-2010 (₹ in crore)

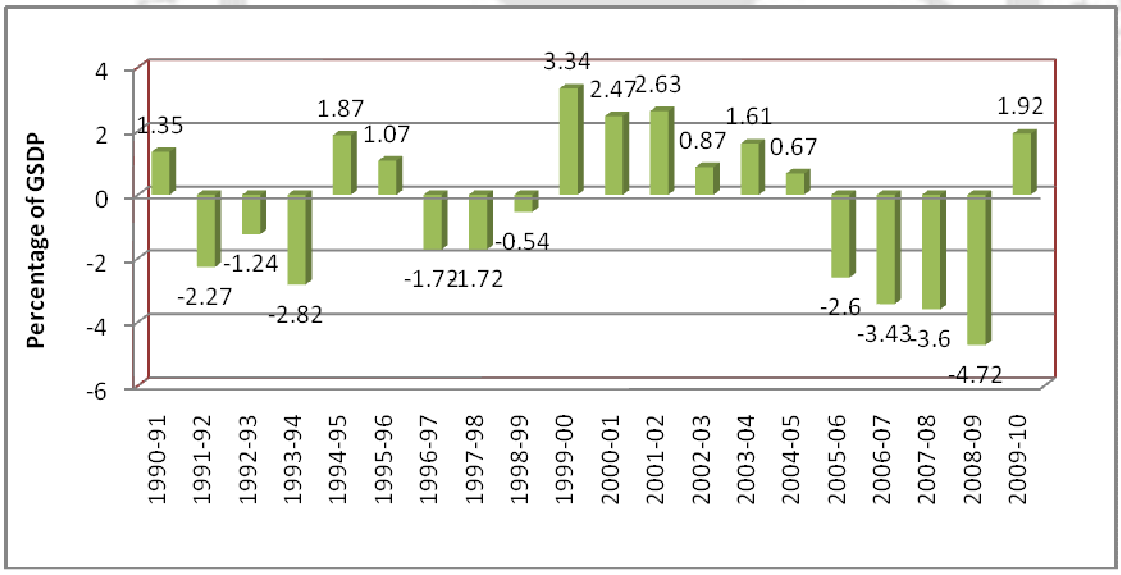
Year	Revenue Receipt	Revenue Expenditure	Revenue Deficit	Revenue Deficit or Surplus as a percent of GSDP*
1	2	3	4	5
1990-91	1777 (15.76)	1920 (15.06)	143	1.35
1991-92	2418 (36.05)	2148 (11.86)	-270	(-) 2.27
1992-93	2613 (8.09)	2451 (14.10)	-162	(-)1.24
1993-94	2317 (-11.34)	2901 (18.37)	-416	(-) 2.82
1994-95	2962 (27.83	3271 (12.74)	309	1.87
1995-96	3376 (13.99)	3576 (9.33)	200	1.07
1996-97	3856 (14.22)	3571 (-0.12)	-285	(-) 1.72
1997-98	4325 (12.17)	4039 (13.08)	-287	(-) 1.72
1998-99	4506 (4.18)	4416 (9.35)	-90	(-).54
1999-00	4841 (7.43)	5846 (32.36)	1005	3.34
2000-01	5635 (16.39)	6417 (9.78)	780	2.47
2001-02	5956 (5.70)	6846 (6.69)	881	2.63
2002-03	6793 (14.05)	7113 (3.89)	319	.87
2003-04	7765 (14.05)	8450 (18.80)	685	1.61
2004-05	9937 (27.97)	10229 (21.06)	292	.67
2005-06	12046(21.22)	10536 (3)	-1509	(-) 2.60
2006-07	13667 (13.46)	11457 (8.73)	-2210	(-) 3.43
2007-08	15325 (12.45)	12744 (11.24)	-2581	(-) 3.60
2008-09	18077 (17.62)	14243 (11.76)	-3834	(-) 4.72
2009-10	19884 (10)	21232 (49.06)	1348	1.92

*As both revenue deficit and GSDP are in current prices, GSDP at current prices is used to compute the revenue deficit-GSDP ratio
Minus sign (-) indicates surplus in the deficit indicators
Figures in parentheses represent annual growth rate of the variables
Source: Directorate of Economics and Statistics, Government of Assam, various issues
Report of the Comptroller and Auditor General of India, Government of Assam, various issues

The continuing imbalances between revenue receipt and expenditure had a severe fall out on the cash flows of the state government, compelling it to rely heavily on the ways and means and overdraft facility indicating greater and greater reliance on high cost bank finance. With the state government taking the overdraft repeatedly, payments on the state government's account were suspended by the Reserve Bank of India. In fact, in the year 2001-02 and 2002-03, the state government was on overdraft for 312 and 315 days respectively (Government of

Assam, 2003). Consequently, payments of salaries and pensions had often been delayed. But during 2005-06 to 2008-09, the state was able earn revenue surplus for consecutive years. It was found that fall in the relative growth of revenue expenditure compared to revenue receipts contributed towards improvement in the revenue position of the state. The growth rate of revenue receipts remained higher than the revenue expenditure during the time period 2003-04 to 2008-09. But in the year 2009-10, the state again incurred huge revenue deficit of ₹ 1348 crore which constitute 1.92 percent of GSDP. This was mainly due to high growth of revenue expenditure amounting to 49.06 percent compared to growth rate of revenue receipt which was found to be only 10 percent. Such a high increase in revenue expenditure was mainly contributed by the implementation of the Assam Pay Commission's (2008) recommendations. The implementation of the recommendations of the Pay Commission imposed an additional annual fiscal burden of ₹ 4500 crore in terms of salary and wages, pensions and other allowances (Government of Assam, 2009). The time series data on revenue deficit as a percent of GSDP of the state over the years is also shown in figure 5.1.

Figure 5.1 Revenue Deficit as Percent of GSDP of the State



It is evident from figure 5.1 that the state has been incurring revenue deficit in some years during the period of study. The recent increase in revenue deficit in the year 2009-10 implies that the state government violated the norms of Assam Fiscal Responsibility and Budget Management Act on revenue deficit in the year 2009-10. It may have serious implication for

Assam in terms of increase in fiscal deficit which in turn may increase the debt to GSDP ratio the state.

5.2.2 Composition and Trend of Fiscal Deficit in Assam:

Fiscal deficit is defined as the excess of aggregate expenditure over non-debt receipt[1]. It, therefore, represents net incremental liabilities of the government. The Reserve Bank of India worked out fiscal deficit as -

Gross Fiscal Deficit = Total expenditure (Revenue + Capital + Loans and Advances) – Revenue Receipt- Non Debt Creating Capital Receipt-Recovery of Loans and Advances

Fiscal deficit results in creation of fiscal liabilities which makes the issue of debt sustainability critically dependent on fiscal deficit and application of resources so arranged. The rising fiscal deficit may lead to an increase in debt-GSDP ratio. Increasing debt and resultant interest payments reduces the flexibility of the governments in the matter of expenditure and also increases its committed obligations. This is due to the fact that the debt stock is added to by the fiscal deficit incurred in every year as shown in equation 8 and 9 of the theoretical model. Again, even if debt financing is sustainable, large interest payments on public debt stands in the way of provision of essential public goods and rising developmental expenditure. The expenditure on interest payments of the state constituted, on an average, 17 percent of the total revenue expenditure during 1990s. Although it has declined in recent years, but still interest payments constitute 14 percent of the total revenue expenditure of the state for the year 2008-09 (RBI, 2010). Larger fiscal deficit and resultant increase in public debt and interest payments may compel the state to play ponzi game[2] of borrowing more for repayments of past debt. So, the nature of the fiscal deficit is an indicator of the prudence of fiscal management of the government. Further, the ways deficit is financed; the resources raised and applied are the important pointers to its fiscal health. These borrowings incurred to meet the fiscal deficit are applied for meeting the revenue deficit, for making the capital expenditure and for giving loans to various developmental and other purposes. The composition of the gross fiscal deficit in terms of the above mentioned components has an implication for fiscal stability of the state. The use of borrowed funds for revenue deficit is

not considered as an ideal fiscal policy for a government. On the other hand, the higher share of capital outlay and loans and advances in total fiscal deficit of the state is expected to increase the repayment capacity of the economy (Rajaraman, 2005). The fiscal deficit of the Government of Assam in terms of revenue deficit, capital outlay and net lending has been provided in table 5.2.

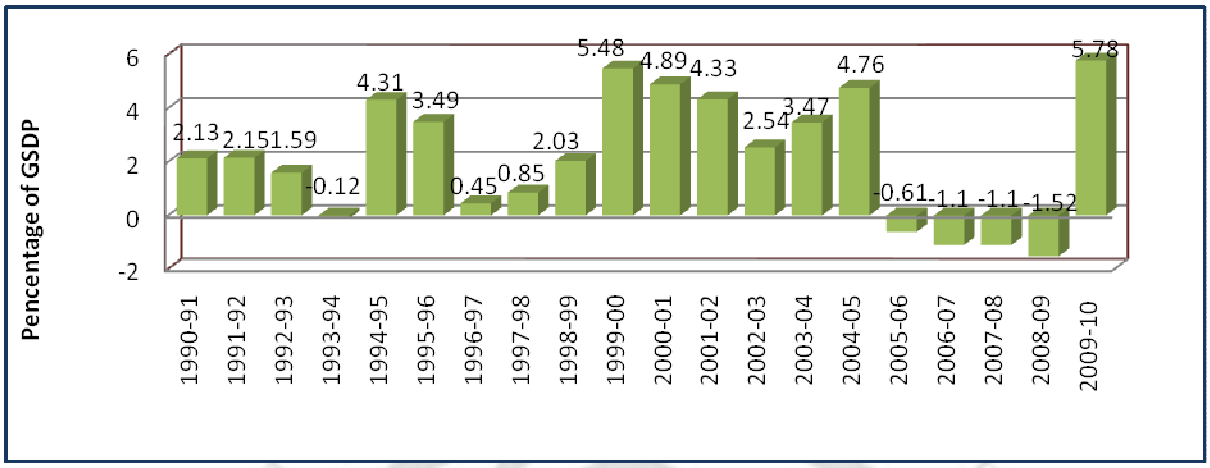
Table 5.2
Amount and Composition of Gross Fiscal Deficit of Assam during 1990-2010 (₹ in crore)

Year	Fiscal deficit	Revenue Deficit	Capital Outlay	Net Lending*
		As a percentage of Fiscal Deficit		
1990-91	568 (2.13)	25.35	43.49	31.16
1991-92	255 (2.15)	-106.3	112.2	94.1
1992-93	208 (1.59)	-77.88	113.94	63.94
1993-94	-17 (.12)	-2447.1	1476.47	870.63
1994-95	711 (4.31)	43.52	39.02	17.46
1995-96	652 (3.49)	30.63	46.09	23.28
1996-97	74 (.45)	-390.41	331.51	158.9
1997-98	142 (.85)	-202.11	231.69	70.42
1998-99	338 (2.03)	-26.55	107.37	19.18
1999-00	1606 (5.48)	62.54	30.06	7.4
2000-01	1540 (4.89)	50.62	36.47	12.91
2001-02	1448 (4.33)	60.84	35.43	3.73
2002-03	928 (2.54)	34.38	54.53	11.09
2003-04	1394 (3.47)	49.14	44.62	6.24
2004-05	2057 (4.76)	14.19	105.98	-20.17
2005-06	-356 (.61)	-423.88	304.78	19.1
2006-07	-711 (1.10)	-310.83	204.36	6.47
2007-08	-790 (1.10)	-326.71	213.67	13.04
2008-09	(-)1407 (1.52)	-272.49	168.66	3.83
2009-10	4043 (5.78)	33.34	65.02	1.64

(-) implies surplus
* Net lending is equal to disbursement of loans and advances by the government minus recovery of loans and advances.
**As fiscal deficit is in current prices and used as a ratio of GSDP, figures in parentheses represent percentage of this variable to GSDP at current prices
Source: Report of the Comptroller and Auditor General of India, Government of Assam, various issues during 1990-2010

It is evident from table 5.2 that the state has been experiencing the problem of fluctuations of fiscal deficit in recent decades. The composition of fiscal deficit reveals that during first half of the 1990s, the state experienced revenue surplus in some years such as 1991-92, 1992-93 and 1993-94 to meet some portion of the capital outlay and for extending loans for developmental purposes. This was mainly due to the fact that Assam was declared as a special category state in the year 1990-91 which resulted in drastic change in the grants to loan composition ratio of plan assistance from 30:70 to 90:10 (Srivastava et al., 1999). The grants from Central Government rose from ₹ 591.35 crore in 1990-91 to ₹ 1112.06 crore in 1991-92 and thus registered an increase of 88 percent (Government of Assam, 2003). The state experienced a moderate fiscal deficit of ₹ 255 (2.15 percent of GSDP) crore in 1991-92. The trend of moderate fiscal deficit or surplus continued up to the year 1998-99 when the state experienced a fiscal deficit of ₹ 338 crore constituting 2.03 percent of the GSDP. Since then, fiscal deficit of the state was found to increase at an unprecedented proportion mainly due to the increase in revenue deficit. During the period, 1999-2000 to 2004-2005, borrowed funds were used for financing revenue deficit as evident from the fact that, on an average, 50 percent of the borrowed funds were used to meet revenue expenditure of the state. To bring stability in the fiscal position of the state, the Government of Assam had adopted lots of reform measures which resulted in improvement in the fiscal position of the state. This was evident from the fact that the state had experienced fiscal surplus in the year 2005-06, 2006-07 and 2007-08 and 2008-09. But, in the year 2009-10, the state again incurred huge fiscal deficit mainly due to the implementation of the Assam Pay Commission recommendation 2008. The implementation of the recommendations imposed additional fiscal burden as discussed in the previous sub-section. In fact, the fiscal deficit of the state in the year 2009-10 is found to be the highest among all the years taken for the analysis. This may create a huge future fiscal burden for the Government of Assam in terms of increase in borrowings of the government. The fiscal deficit as a percent of GSDP of the state over the study period is also shown in figure 5.2.

Figure 5.2 Fiscal Deficit as a percent of GSDP of the State



It is evident from figure 5.2 that the state has been incurring fiscal deficits for most of the years during the period of study. The state is found to violate the target of Assam Fiscal Responsibility and Budget Management Act on Fiscal Deficit in 2009-10 for the first time after the introduction of the Act in 2005. The fiscal deficit incurred by the state government in the year 2009-10 is found to be greater than the revised target on fiscal deficit of the state as set by the above Act. The state could not achieve the fiscal deficit target of 4 per cent of GSDP as prescribed in the AFRBM Act, 2005 for the year 2009-10. Under these circumstances, it is necessary to examine the financing pattern of such huge fiscal deficit of the state.

5.2.3 Financing Pattern of Gross Fiscal Deficit:

While the composition of gross fiscal deficit assumes significance, it is also equally important to analyse the source of financing of the gross fiscal deficit. It has two implications for a state. First, it helps a state to make developmental plans in advance. Unless there is certainty about availability of fund, it is not possible for a state to make developmental plans. This issue becomes very relevant particularly after the recommendations of the Twelfth Finance Commission which states that the Planning Commission should not provide loans to the state governments. After this recommendation, the centre's intermediation in state debt is being discontinued. States have been asked to raise subscriptions of their loans from the market itself (Srivastava, 2009). This recommendation has implications for a poor state like Assam with low credibility in the loan market. The second important factor relevant in this

aspect is the issue of interest payments. The interest rates are different for various sources of financing which ultimately determine the total interest obligations of the state. The different sources of financing the gross fiscal deficit of the state have been provided in table 5.3. The amounts shown under each source of borrowings are the net of outflows or disbursement during that year.

Table 5.3: Financing Pattern of Gross Fiscal Deficit (GFD) or Surplus (GFS) of the State (₹ in crore)

Year	Market Borrowings	Loans from Centre	Special Securities issued to NSSF	Loans from Financial Institutions	Small Savings, Provident Funds, etc.	Reserve Funds	Deposits and Advances	Suspense and Miscellaneous	Remittances	Others*	Overall Surplus (-)/ Deficit (+)	GFS (-)/GFD (+) (Col.1 to 11)
	1	2	3	4	5	6	7	8	9	10	11	
1990-91	34 (5.99)	539 (94.89)	–	–	–	–	–	–	–	-6 (-1.06)	–	568
1991-92	38 (14.90)	154 (60.39)	–	–	–	–	–	–	–	63 (24.71)	–	255
1992-93	122 (58.65)	-53 (25.48)	–	–	–	–	–	–	–	140(67.31)	–	208
1993-94	112(-622.22)	-378(2100)	–	–	–	–	–	–	–	248 (-1337.8)		-18
1994-95	–	193 (27.14)	–	–	–	–	–	–	–	518 (72.86)	–	711
1995-96	163 (25)	314(48.16)	–	–	–	–	–	–	–	176 (26.99)	–	652
1996-97	179 (241.89)	134 (181.08)	–	–	–	–	–	–	–	-239 (-322.97)	–	74
1997-98	200 (140.85)	154 (108.45)	–	–	–	–	–	–	–	-212(-149.30)	–	142
1998-99	356(105.33)	140(41.42)	–	–	–	–	–	–	–	-158(-46.75)	–	338
1999-00	362(22.54)	211(13.14)	–	–	–	–	–	–	–	1033(64.32)	–	1606
2000-01	361(23.44)	-2(-0.13)	–	–	–	–	–	–	–	1180(76.62)	–	1540
2001-02	511(35.29)	-188(-12.98)	–	–	–	–	–	–	–	1125(77.69)	–	1448
2002-03	886(95.47)	98(10.56)	855(92.1)	–	–	–	–	–	–	-912(-98.28)	–	928
2003-04	660(47.35)	57(4.09)	195(14.)	4(0.29	542(38.9)	14(1)	-68(-4.88)	304 (21.81)	8 (0.57)	-492 (-35.29)	171(12.27)	1394
2004-05	1648(80.12)	-245(-11.91)	414(20.1)	-34(-1.7)	380(18.47)	191(9.29)	-24(-1.17)	-564(-24.42)	2(0.10)	599(29.12)	-311(15.12)	2057
2005-06	718(-201.12)	-45(12.64)	618(-173.60)	72(-20.22)	386(-108.4)	-184(51.7)	-51(14.33)	-275(77.25)	15(4.21)	-26(7.30)	-1582(444.3)	-356
2006-07	592 (-83.26)	5 (-0.70)	-18 (2.53)	71(-9.99)	349 (-49.1)	77(-10.83)	-127(17.9)	87(-12.24)	-44(6.19)	-28(3.94)	-1675(235.6)	-711
2007-08	545(-68.99)	-67(8.48)	-9(1.14)	125(-15.82)	318 (-40.3)	161(-20.4)	-562(71.1)	-46 (5.82)	34(4.30)	-31(3.92)	-1259(159.4)	-790
2008-09	2015(-143.21)	-69(4.90)	17(-1.21)	166(-11.80)	390(-27.72)	-110 (7.9)	30 (-2.13)	162 (-11.51)	99(7.04)	-32(2.27)	-4075(289.6)	-1407
2009-10	1403 (34.7)	-295(-7.3)	182(4.5)	101(2.5)	489(12.1)	675(16.7)	307(7.6)	295 (7.3)	–166 (-4.1)	-214(-5.3)	1257(31.1)	4043

"-" Nil/Negligible

*Other's is a residual item and includes inter alia, contingency fund, appropriation to contingency funds, inter-state settlement, land compensation and other bonds and loans from financial institutions other than mentioned in the table

Figures in parentheses represent percentage of the variables to gross fiscal deficit of the State

Source: Handbook of Statistics of State Government Finances, Reserve Bank of India, various issues

It is evident from table 5.3 that net loans available from the centre were the main sources of financing gross fiscal deficit of the state during 1990s. The share of the net loans provided by the central government has declined during the period of study which is found to be replaced by market borrowings. The decline in the share of central government's loans was mainly due to declaration of the state as a special category state which helped it to acquire more plan assistance in the form of grants which were earlier provided as loans (Srivastava et al., 1999). The automatic entitlement of states to loans against small savings is also found to be responsible for the declining share of central loans (Rajaraman et al., 2005). With the change in the accounting system with effect from 1999-2000, states' share in small savings which was earlier included under loans from the Centre was included under internal debt and shown as special securities issued to National Small Savings Fund (NSSF) of the Central Government (RBI, 2011). As discussed above, the recommendation of the Twelfth Finance Commission to prevent the Planning Commission from providing loans to the state government also contributed towards reduction of central loans (Government of Assam, 2010). As a result of those changes, market borrowings have emerged as a significant source of financing fiscal deficit of the state in recent times. During the first decade of the present century, market borrowing was found to be the major source of financing the gross fiscal deficit. Another significant source of borrowing for the government in recent years is the small savings and provident funds of the state government. It can be inferred from the above table that the existence of fiscal surplus has helped the states to repay the loans which in turn lead to decline in the debt-GSDP ratio of the state. This happened in the year 2006-07, 2007-08 and 2008-09. But the huge fiscal deficit in the year 2009-10 has again raised the question of fiscal and debt sustainability of the state. As in any study of fiscal sustainability, primary deficit is always the key policy variable, it is necessary to study the trend and composition of primary deficit in the state which is carried out in the next sub-section.

5.2.4 Trend and Composition of Primary Deficit and Primary Revenue Deficit:

Primary deficit is that part of fiscal deficit which is net of interest payments. It represents the gap in resources for meeting the current obligations. The decomposition of primary deficit into primary revenue deficit and capital expenditure (including loans and advances) would indicate the quality of deficit and sustainability of the fiscal stance of a state. The primary

revenue deficit which is calculated by deducting interest payments from revenue deficit measures the extent to which the additional debt build-up in the current year, independent of interest on inherited debt, is going towards current expenditures rather than towards build up of assets through the capital account. Primary revenue deficit is considered as the first sustainability indicator as it constitutes the floor of the overall primary deficit. The time series data on trend and composition of primary deficit and primary revenue deficit of the state are shown in table 5.4.

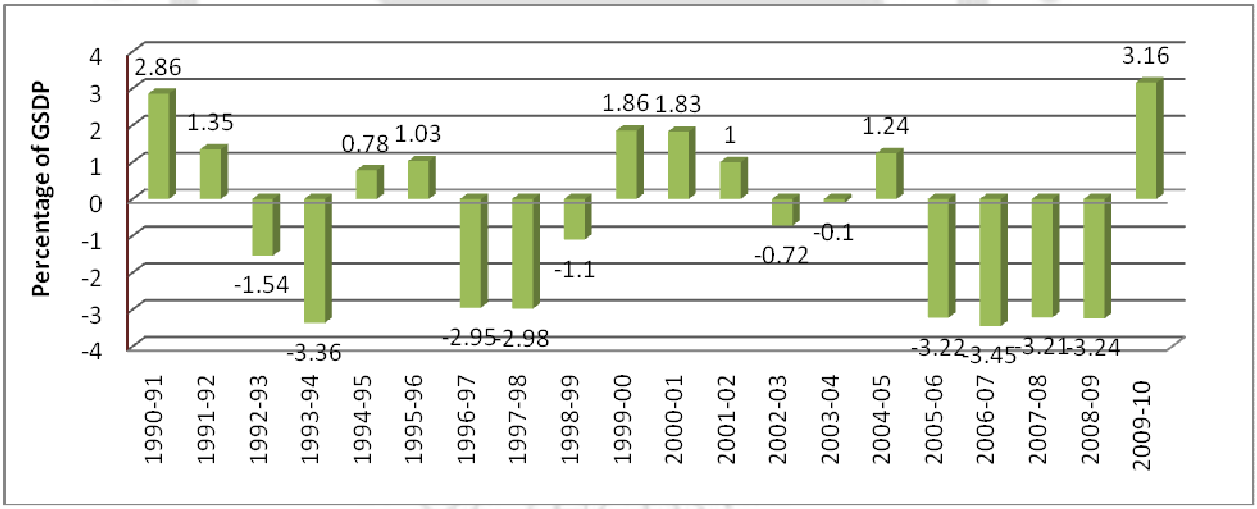
Table 5.4
Trend and Composition of Primary Deficit and Primary Revenue Deficit of the State (₹ in crore)

Year	Non Debt Receipt	Primary Revenue Expenditure	Loans & Advances	Capital Outlay	Primary Expenditure	Primary Revenue Deficit	Primary Deficit
1	2	3	4	5	6 (3+4+5)	7	8 (6-2)
1990-91	1783	1657	183	247	2087	-120	304 (2.86)
1991-92	2424	2055	245	285	2585	-363	161 (1.35)
1992-93	2619	2040	140	237	2417	-573	-202 (-1.54)
1993-94	3324	2411	153	251	2815	-907	-509 (3.36)
1994-95	2968	2682	131	277	3090	-279	122 (.78)
1995-96	3384	3088	160	301	3549	-288	165 (1.03)
1996-97	3864	3011	124	242	3377	-845	-487 (2.95)
1997-98	4335	3400	109	329	3838	-926	-497 (2.98)
1998-99	4518	3895	76	364	4335	-612	-183 (1.10)
1999-00	4855	4890	133	483	5506	49	651 (1.86)
2000-01	5656	5552	217	562	6331	-86	675 (1.83)
2001-02	5994	5784	82	513	6379	-181	385 (1)
2002-03	6821	5868	131	506	6505	-925	-316 (.72)
2003-04	7805	7004	128	622	7754	-761	-51 (.10)
2004-05	11326	8825	974	2181	11980	-1112	654 (1.24)
2005-06	12083	9026	106	1085	10217	-3019	-1866 (3.22)
2006-07	13702	9941	81	1453	11475	-3726	-2227 (3.45)
2007-08	15365	11232	143	1688	13063	-4093	-2302 (3.21)
2008-09	18112	12650	89	2373	15112	-5427	-3000 (3.24)
2009-10	19917	19399	99	2629	22127	-485	2210 (3.16)

Figures in parentheses represent percentage of these variables to GSDP at current prices.
(-) implies surplus
Source: Report of the Comptroller and Auditor General of India, Government of Assam, Various issues

From table 5.4, it is found that the state experienced moderate primary deficit or surplus in 1990s except in the year 1990-91 and 1999-00 when primary deficit of the state became ₹ 304 and ₹ 651 crore constituting 2.86 and 1.86 percent of GSDP respectively. The state also incurred a primary revenue deficit of ₹ 49 crore in the year 1999-00 implying that the debt taken during that year was going towards current expenditure. The moderate primary deficit or surplus of the state during the time period 1991-92 to 1998-99 was due to the fact the non-debt receipt was higher or moderately lower than the primary expenditure of the state for the above mentioned period. In the initial years of the first decade of the present century, the state was found to incur primary deficit in the year 2000-01 and 2004-05 which contributed towards fiscal instability of the state. Again, in the year 2009-10, the state has incurred huge primary deficit amounting to ₹ 2265 crore implying the huge gap in resources for meeting the current obligations. The time series data on Primary deficit as a percent of GSDP is also shown in figure 5.3.

Figure 5.3 Primary Deficit as a Percentage of GSDP of the State



It can be inferred from figure 5.3 that the state was able to earn primary surplus for consecutive years during the time period 2005-06 to 2008-09. But the state has again incurred primary deficit in the year 2009-10 amounting to 3.16 percent of GSDP. This sudden rise in primary deficit raises concern about the state government's ability of sustaining such huge primary deficit. Unless growth rate of GSDP is sufficient to meet the interest on public debt, this will likely to reduce the repayment capacity of the state. Under these circumstances, it is necessary to carry out a detailed analysis of debt sustainability of

the state to find out whether difference between growth rate of GSDP and interest rate on public debt is adequate to cancel out the effects of primary deficit.

5.3 Sustainability of Public debt in Assam:

Public debt is the accumulated stock of government financial liabilities. It is measured by summing the face value of that stock (Rajaraman et al. 2005). In Indian context, public debt refers to all financial liabilities of the government, irrespective of whom they are owed (Lahiri and Kannon, 2004) A large accumulation of public debt may create problem for the state government in terms of repayment of the principal and interest payments. It also raises the issue of sustainability of the current stock of debt of the state. Sustainability is the capacity to endure without breaking down. In the context of public debt, sustainability embodies concern about the ability of the government to service its debt. A government which does not generate enough current revenues for debt service must either default on its obligations or borrow more to service its past debt as well as to cover ongoing imbalances. Continual borrowings of this kind are known as ponzi game which is reflected in the time path of debt-GSDP ratio. Usually, sustainability is measured in terms of debt-GSDP ratio. Generally, low debt-GSDP ratio is desirable as it indicates an economy that produces a large number of goods and services and probably profits that are high enough to pay back debts. There is no universally prudent target value of debt-GSDP ratio (Chelliah, 2002; Buiter and Patel, 1992). Sustainability implies maintaining a stable debt-GSDP ratio over a period of time. Theoretical literature states that existence of primary deficit or surplus has a close relation in maintaining a stable debt-GSDP ratio (Rath, 2005; Rajaraman, 2005). If a particular government fails to meet the repayment obligations of the public debt, it will lose its credibility in the debt market. This is very relevant as loans from market are found to be a significant source of borrowings of the state government during the period of study. It is in this context that the issue of sustainability of the public debt in the state has gained its relevance in fiscal literature. The simplest way for determining the sustainability of debt of the states has been to arrive at the acceptable level of debt-GSDP ratio and the ratio of interest payments to total revenue receipts. It is very difficult to set a debt-GSDP ratio which is likely to be sustainable. The Twelfth Finance Commission of Government of India

recommended 28 percent and 15 percent as acceptable level of the debt-GSDP ratio and the ratio of interest payments to total revenue receipts respectively. The time series data on outstanding liabilities, debt-GSDP ratio and interest payments-revenue receipt ratio of the state government have been provided in table 5.5.

Table 5.5
Outstanding Liabilities, Debt to GSDP and Interest payments to Revenue Receipts ratio of the State (₹ in crore)

Year	Outstanding Liabilities	Debt-GSDP ratio	Interest payments-Revenue Receipt ratio
1	2	3	4
1990-91	4341	40.87	14.80
1991-92	4658	39.31	3.85
1992-93	4670	35.79	15.73
1993-94	4675	30.87	14.77
1994-95	5228	29.79	19.89
1995-96	6326	32.59	14.45
1996-97	6402	30.46	14.52
1997-98	6469	28.37	14.77
1998-99	6765	26.47	11.56
1999-00	8666	24.88	19.75
2000-01	10227	27.78	15.35
2001-02	11988	31.29	17.80
2002-03	13099	30.18	18.32
2003-04	15688	33.16	18.62
2004-05	17043	31.92	14.12
2005-06	18401	30.99	12.54
2006-07	19490	30.13	11.09
2007-08	20192	28.41	9.87
2008-09	22900	28.88	8.80
2009-10	27385	29.61	9.14

Source: State Finances: A Study of Budgets, RBI, various issues

It is evident from table 5.5 that the outstanding liabilities of the state government have increased from ₹ 4341 crore in 1990-91 to ₹ 27385 crore and thus registering an annual compound growth rate of 10.18 percent during that period. The debt-GSDP ratio of the state

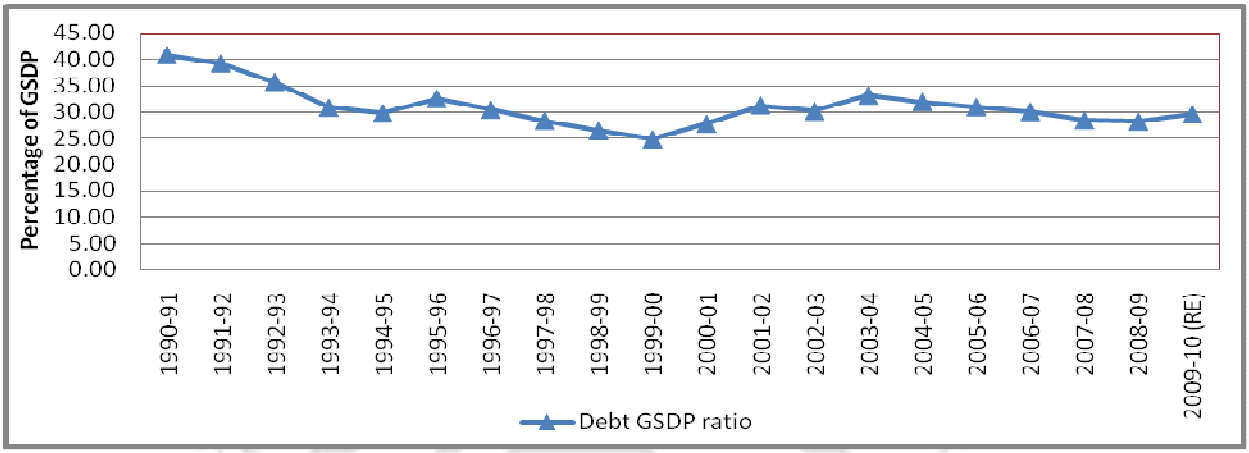
was found to decline from 40.87 percent in 1990-91 to 24.88 percent in 1999-00. Since then, the debt-GSDP ratio started increasing and in the year 2003-04, total outstanding debt of the state government constituted 33.16 percent of GSDP. The state government faced the problem of fiscal instability[3] during this period, i.e. 1999-00 to 2004-05. This is due to the fact that along with the high debt-GSDP ratio, the fiscal indicators of the state were found to deteriorate during that period. But, in spite of high debt-GSDP ratio, the state government was able to maintain a stable fiscal position during the time period 2005-06 to 2008-09 mainly due to the revenue and primary surplus attained by the state during that period. The fiscal instability of the state during the time period 1999-00 and 2004-05 prompted to adopt lots of fiscal reform measures which actually helped to maintain stable fiscal position. The debt-GSDP ratio of the state was found to decline from 33.16 percent in 2003-04 to 29.61 percent in 2009-10. However, this ratio in 2009-10 is higher than the level prescribed by the Twelfth Finance Commission. But it has been found to be lower than the sustainable level of debt-GSDP ratio as computed from the theoretical model provided in section 5.1. The sustainable level of debt-GSDP ratio for the state in the year 2009-10 is 32 percent as given below:

$$\frac{\text{Debt}}{\text{GSDP}} = \left(\frac{1+g}{g}\right)\left(\frac{\text{Fiscal Deficit}}{\text{GSDP}}\right)$$

$$.32 = \left(\frac{1+.14}{.14}\right)(.04)$$

It is also found that interest payments-revenue receipts ratio of the state is below the level as recommended by the Twelfth Finance Commission. The diagrammatic representation debt-GSDP ratio of the state has been shown in figure 5.4.

Figure 5.4 Debt-GSDP ratio of the State



It is evident from figure 5.4 that the state has experienced significant improvement in the debt- GSDP ratio during the period of study. Two main factors are found to contribute towards decline in the debt-GSDP ratio of the state. As discussed in the previous sections, the declaration of the state as a special category state helped the state to receive more grants from the Planning Commission which were earlier provided as loans. The fiscal reform measures adopted by the state government after the fiscal crisis in the later part of 1990s also helped the state to reduce the debt-GSDP ratio of the state. As state government has adopted different fiscal reform measures during that time period, it is necessary to analyze the implication of those reform measures on the debt-GSDP ratio of the government.

5.3.1 Fiscal Reforms and Debt Status of the Government:

The continuous fiscal imbalances from 1999-00 prompted the State Government to undertake different fiscal reforms measures targeting specifically the deficit indicators. The Eleventh Finance Commission of Government of India fixed cumulative improvement in the reduction of revenue deficit as proportion of revenue receipts at 16 percentages for special category states like Assam during the award period of Eleventh Finance Commission. As against the target of 16 percent, Government of Assam achieved 18 percent cumulative improvement in reduction of revenue deficit as a percentage of revenue receipts. As a result, Government of Assam was able to receive ₹ 159.45 crore as non-plan revenue deficit grant from the incentive fund under Fiscal Reform facility of the Eleventh Finance Commission

(Government of Assam, 2011). Further, in pursuance of the award of the Twelfth Finance Commission, Government of Assam enacted Assam Fiscal Responsibility and Budget Management Act (AFRBM), 2005 to qualify for debt relief. As discussed in the previous chapter, the main objective of the AFRBM Act was to reduce the revenue deficit to zero and fiscal deficit to 3 percent of GSDP gradually by 2008-09 from the initial award period of Twelfth Finance Commission. With the implementation of the AFRBM Act and adoption of the Medium Term Fiscal Reform Plan under the Asian Development Bank funded Assam Governance and Public Resource Management Programme (AGPRMP), Government of Assam achieved the fiscal targets of AFRBM Act in the initial years of the Twelfth Finance Commission award period. The revenue deficit, which was ₹ 292 crore in the year 2004-05, became surplus of ₹ 1509 crore in 2005-06, ₹ 2210 crore in 2006-07, ₹ 2581 crore in 2007-08, ₹ 3834 crore in 2008-09 respectively. Similarly, fiscal deficit, which was ₹ 2057 crore in 2004-05 turned into surplus of ₹ 356 crore in 2005-06, ₹ 711 crore in 2006-07, ₹ 790 crore in 2007-08 and ₹ 1407 crore in 2008-09. As an incentive under the Debt Consolidation and Reform Facility (DCRF) of the Twelfth Finance Commission, Government of Assam received debt waiver of ₹ 105.41 crore for the year 2005-06 in 2007-08, ₹ 105.41 crore for the year 2006-07 in 2008-09 and ₹ 105.41 crore for the year 2007-08 in 2009-10. Thus, adoption of fiscal reform measures has helped the state to restrict the deficit indicators and gain from different incentive schemes of the central government.

As discussed in the previous sections, primary deficit is a key policy variable which actually helps to control the debt-GSDP ratio of the state. But along with primary deficit, growth rate of GSDP and average interest payments are considered as critical variables for any study of debt sustainability. Under these circumstances, it is necessary to examine the relationship between these variables and see how it helps to control the debt-GSDP ratio of the state.

5.3.2 Primary Deficit and Sustainability of the Public Debt in Assam:

The sustainability of the current stock of debt is the main determinant of the overall fiscal sustainability of a government (Hamilton and Flavin, 1986). Debt sustainability is defined as the ability to maintain the constant debt-GSDP ratio over a period of time (Rajaraman et al., 2005). In simple terms, public debt is considered to be sustainable as long as the growth of

income exceeds the interest rate or cost of public borrowings subject to the condition that the primary balance is either positive or zero. The relationship between primary deficit and public debt of the state as provided in the Domar model is discussed in section 5.1. A zero primary deficit is required for stabilization of debt as percent of GSDP, if the nominal rate of growth of GSDP is equal to the interest rate on inherited debt. Given the rate spread (GSDP growth rate-interest rate) and quantum spread, debt sustainability condition states that if quantum spread together with primary deficit is zero, debt-GSDP ratio would be constant or debt would stabilize eventually. On the other hand, if the primary deficit along with quantum spread is negative, debt-GSDP ratio would be rising and in case it is positive, debt-GSDP ratio would eventually be falling (Rath, 2005; Domar, 1944). If there is a primary deficit, it is likely that the debt-GSDP ratio will be higher at the close of the fiscal year, unless the growth rate of GSDP during the year is higher than the nominal rate of interest on the inherited debt stock. Additionally, the quantum spread and debt stabilization index are computed to know the impact of the primary deficit and public debt on debt-GSDP ratio of the state. The quantum spread is calculated by multiplying the rate spread with outstanding stock of debt. The interest rate used here is the effective interest rate which is calculated as,

$$\text{Effective interest rate} = \left[\frac{\text{Interest Payments}}{\frac{\text{Amount of previous year's fiscal liabilities + current year's fiscal liabilities}}{2}} \right] * 100$$

The debt stabilization index is nothing but the summation of the quantum spread and the primary deficit. A positive debt stabilization index helps to reduce the debt-GSDP ratio and vice versa (Rath, 2005). The debt sustainability status of the state in terms of interest spread and quantum spread during the study period has been shown in table 5.6.

Table 5.6 reveals that the state had a very high debt-GSDP ratio in the year 1991-92 (39.31 percent). However, there was a gradual decline of the ratio till 1999-00 when the ratio was found to be 24.88 percent. The positive rate spread or Domar gap enjoyed by the state in some years during the above time period might have helped to reduce the debt-GSDP ratio. The primary surplus experienced by the state in some of the years such as 1992-93, 1993-94, 1996-97, 1997-98 and 1998-99 also contributed towards the favourable debt-GSDP ratio of the state. The debt-GSDP ratio of the state, however, was found to increase from the year 2000-01 and reached a high of 33.16 percent in 2003-04. The state had experienced primary

deficit for consecutive years during the period from 1999-00 to 2001-02 which actually contributed towards increased debt-GSDP ratio.

Table 5.6
Debt Sustainability of Assam in terms of Quantum Spread and Primary Deficit (₹ in crore)

Year	GSDP Growh Rate(at Current Prices)	Effective Interest Rate	Rate Spread	Quantum Spread (D_t*Rate spread)	Primary Deficit(-)	Debt Stabilization Index(quantum spread+primary deficit)	Debt-GSDP ratio
1	2	3	4	5	6	7	8
1991-92	11.56	2.07	9.49	550	-162	388	39.31
1992-93	10.13	8.81	1.31	76	203	279	35.79
1993-94	12.79	10.34	2.46	139	508	647	30.87
1994-95	15.90	11.90	4.01	253	-121	132	29.79
1995-96	10.60	8.45	2.15	165	-165	0	32.59
1996-97	8.27	8.80	-0.53	-41	486	445	30.46
1997-98	8.51	9.93	-1.42	-111	497	386	28.37
1998-99	12.07	7.87	4.19	343	183	526	26.47
1999-00	14.50	11.44	3.06	270	-650	-380	24.88
2000-01	5.69	9.16	-3.47	-361	-675	-1036	27.78
2001-02	4.07	9.56	-5.49	-669	-386	-1055	31.29
2002-03	13.30	9.93	3.37	449	317	766	30.18
2003-04	8.98	10.05	-1.07	-170	52	-118	33.16
2004-05	11.05	8.51	2.54	433	-654	-221	31.92
2005-06	11.21	8.52	2.69	495	1866	2361	30.99
2006-07	8.94	8.00	0.94	182	2227	2409	30.13
2007-08	9.87	7.62	2.25	454	2302	2756	28.41
2008-09	14.27	7.39	6.88	1575	3000	4575	28.88
2009-10 (R.E)	13.85	7.29	6.56	1797	-2210	-413	29.61

Source: Author's own calculation based on the report of the Comptroller and Auditor General of India, Government of Assam, various issues and GSDP data from CSO reports)

The unfavourable rate spread also contributed towards increase in debt-GSDP ratio of the state. The state has been able to maintain a stable debt-GSDP ratio in recent years. This is mainly due to the higher growth of GSDP compared to effective interest rate on public debt. The growth rate of GSDP is found to be greater than the effective interest rate on public debt for consecutive years from 2004-05 to 2009-10. The occurrence of primary surplus in some years also helped to keep the debt-GSDP ratio at a stable level. The debt stabilization index alternates its sign during the period under study and thus helped to maintain a stable debt

path. But the debt stabilisation index is found to be negative in the year 2009-10 implying that debt GSDP ratio may increase in near future. This is mainly due to the fact that the state incurred the highest ever primary deficit of ₹ 2210 crore in the year 2009-10. The positive difference between the growth rate and interest rate is found to be insufficient to cancel out the effects of primary deficit. As a result, the debt stabilisation index is found to be negative for the year 2009-10. There is a need, on the part of the state government, to take corrective measures to keep the debt path at sustainable level. Otherwise, the state government has to borrow more to discharge the debt obligation in terms of payment of principal and interest obligation. This may also create the problem of lack of availability of funds for other activities such as capital expenditure for asset creation and other purposes. This actually leads to increase in public debt of the state. This cannot be allowed to continue forever as this may push the state into an unsustainable debt path. Under these circumstances, it is necessary to make a long term analysis of fiscal and debt sustainability of the state by taking the relevant variables into consideration.

5.4 Long term Analysis of Fiscal and Debt Sustainability of the State:

From the above analysis, some conclusions regarding sustainability of the fiscal position of the state may be drawn from the indicators such as composition and nature of the fiscal and primary deficit, rate spread and debt stabilization index etc. The conclusions based on those analyses provide an idea of sustainability for a particular period of time. To be able to draw inferences in a rigorous manner, more sophisticated tools such as time series analysis needs to be applied covering the whole time period taken for the analysis. Thus, cointegration analysis has been carried out to examine the long term association among the fiscal variables in the state for the period 1990-91 to 2009-10.

The idea behind carrying out cointegration analysis is to examine whether the state has maintained the inter-temporal budget constraint during the period of study. The intertemporal budget constraint tests of sustainability of fiscal policy asks whether past behavior of revenue, expenditure and fiscal deficits could be continued indefinitely without prompting adverse response from the lenders (Olekalns and Cashin, 2000).

Now, the rationale behind the model is that the inter-temporal budget constraint, under the no-Ponzi scheme rule, imposes restrictions on the time series properties of government revenue and expenditure. For sustainability of the current stock of debt, the government expenditure and revenue must be stationary at least in the first difference. The stationary property restricts the extent to which government expenditure and revenue can deviate from each other over time. In particular, if government expenditure and revenue is integrated of order 1, they may be cointegrated (Gujarati, 2004). Cointegration implies that there exists an error correction mechanism pushing government finances towards the levels required by the intertemporal budget constraint. Lack of cointegration among the variables implies that under unchanged fiscal policies, the debt stock of the state government is unsustainable. Cointegration is a two step procedure where value of the residual has to be calculated from the regression of the relevant variables. If the residual obtained from the regression are found to be stationary, then the variables are said to be cointegrated (Gujarati, 2004).

In the current analysis, time series data on revenue receipts and revenue expenditure as well as revenue receipt and total expenditure of the state are considered. The rationale behind taking revenue receipt and revenue expenditure as the relevant variable is that imbalances between the two variable have an impact on fiscal deficit of a state. As discussed in the previous section, an increase in revenue deficit has an implication for the debt stock of the government as it leads to increase in fiscal deficit of the state. Similarly, long run association between revenue receipts and total expenditure helps in ensuring fiscal stability of the state.

Following Hakkio and Rush (1991) and Olekalns and Cashin (2000),

sustainability of debt stock can be evaluated by estimating the following two log-linear regressions -

$$\text{Ln } RR_t = \alpha_o + \alpha_1 \text{Ln } RE_t + U_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

$$\text{Ln } RR_t = \beta_o + \beta_1 \text{Ln } TE_t + V_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Here, RR = Revenue Receipt

RE = Revenue Expenditure

TE = Total Expenditure

U = Random disturbance or error term in regression equation (1)

V = Random disturbance or error term in regression equation (2)

The necessary conditions for the existence of cointegration is that the individual series are integrated of order one. Should only one of the series is I (1), with the other being stationary, the two series will permanently diverge and equation (1) and (2) will not hold (Olekalns and Cashin, 1999). Initially, the time period taken for the analysis is from 1990-91 to 2009-10. The variables are found to be integrated of order 1. But the R^2 values of the error correction variables are found to be very less and values of the F- statistic obtained from the regression analyses are found to be insignificant even at the 10 percent level. This may be due to less number of observations, not considered to be sufficient for time series models. To facilitate better treatment of the models, the analysis has been reworked by taking a few more years in to consideration. Accordingly, the two time series models have taken in to account the time period of 1980-81 to 2009-10.

As the variables are in current prices, they are converted in to constant 2004-05 prices by using the GSDP price deflator. The GSDP price deflator is computed as a ratio of current to constant prices as done in the previous chapters. Now, Dickey Fuller unit root test is used to determine the order of integration where null hypothesis is that respective series have a unit root. The results of the Dickey Fuller unit root test have been provided in table 5.7.

Table 5.7
Dickey Fuller test for Unit Root for Revenue Receipt, Revenue Expenditure and Total Expenditure (For the Time Period 1980-81 to 2009-10)

	Test Statistic (t)	1% critical Value	5% critical value	10% critical value	Mackinnon approximate p value
Ln RR	0.150	-3.723	-2.989	-2.625	0.9693
Ln RE	0.329	-3.750	-3.00	-2.630	0.9962
Ln TE	0.497	3.723	2.989	2.625	0.9962
Using Difference Operator					
Ln RR	-8.196	-3.750	-3.00	-2.630	0.000
Ln RE	-4.323	-3.750	-3.00	-2.630	0.004
Ln TE	-5.356	-3.730	-2.992	-2.626	0.0033

From table 5.7, it is clear that all the variables are integrated of order one. In other words, there may be cointegration relationship between these variables. If they are co-integrated, it implies that there is a long term relationship between the two variables and fiscal position of the state is sustainable during that period. For this, the values of the residuals U_t and V_t have to be computed from equation (1) such that

$$U = \text{Ln } RR_t - \alpha_o - \alpha_1 \text{Ln } RE_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

$$V_t = \text{Ln } RR_t - \beta_o - \beta_1 \text{Ln } TE_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Now, cointegration requires that the residuals obtained from the equation (3) and (4) be stationary. The standard way of testing whether this requirement is met by the data is to use the Dickey Fuller test of unit root. But since the estimated U_t and V_t are based on the estimated cointegrating parameter α_1 and β_1 respectively, Dickey Fuller critical significant values are not quite appropriate (Gujarati, 2004). Engle and Granger (1987) have calculated the critical values of the test. This involves estimating autoregressive parameter from the "second stage" regression.

$$U_t = \rho_1 U_{t-1} + \epsilon t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

$$V_t = \rho_2 V_{t-1} + \vartheta t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (6)$$

Here, ϵ_t and ϑt are the random error terms,

β_1 and β_2 are the parameters to be estimated in the model.

if $|\beta_1| < 1$, then there is a cointegrating relationship between revenue receipt and revenue expenditure.

Similarly, if $|\beta_2| < 1$, then there is a cointegrating relationship between revenue receipt and total expenditure.

The results of the Engle and Granger cointegration test have been provided in table 5.8 and 5.9.

Table 5.8
Engle-Granger Test of Cointegration between Revenue Receipt and Revenue Expenditure

Variable	Test Statistic (t)	1% critical Value	5% critical value	10% critical value
U_t	-4.923	-3.679	-2.968	-2.623

Table 5.9
Engle-Granger Test of Cointegration between Revenue Receipt and Total Expenditure

Variable	Test Statistic (t)	1% critical Value	5% critical value	10% critical value
V_t	-7.600	-3.689	-2.972	-2.625

As computed test statistic of both the error terms in absolute value are found to be greater than Engle Granger critical value at 1 percent level, residuals are integrated of order 0 i.e.; I (0). In other words, although the variables are non-stationary, the residuals obtained from their regression are stationary. It implies that, there is a long term association among the variables, revenue receipt and revenue expenditure as well as revenue receipts and total expenditure.

The above cointegration analyses show the long run relationship among the variables. But along with the cointegration, it is also necessary to examine short term behaviour of the variables. Keeping this fact in mind, the error correction mechanism (ECM) is also incorporated in this analysis to examine short term behaviour among the variables. This test

was first used by Sargan (1984) and later popularized by Engle and Granger (1987) to correct for disequilibrium between two time series variable. The lagged values of some of the variables such as revenue receipt (RR), revenue expenditure (RE) have been used in the error correction model. Additionally, the lagged values of the two residuals (U and V) have been incorporated in this model. This test states that if two variables are cointegrated, then the relationship between the two can be expressed as error correction mechanism. The following regression equations are considered to examine the error correction mechanism.

$$\Delta LnRR = \alpha_o + \alpha_1 \Delta LnRE + \alpha_2 U_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots(7)$$

$$\Delta LnRR = \beta_o + \beta_1 \Delta LnTE + \beta_2 V_{t-1} + \upsilon_t \ldots\ldots\ldots\ldots\ldots(8)$$

Here, Δ denotes the first difference operator

Again,

$$U_{t-1} = (LnRR_{t-1} - \alpha_o - \alpha_1 LnRE_{t-1}) \ldots\ldots\ldots\ldots\ldots(9)$$

$$V_{t-1} = (LnRR_{t-1} - \beta_o - \beta_1 LnTE_{t-1}) \ldots\ldots\ldots\ldots\ldots(10)$$

ε_t and υ_t are the random error term

The results of the error correction analyses as obtained from the above regression equations have been provided in table 5.10 and 5.11.

Table 5.10
Regression Result of the Error Correction Variable (U_{t-1}) for the Time Period 1980-81 to 2009-10

Variables	Estimated Coefficients	t - statistic
Δ LnRE	.5266768	1.70
U_{t-1}	-.7153944***	-5.02
Constant	.0168408**	2.31
R^2	0.5392	
$F(n_1=2, n_2=26)$	15.21***	

***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

Table 5.11
Regression Result of the Error Correction Variable (V_{t-1}) for the Time Period 1980-81 to 2009-10

Variables	Estimated Coefficients	t - statistic
Δ LnTE	.4265848	2.14
V_{t-1}	-.7715409***	-5.54
Constant	.0109217**	1.16
R^2	0.5586	
$F(n_1=2, n_2=26)$	16.45***	

***, ** and * indicate significant at 0.01, 0.05 and 0.10 level respectively

It is evident from table 5.10 that the error correction variable (U_{t-1}) is found to be negative and significant suggesting that deviation from equilibrium is corrected at 71 per cent per year. Similarly, error correction variable (V_{t-1}) as obtained from table 5.11 is also found to be negative and significant. In other words, along with the long term association, there exists short term association between these fiscal variables which actually helped the state to maintain a stable fiscal position for most of the years taken for the analysis.

5.5 Conclusion:

It can be inferred from the above discussion that the state has been experiencing fluctuation of fiscal deficit during the period of study. It has been observed that the occurrence of revenue deficit has contributed towards increase in fiscal deficit of the state during the period of study. As sustainability of the fiscal position of the state is mainly dependent on nature of fiscal deficit, the higher proportion of revenue deficit to fiscal deficit led the state in to huge fiscal imbalances in the later part of 1990s. The recent increase in revenue and fiscal deficit of the state in the year 2009-10 is an area of concern for the state. The state government has to take immediate corrective measures to restrict the fiscal deficit. The financing pattern of gross fiscal deficit indicates the growing importance of market borrowings in economic development of the state. Significant decline in the share of central government's loans to the state government has been observed during the period of study.

The sudden decline in the debt-GSDP ratio of the state during the first half of 1990s is mainly due to the declaration of the state as a special category state. As loans from the central government constitute the major portion of state's debt during that period, the conversion of the huge amount of loans in to grants helped the state tremendously to reduce the debt-GSDP ratio. The state has been able to maintain a stable debt GSDP ratio in recent years mainly due to positive interest spread enjoyed by the state. Along with that, primary surplus enjoyed by the state during the period of study also contributed towards reduction of debt-GSDP ratio of the state. The incentive provided by the Eleventh and Twelfth Finance Commission of India and subsequent reform measures adopted by the state proved to be crucial in maintaining stable fiscal position in the later part of the present decade.

The existence of cointegration between revenue receipt and revenue expenditure as well as revenue receipt and total expenditure implies that the state has been able to maintain fiscal sustainability during the period under study. Along with the long run relationship, short term association among the variables has been observed as the error correction variables are found to be negative and highly significant.

Notes:

1. Non-debt receipt includes revenue receipts, miscellaneous capital receipts and recovery of loans and advances.
2. A government which does not generate enough current revenues for debt service must either default on its obligations or borrow more to service its past debt as well as to cover ongoing imbalances. Continued borrowings of this kind are known as ponzi game.
3. Fiscal instability is a situation of progressively increasing budget deficits which create disruption in the normal functioning of the economy.
4. The theoretical model as explained in section 5.1 is mainly based on the papers by Rath (2005), Rajaraman et al. (2005) and Lahiri and Kannon (2004) and Domar (1944).

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CHAPTER 6

Summary of Findings, Conclusions and Policy Suggestions

The present study can be viewed as a research contribution to the effort to address the issue of fiscal instability in the state and suggest policy measures to ensure fiscal stability with proper allocation of resources for developmental activities. Before drawing the final conclusion and working out the policy implications, it may be worthwhile to go over the principal findings of the study. A summary of these findings is presented in the following section.

6.1 Principal Findings:

1. Total revenue of the state government has increased from ₹ 1777 crore in 1990-91 to ₹ 19884 crore 2009-10 registering 11.18 times increase during the period of study. The compound annual growth rate of total revenue is found to be 13.55 percent during the period of study. The compound annual growth rate of own tax revenue during the study period is found to attain the highest value of 13.91 percent among the all categories of revenue. For the same time period, non-tax revenue of the state has increased from ₹ 278 crore in 1990-91 to ₹ 2753 crore in 2009-10 with a compound growth rate of 12.83 percent. Similarly, shared taxes and grants-in-aid have increased from ₹ 488 and ₹ 591 crore in 1990-91 to ₹ 5993 and ₹ 6805 crore respectively in 2009-10. The compound growth rate of these two sources of revenue is found to be 13.42 percent and 13.72 percent respectively during the above mentioned period.

2. Improvements in the revenue performance of the state has been observed during the time period 2000-01 to 2009-10 compared to the time period 1990-91 to 1999-00 as compound growth of the total revenue is found to be higher in the first decade of the present century than the previous decade. The compound growth rate of tax and non-tax revenue of the state is found to be 15.07 percent and 20.16 percent respectively during the time period 2000-01 to 2009-10 compared to 12.63 and 5.37 percent respectively in the previous decade. Similarly, the growth rate of central transfers in terms of shared taxes and grants-in-aid has experienced a growth rate of 13.71 and 14.46 percent respectively during the time period 2000-01 to 2009-10 compared to 12.85 and 12.62 percent respectively during 1990-91 to 1999-00.

3. The analysis has empirically established the dependence of the state government on central transfers for its different activities. No significant improvement of the ratio of own revenue to total revenue has been observed during the period of study implying the over dependence of the state on central transfers for its developmental activities. On an average, central transfers constitute more than 64 percent of the state's total revenue receipt during the period of study. Compared to that, the dependence of the non-special category states on central transfers is found to be much less as central transfers, on an average, contribute only 35.02 percent of the total revenue receipt of those states during the period under consideration. Similarly, dependence of the state on central transfers is found to be high than the all states average for all the sub-periods taken for the analysis. Among the special category states, the performance of Sikkim and Himachal Pradesh is found to be better than Assam for the last three sub-periods taken for the analysis.

4. As the state is heavily dependent on central transfers for its developmental activities, the change in the devolution criteria has a great bearing on fiscal stability of the state. The thrust imposed by the recent Finance Commissions on efficiency criteria such as tax effort and fiscal discipline along with the equity criteria is a step towards this direction. The state government has to maintain a stable fiscal position to acquire benefit from the incentive schemes of the central government.

5. Among the central transfers, grants-in-aid are found to be the major contributor of the total revenue during the period of study constituting, on an average, 36.21 percent of the total revenue receipt. The increased contribution of grants-in-aid is mainly due to declaration of the state as a special category state in the year 1990-91. This initiative by the central government enables the state to receive more grants from the Planning Commission.

6. Regarding shared taxes, introduction of the efficiency factors by the Finance Commissions in their devolution formula is found to incentivize the state government to bring in more efficiency in revenue collection. Increased efforts on the part of the state government have been observed to reduce the arrear of collection and cost of collection of taxes and duties.

The improved buoyancy coefficients of own tax and non-tax revenue of the state government in the last decade of the present century also signifies the increased effort of the government to bring efficiency in revenue collection. Among the Finance Commissions transfers to the state government, shared taxes constitute, on an average, 85.11 percent of the total transfers during the period of study.

7. The grants from the Planning Commission to the state constitute, on an average, 62.31 percent of the total grants from the Central government during the period of study. The Planning Commission's grant to the state government is found to increase due to declaration of the state as a special category state in the year 1990-91. As a result, share of grants for state plans jumped from 41.86 percent of total grants in the year 1990-91 to 65.22 percent in the 1991-92. In other words, declaration of the state as a special category state in 1990-91 actually helped the state to receive more grants from the Planning Commission in the subsequent years.

8. The own tax revenue of the state government has contributed, on an average, 23.84 percent of the total revenue receipt during the period of study. Sales tax is found to be the major contributor of own tax revenue as it contributes, on an average, 67.80 percent of the total own tax revenue compared to the all states average of 59.23 percent.

9. Decline in the growth rate of sales tax has been observed during the post VAT period compared to the pre-VAT period as the average growth rate of sales tax during the period 2000-01 to 2004-05 was found to be 23.57 per cent while the growth rate for the period 2005-06 to 2009-10 was 11.28 per cent. Thus, the average growth rate of sales tax in the post VAT period registered a decrease of 12.29 per cent.

10. Significant decline in the contribution of agriculture income tax has been observed during the period of study as contribution of this source of revenue has declined from 21.46 percent in 1990-91 to 1.56 percent in 2009-10. Agricultural income tax in the state comes mainly from cultivation of tea. The decline in the share of the agricultural income tax is found to be

contributed by various factors such as disintegration of USSR, decline in the rate of agricultural income tax etc.

11. The share of land revenue to own tax revenue of the state has declined from 3.15 percent in the year 1990-91 to 2.35 percent 2009-10. Average contribution of land revenue to own tax revenue of the state is found to be 4.84 percent during the period of study. The low rate of land revenue is found to be the main reason for low and declining contribution of this source of revenue.

12. The proceeds of excise duties in Assam have experienced erratic fluctuations with periodic increase in its share. The later part of 1990s witnessed an increase in the share of these components to over 10 percent of total own tax revenue followed by reduction in its share in subsequent years. The compound growth rate of this source of revenue is found to be 16.5 percent during the study period which is higher than other sources of tax revenue.

13. The average contribution of stamp and registration and taxes and duties on electricity is found to be very less as it contributed 2.74 percent and 0.50 percent of the own tax revenue respectively during the period of study. On the other hand, average contribution of motor vehicle tax and tax on passengers and goods is found to be 4.78 percent of the own tax revenue during the period of study.

14. The asymmetries in the contribution of the different sources of own tax revenue of the state government reflect the inability of the state government to utilize the other sources of tax revenue except sales tax.

15. Similarly, own non-tax revenue of the state government is found to be mainly contributed by the proceeds from the royalty on petroleum. The royalty on petroleum, on an average, has contributed 75 percent of the total non-tax revenue of the state government. The contribution of other sources of non-tax revenue is found to be insignificant during the period of study. This signifies the inefficiency of the administrative machinery to collect revenue from the other sources of non-tax revenue.

16. The tax-GSDP ratio of the state which is generally used as a proxy for tax effort is found to be low compared to other major states average for the four sub-periods taken for the analysis. But the ratio was found to be comparatively better than the average of the special category states for the above mentioned period. The tax-GSDP ratio of the state is found to be the lowest during the time period 1995-96 to 1999-00 amounting to 3.86 percent of the GSDP. The low tax-GSDP ratio during that period is assessed from the fact that arrears of revenue have increased tremendously from ₹ 160.50 crore in 1995-96 to ₹ 2784 crore in 2001-02. In other words, large arrears of revenue during that period may contribute towards low tax to GSDP ratio of the state.

17. Fluctuation has been observed in the year wise buoyancy coefficients of own tax revenue, non-tax revenue, sales tax and own revenue of the state during the period of study. Improvement in the buoyancy coefficient of own tax, non tax, sales tax and total own revenue of the state has been observed during the first decade of the present century than the previous decade. The collection of huge arrear of revenue is found to contribute positively towards increased collection of own revenue and in turn buoyancy coefficients of the state government in the last decade of the present century. The buoyancy coefficients of own revenue as computed by regressing all the four categories revenue to GSDP of the state are found to be comparatively higher during the time period 2000-01 to 2009-10 compared to the time period 1990-91 to 1999-00. The computed buoyancy coefficient of own tax, non tax, sales tax and own revenue of the state are found to be less than 1 for all categories of revenue during 1990s. But during the time period, 2000-01 to 2009-10, the buoyancy coefficients are found to be positive and greater than one. The buoyancy of non-tax revenue is found to be 1.92 during the time period 2000-01 to 2009-10 implying a significant improvement over the previous decade. Similarly, buoyancy of own tax, sales tax and own revenue is found to be 1.32, 1.43 and 1.51 during the first decade of the present century. In other words, buoyancy coefficients of the revenues of the state government are found to be better during the first decade of the present century.

18. Leakages in own revenue of the state has been observed during the period of study. The state has been accumulating a large arrear of revenue particularly in the later part of the

1990s. The Finance department did not furnish data on accumulated arrear of revenue for consecutive year from 1998-99 to 2000-01. This is a clear example of fiscal indiscipline on the part of the state government. After that significant improvement has been observed in collection of arrear of revenue which is found to be mainly contributed by two factors. The computerization of administration department has helped to find out the defaulters. Similarly, the audit report of the Comptroller and Auditor General of India in 2001-02 pointed out huge uncollected arrear of revenue. This compelled the state government to take immediate measures for collection of revenue. This also signifies the importance of the monitoring agency in smooth functioning of a system.

19. The average cost of collection of the state's taxes and duties is found to be comparatively higher than the all state average cost of collection for most of the year taken for the analysis. No clear trend has been observed regarding collection of revenue and cost of collection. It is generally happens that average cost of collection declines with increase in collection. But no such trend has been observed in case of Assam. The cost of collection of the major taxes in Assam is also found to be comparatively higher than the all India average cost of collection. This also signifies the low effort on the part of the administrative machinery to reduce the cost of collection of the state tax revenue.

20. The cost recovery of different social and economic services of the state is found to be comparatively less than all states recovery rate for most of the years taken for the analysis. The average cost recovery of selected services such as education, medical and public health and irrigation of the state during the period of study is found to be 0.60, 2.23 and 0.44 percent respectively compared to the all states average of 1.55, 5.46 and 11.20 percent respectively. Similarly, the average cost recovery of aggregate social and economic services of the state is found to be 0.96 and 11.32 percent respectively compared to the all states average of 3.43 and 29.98 percent respectively during the study period.

21. The panel regression analysis between the per-capita own tax revenue and per capita own GSDP for fifteen major states along with Assam has shown that Assam has underperformed

in terms of in terms of revenue effort compared to the average Indian states during the period under consideration.

22. The composite index of revenue mobilization which is used to measure the relative performance of the state within the period of study is found to be comparatively better in the later part of the first decade of the present century than the previous decade. This confirms an improvement in the fiscal position of the state in the first decade of the present century.

23. Increase in total and aggregate expenditure of the state has been observed during the period of study. The average ratio of aggregate expenditure to GSDP of the state during the study period is found to be higher compared to the ratio in 1980s. The aggregate expenditure of the state government has increased from ₹ 2689 crore in 1990-91 to ₹ 24968 crore in 2009-10 and thus registered a growth rate of 12.44 percent during that period.

24. Similarly, total expenditure-GSDP ratio of the state has increased from 17.77 percent in 1990-91 to 25.91 percent in 2009-10. This signifies the applicability of the Wagner hypothesis that "increase in GSDP leads to more than proportionate increase in the public expenditure" of the state government. The total expenditure of the state government has increased from ₹ 2350 crore in 1990-91 to ₹ 23960 crore in the year 2009-10 and has registered a compound annual growth rate of 13 percent during that period. But the compound growth rate of total expenditure during the time period 2000-01 to 2009-10 is found to be 14.30 percent which is higher than the compound growth rate of the previous decade.

25. It has been found that revenue expenditure constitutes the major portion of the total expenditure of the state during the period of study ranging from 80.21 in 1991-92 to 92 percent in 2001-02. On an average, revenue expenditure constitutes 87.86 percent of the total expenditure during the period of study leaving little fund available for capital expenditure and advancement of loans and advances. Compared to that, revenue expenditure of all states, on an average, constitutes 84.55 of the total expenditure during the period of study.

26. It has been found that expenditure on salary and wages, interest payments and pension constitute the major portion of the revenue expenditure leaving little fund available for expenditure on operation and maintenance. These three components of revenue expenditure, on an average, have constituted 73.81 and 72.41 percent of revenue receipt and revenue expenditure respectively during the time period 1990-00 to 2009-10.

27. Capital outlay and loans and advances as provided by the state government has constituted 9.01 and 3.13 percent of the total expenditure respectively compared to the all states average of 11.52 and 4 percent during the period of study. The low proportion of the capital expenditure in total expenditure of the state signifies the inappropriate priority of the state government for developmental activities.

28. Improvement in the ratio of capital outlay to capital expenditure has been observed during the period of study implying that more funds will be available for developmental activities rather than repayment of public debt. The proportion of capital outlay to capital expenditure has increased from 32.12 percent in 1990-91 to 83.23 percent in 2009-10. The expenditure on economic services is found to constitute the major portion of the expenditure on capital outlay averaging 88.77 percent of the total capital outlay.

29. The increase in developmental expenditure of the state government during the study period implies better quality of expenditure. The compound growth rate of development expenditure of the state is found to be less than the compound growth rate of total and aggregate expenditure during the period of study. The regression results confirms the less than proportionate growth of development expenditure with respect to both total and aggregate expenditure of the state.

30. The computed value of the expenditure management index of the state is found to be low compared to the other developed states and all states average for both the sub-period considered for the analysis i.e., 2000-01 to 2004-05 and 2005-06 to 2009-10. It implies that overall management of expenditure of the state is not at par with the other developed states in India. Slight improvement of the index for the state has been observed as the value of the

index has increased from .525 during the sub period 2000-01 to 2004-05 to .533 during 2005-06 to 2009-10.

31. It is found that that imbalance between the revenue receipts and expenditure led the state into fiscal imbalances during the time period 1999-00 and 2004-05. The increase in deficit indicator of the state in the year 2009-10 is a matter of concern for the state. Timely steps are required on the part of the state government to keep the deficit indicators under control.

32. The persistently large and fluctuating fiscal deficit of the state is found to create fiscal instability during the period of study. The issue became more complex during the later part of 1990s and in the year 2009-10 as revenue deficit was found to contribute a significant portion of the fiscal deficit. As the sustainability of the fiscal position of the state is mainly dependent on nature of fiscal deficit, the higher proportion of revenue deficit to fiscal deficit led the state into large fiscal imbalances in the later part of 1990s.

33. The financing pattern of gross fiscal deficit indicates the growing importance of market borrowings in economic development of the state. Significant decline in the share of central government borrowing has been observed during the period of study. This can be attributed to some of the following:

(a) The state was declared as a special category state in the year 1990-91 which entitled the state to secure Central assistance for the State Plans in the form of 90 percent as grants and 10 percent as loans.

(b) With the change in the accounting system with effect from 1999-2000, states' share in small savings which was included earlier under loans from the Centre is included under internal debt and shown as special securities issued to National Small Savings Fund (NSSF) of the Central Government.

(c) The policy of the central government to stop providing loans to the state government in the later part of the first decade of the present century after the recommendation of the Twelfth Finance Commission also contributes towards reduction of central loans. As a result

of those changes, a market borrowing has emerged as a significant source of financing fiscal deficit of the state in recent years.

34. The declaration of the state as a special category states has helped the state to reduce its debt-GSDP ratio during the first part of 1990s. It is found that the state has maintained a constant debt-GSDP ratio in recent years mainly due to low growth of interest payments compared to the growth of GSDP. The incentive taken by the Eleventh and Twelfth Finance Commission of India and subsequent reform measures taken by the state actually has helped the state to maintain stable fiscal position in the later part of the present decade.

35. The existence of cointegration between revenue receipt and revenue expenditure as well as revenue receipt and total expenditure excluding interest payments implies that the state has been able to maintain a sustainable fiscal policy during the period under study. The error correction variables U_{t-1} and V_{t-1} are also found to be negative and significant suggesting that deviations from equilibrium are corrected at 71 percent and 77 percent per year respectively. In other words, along with the long term association, there exists short term association between the relevant variables which actually helped the states to maintain a stable fiscal position for most of the years taken for the analysis.

36. But increase in the value of the deficit indicators in the year 2009-10 may again lead the state into unsustainable debt path. The fiscal deficit of the state is found to be 5.78 percent of the GSDP in the above mentioned year implying that the government should take urgent steps to control the deficit indicators.

6.2 Conclusion:

The study has assessed the fiscal situation of the state with the objective of maintaining a stable and sustainable fiscal path. The fiscal position of the state has been examined with respect to both enhancement of revenue and control of expenditure. Although improvements in own revenue generation of the state has been observed, but relative contribution of own revenue is still found to be low compared to the contribution of the central transfers. As inefficient management in terms of huge arrears of revenue, high cost of collection and low

cost recovery of selected services has been identified as the principal cause of low revenue generation of the state, the hypothesis that 'low own revenue of the state is due to improper and inefficient fiscal administration' is partially accepted.

The compound growth rate of aggregate and total expenditure of the state is found to be higher than the growth rate of development expenditure during the period under consideration. The aggregate and total expenditure of the state has registered a growth rate of 12.44 and 13 percent compared to growth rate of the developmental expenditure which is found to be 12.18 percent. The coefficient of the regression of the developmental expenditure on aggregate expenditure is found to be less than one for the above mentioned period. Similarly, the coefficient of the regression of developmental expenditure on total expenditure is found to be less than one during the period of study. Thus, the hypothesis that 'increase in public expenditure has not led to proportionate increase in development expenditure of the state' gets accepted.

The fiscal consolidation measures as adopted by the state government are found to have a positive impact on the fiscal stability of the state. Significant improvement in the fiscal position of the state has been noticed during the time period 2004-05 to 2008-09. The co-integration analysis also confirms that the state has maintained a fiscal sustainability during the period of study. Thus the hypothesis that 'fiscal consolidation measures adopted by the State Government to correct fiscal imbalances have ensured fiscal stability of the state' gets accepted.

6.3 Policy Suggestions:

The main policy suggestions emerging from the findings of the study are summed up in the followings paragraphs:

1. As the state is heavily dependent on central transfers, there is urgent need to increase the collection of own tax and non-tax revenue of the state. The own revenue of the state government can be increased by reducing the loopholes such as high cost of collection, huge arrears of own tax and non-tax revenue of the state etc. Considering the revenue

loss due to high cost of collection and large arrears of revenue, there is an urgent need on the part of the government to apply some monitoring agency to identify those leakages.

2. As contribution of the non-tax revenue is found to be minimal except the royalty on petroleum, there is an urgent need on the part of the state government to increase the productivity of non-tax revenue. The low cost recovery of different services of the state government implies that there is ample scope for increase in non-tax revenue of the state through improvements in the administrative machinery. Rationalisation in user charges of selected social and economic services may also be considered for increase in non-tax revenue.

3. The less than proportionate increase in development expenditure in comparison to increase in aggregate expenditure and total expenditure is a matter of concern for the state government. Similarly, low proportion of expenditure on operation and maintenance in comparison to salary and wages may deteriorate the existing level of services of the state. Considering the above facts, state government should introduce some stringent rules for prioritization and proper allocation of expenditure. These rules should be incorporated in the existing fiscal legislations of the state.

4. It is true that adoption of the fiscal reform measures has helped the state government to contain the deficit indicators and overcome the fiscal crisis that surfaced in the later part of 1990s. But considering the poor infrastructure of the state, there is an urgent need on the part of the government to invest in those sectors. As long as there is no revenue deficit, the state government may utilize the permissible level of borrowing options to invest in the infrastructure sector.

5. As borrowing from the market is found to be a significant source of financing the government in recent decades, the state government should impose efficiency in debt redemption procedure. The credibility of the state government in the credit market may decline if the government fails to repay the loans in time. There is a need on the part of the government to induce more market discipline in their lending operations.

6. The recent increase in the deficit indicators of the state government show the inability of the state government to deal with expenditure shocks without affecting the fiscal position of the state. Government of Assam should adopt timely steps to restrict further deterioration of the fiscal position of the state.

6.4 Limitations of the Study:

1. Although the study period includes a politically volatile period characterized by insurgency, extortion etc., it is quite difficult to include the fiscal impact of those events. This is due to paucity of data and relevant reports. This should be considered as a limitation of the study.

2. As the GSDP figures are available under different base periods; the technique of splicing is used to bring those data into a common base. But data generated by splicing the old data may vary depending upon the choice of deflators. This may result in the problem of data comparability. This should also be considered as a limitation of the study.

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List of Publications of the Present Work

1. Dutta, Parag and Mrinal Kanti Dutta (2011) "An Analysis of Fiscal Crisis and Fiscal Reforms in Assam in Recent Decades", *Assam Economic Journal* (ISSN 0976-7530), Vol. XXII, pp. 1-12.

2. Dutta, Parag and Mrinal Kanti Dutta (2012) "An Analysis of Fiscal and Debt Sustainability in Assam in Recent Decades" in Nironjan Roy and Raju Mandal (Eds.), *A Tapestry of Research in Economics in North East India* (ISBN: 978-81-908202-2-6), 248-268.

3. Dutta, Parag (2012) "Impact of the Global Financial Crisis on Indian Economy and Changing role of the Fiscal Policies of the State of Assam", *Eco-Centric, Journal of Economics* (ISSN:2250-0405), Vol. VIII, Issue-1 (special issue), pp. 216-224.