



## **PUBLIC DEBT IN MIZORAM: DIMENSIONS AND IMPLICATIONS**

(A thesis submitted to the Department of Economics, Mizoram University for the award  
of the degree of Doctor of Philosophy)

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He has fulfilled all the requirements laid down in the Ph.D regulations of the Mizoram University. The thesis is the result of his investigation into the subject. Neither the thesis as a whole nor any part of it was ever submitted to any other University for any research degree.

  
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DECLARATION

I, C.Vanlalramsanga, hereby declare that except where reference is made to the work of others, the work described in this thesis is record of the work done by me and that the contents of this thesis did not form basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in other University/Institute.

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For any errors or inadequacies that may remain in this work, of course, the responsibility is entirely my own.

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**List of abbreviations**

AE	Advance Estimates
ADF	Augmented Dicky Fuller Test
ADB	Asian Development Bank
AFS	Annual Financial Statement
ARCH	Auto Regressive Conditional Heteroscedasticity
BE	Budgetary Estimates
CAG	Controller and Auditor General of India
CFIs	Central Financial Institutions
CSO	Central Statistical Organization
CSS	Centrally Sponsored Schemes
EPF	Employees Provident Fund
EXIM	Bank Export Import Bank of India
FD	Fiscal deficit
FDI	Foreign Direct Investment
FI	Financial Institution
FRBMA	Fiscal Responsibility and Budget Management Act
GDP	Gross Domestic Product
GFCF	Gross Fixed Capital Formation
GFD	Gross Fiscal Deficit
GFS	Government Finance Statistics
Gol	Government of India
GPD	Gross Primary Deficit
GSDP	Gross State Domestic Product
G-Sec	Government Securities
HDI	Human Development Index
HIPC	Highly Indebted Poor Countries
IMF	International Monetary Fund
INR	Indian Rupee
IOU	I Owe You
IP	Interest Payment
LM	Lagrange multiplier
NABARD	National Bank for Agriculture and Rural Development
NCDC	National Cooperative Development cooperation

NFD	Net Fiscal Deficit
NPD	Net Primary Deficit
NPRB	Net Primary Revenue Balance
NSDP	Net State Domestic Product
NSSF	National Small Saving Fund
PD	Primary Deficit
PF	Provident Fund
RBI	Reserve Bank of India
RD	Revenue Deficit
RE	Revised Estimates
RIDF	Rural Infrastructure Development Fund
RRB	Regional Rural Bank
Rs	Indian Rupees
SBI	State Bank of India
SDL	State Development Loans
SIDBI	Small Industries Development Bank of India
SIDC	State Industrial Development Corporation
SSI	Small-Scale Industries
VAR	Vector autoregression
WB	World Bank
WMA	Ways and Means Advance

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# **CHAPTER – 1**

## **Introduction**

## Chapter I

### OVERVIEW AND DESIGN OF THE RESEARCH

#### 1.1 Introduction:

The issue of public debt has long been at the centre of the fiscal policy debate. The debate on public debt has been mostly shaped by different experiences concerning its use in policy making. While governments can use borrowing to meet funding requirements during exceptional events, to counter economic downturns and to expand infrastructures, the misuse of public borrowing can have significant and long-lasting policy implications. The stock of public debt influences policy decisions and expectations. It constrains the room for maneuvering of fiscal policy. However, growing public debt is a worldwide phenomenon and it has become a common feature of the fiscal sectors of most of the economies.

Contemporary economic wisdom does not consider public debt *per se* as problem as Government borrowing may be justified on two grounds. First, by spreading out the cost of new capital goods, it provides a way to enhance intergenerational equity. Since most public investment does not benefit only current taxpayers, there is an element of fairness in placing part of the burden of public capital financing on future generations. Second, borrowing makes it feasible for governments experiencing deficits to bridge the gap between current revenues and necessary expenditures without having to raise taxes above their optimal level. As long as deficits are transitory phenomena, access to credit smoothes the expenditure path over time and in so doing improves government performance.

However, mismanagement of public debt and keeping public debt at un-sustainable level is a major problem. The modern theory of public debt sustainability discerns a fundamental relationship between economic stability and debt sustainability in an economy. The inadequate debt management and persistent growth of public debt to GDP ratio may result in negative tendencies and deterioration in macroeconomic conditions. Theoretically, high public debt could have a significant negative effect on economic activity as it requires high taxes to finance and puts upward pressure on real interest rates, “crowding out” private investment. When a government is no longer able to finance its deficits, it is forced to contract spending or raise revenues, often at a time when fiscal policy is needed to help stabilize the economy (fiscal policy becomes procyclical rather than countercyclical). When it cannot take these actions, a debt crisis ensues and the government is forced to default or inflate the debt away (an implicit default), both of which entail large economic and welfare costs.

Moreover, there are also certain social and political implications of unsustainable debt burden. Persistent and high public debt would require large piece of budgetary resources for debt servicing. Consequently, the government is forced to cut allocations for other public services. Public expenditure productivity is critically important for fiscal adjustment and sustainability. However, high debt servicing would decrease the productivity of public expenditures which will further trigger larger deficit and growing public debt. Ultimate implications of high and unsustainable public debt are, therefore, possibilities of widespread bankruptcies.

In India, there is growing awareness of the urgent need to contain public debt at sustainable level both at the central and the states government.



In recent years, the debt problem at state level has become the priority area of concern. Recognizing the magnitude of the problem, the Comptroller and Auditor General of India and Finance Commissions in their various reports have sounded warnings about the fiscal un-sustainability of the states government. Reserve Bank of India as the banker and debt manager to the state governments have been repeatedly stresses the need to address the underlying issues relating to debt sustainability (*Indira Rajaraman et al., 2005*)<sup>1</sup>.

The issue of public debt has become a crucial issue primarily at the states level as it is widely recognized that the large overhang of debt of almost all states government in India has implied such large interest payments that the states are effectively crippled with respect to the ability to undertake important socially necessary expenditure. Therefore, the need to restructure public debt at almost all the states in India has been widely accepted. Effective management of rapid growing public debt in the states becomes an important fiscal reforms agenda in the country and studies on dimensions and policy implications of public debt at the state level have become an emerging research topic.

Sub-national fiscal sustainability (debt sustainability) is important because an insolvent government cannot provide public service. However, although the basic sustainability framework applies to any government, sub-national fiscal adjustment qualitatively differs from the national level, reflecting the interplay of sub-national and national policies. Sub-national debt sustainability is complicated by the legislative mandates of central vis-avis

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<sup>1</sup> **Rajaraman, Indira. Shashank Bhide and R.K. Pattnaik** (2005), *"A Study of Debt Sustainability at State Level in India"*, Working Paper, Reserve Bank of India. (August, 2005).

sub-national governments and the intergovernmental finance system. They are unable to issue their own currency, sub-nationals cannot use seigniorage finance. Sub-nationals cannot freely adjust their primary balance due to potential legal constraints on raising own revenue, varying dependence on central government transfers, and central government's influence on key expenditures such as wages and pensions. Many policies affecting the sub-national economy and its fiscal health can be largely set by the central government.

However, there is also political economy considerations and opportunistic behavior. In such a framework, by shifting tax liabilities to future generations, government borrowing blunts opposition to spending initiatives by current taxpayers, who do not therefore bear the full cost of government, a form of "fiscal illusion"<sup>2</sup>. Besides, funding structure at the sub-national government has also specific features that must be considered. The first one hinges upon the fact that in most cases, debt-funded expenditure is not a freely determined option at sub-national level government as it is often subject to numerous restrictions. Second, there are potential for moral hazard derived from an implicit central government guarantee as the potential for bailout by the central (federal) government may lead to excess borrowing. At the same token, too much dependence on transfers from central governments may lead to excessive spending (common pool problem, moral hazard and adverse

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<sup>2</sup>Fiscal Illusion is a public choice theory of government expenditure first developed by the Italian economist Amilcare Puviani. Fiscal Illusion suggests that when government revenues are unobserved or not fully observed by taxpayers then the cost of government is perceived to be less expensive than it actually is. Since some or all taxpayers benefit from government expenditures from these unobserved or hidden revenues the public's demand for government expenditures increases, thus providing politicians incentive to expand the size of government [http://en.wikipedia.org/wiki/Fiscal\\_Illusion](http://en.wikipedia.org/wiki/Fiscal_Illusion)

selection) and fiscal laziness (little effort to raise own taxes), it can be worse if combined with debt autonomy.

The subject matter of this study is public debt in Mizoram covering the period from 1987 to 2011 with a focus on dimensions and implications. The study analyses the public debt situation in Mizoram including the magnitude and its dimensions. The study examines trends in public expenditure patterns and analyses trends in key fiscal indicators to understand the accumulation process of public debt as a flow concept. The study then analyzes the magnitude and dimensions of public debt stock and further analyzes trends in public debt compositions. Further, the study assesses sustainability of public debt in Mizoram and finally the study examines empirical evidence of the role of public debt in the growth dynamics. The study concludes with policy implications based on the findings of the research.

## **1.2 Definition and Concepts:**

The creation of debt is a normal and usual result of economic activity both at individual as well as government level. Whenever income is greater than consumption, there is surplus. And exactly the opposite, in a similar way, when consumption or investment is in excess of income, income has to be complemented with borrowed financial resources. This shortfall or deficit has to be covered or financed, and it is then that debt is required to be created. In the same token, when a Government has bigger expenses than its income or revenue, it produces a deficit that has to be financed. The financing of the deficit is done through borrowing of financial resources and it is then, at that moment, public debt is created. Given the resources required for socio-

economic development - the need to achieve minimum standards of living, the urgency to alleviate poverty and the importance of creating employment, infrastructure and fostering growth, governments may, at times, run up expenses that exceed their income. At such times the need to cover their excess expenditure is often solved by borrowing of financial resources. That is the moment when public debt is created. Public debt, therefore, is the cumulative amount a government has borrowed to finance its outlays. Public debt is usually a result of deficit spending; therefore, public debt is distinct from a budget deficit in that it is cumulative, whereas deficit refers to a particular budget year's shortfall.

*Defining State's Government Debt:* With a purpose of having unanimity on the definition and composition of State Government liabilities, a Working Group on the Methodology and Compilation of State Government Liabilities was constituted by Government of India and Reserve Bank of India (RBI) as per decision taken in the 14<sup>th</sup> Conference of State Finance Secretaries on August 2004. The members comprised of selected State Finance Secretaries, representatives of Government of India, Comptroller and Auditor General of India, Controller General of Accounts, Reserve Bank of India and academicians. The Group submitted its Report in December 2005<sup>3</sup>. The Working Group proposed that debt and liabilities be considered synonymous and accordingly, all borrowings which are repayable and on which interest accrues to be considered as debt. As recommended by the Working Group, Public Debt of the state government would include open market borrowings, borrowings from banks and financial institutions, special securities issued to

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<sup>3</sup> **Reserve Bank of India** (2005), Report of the Working Group on Compilation of State Government Liabilities (December 2005), Submitted to Deputy Governor, Reserve Bank of India, 2005

the National Small Savings Fund, Bonds / Debentures which are issued by the State Government and loans from the Central Government.

The Debt Management Manual of Finance Department, Government of Mizoram define public debt as “all kinds of borrowings of the government to finance its expenditure...from various sources such as Government Bonds by raising market loans, loans from Central Financial Institutions (CFIs) as negotiated loans, loans from the Central Government as loan components in the Block Grants and Centrally Sponsored Schemes (CSS), loans released to the State Government out of the share in the National Small Savings Fund (NSSF), etc”<sup>4</sup>.

In this study, the term public debt and outstanding liabilities would be used interchangeably and by public debt we would be referring to state debt as defined by the Working Group on the Methodology and Compilation of State Government Liabilities to include State government’s internal debt and loans and advances received from the central government. In short, public debt (state debt) in this study consists of all liabilities that require payment of interest and or principal by the State government at some future date.

*Concept of Public Debt Sustainability:* Although sustainability of public finances has been discussed widely both by policymakers and researchers, it is still an imprecise concept. While it is intuitively clear that a sustainable policy must be such as to eventually prevent bankruptcy, there is no generally agreed upon definition of what precisely constitutes a sustainable debt position<sup>5</sup>. The existing literature has proposed several methods to define and

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<sup>4</sup> Finance Department, Government of Mizoram, “Debt Management Manual”, pg. no. 4 downloaded from <http://www.mizofin.nic.in/> on 28<sup>th</sup> November 2011.

<sup>5</sup> Neck, Reinhard. Sturm, Jan-Egnert (2008). “Sustainability of Public Debt”, The MIT Press Cambridge,, Massachusetts, London, England.

assess debt sustainability, differing in both time horizons and choice of variables. One general approach (Domar Condition) have been that the interest rate at which a government borrows cannot be greater than the rate of growth of the economy, so that the ratio of debt to GDP or GSDP does not rise, and an unsustainable debt does not take place.

In the context of State government's debt, the term sustainability embodies concern about the ability of the state government to service its debt. A State government which does not generate enough current revenues for debt service must either default on its obligations, or borrow more in order to service past debt as well as to cover its ongoing imbalances. Continual borrowing of this kind will show up in the time path of debt/GSDP ratio. Therefore, debt/GSDP is an important indicator of the fiscal sustainability status of the State. What matters critically from a sustainability perspective is whether debt is being added to over time. Where the debt stock is stable in absolute terms, it will decline over time as a proportion to GSDP or vice-versa. However, there is no theoretical basis for designing any particular debt/GSDP value as superior or preference to any other. The bound on debt/GSDP is imposed by the fact that tax revenues are costly to rise, as tax administration officials the world over will testify, and always politically difficult. Thus, sustainability is closely related to revenue-raising capacity and a sustainable debt is the product of several market development actions, debt policy and debt management factors. Government of Mizoram, Finance Department's Debt Management Manual specifically aimed at containing debt/GSDP stating that "Nominal levels (of public debt) and as percentage to GSDP / Revenue Receipts. The government should take every step to contain the level of debt relative to the Gross State Domestic Product (GSDP) or the total Revenue

Receipts accruing during a fiscal year...In its effort to reduce the level of debt as a percentage of GSDP, the government may take efforts to contain the fiscal deficit within the prescribed levels”<sup>6</sup>.

The concept of debt sustainability in a state like Mizoram can be quite different from that of relatively rich states that could raise substantial revenue on its own. In the poorer states like Mizoram, government predominantly relies on official financing from the central government, there could be the condition that the State debt can be serviced without resort to exceptional financing or a major future correction in the balance of income and expenditure. The sustainability of the State debt in this situation is largely de-linked from the sentiments of the market, as embodied in spreads on market interest rates. Debt sustainability is a particularly blurred concept in such situation as public debt can be serviced for long periods, or suddenly become unsustainable, depending on the willingness of the central government to provide positive net transfers through concessional loans and grants.

Even though the risks are different, excessive debt in a poor State like Mizoram is no less serious a problem than the richer ones. Debt sustainability remains an essential condition for economic stability which is a necessary condition for high economic growth. In a nutshell, it can be argued that, if a government is expected to service and repay its debt from its own future resources, high debt creates adverse incentives associated with (present and anticipated) distortionary taxes. But if debt service burden is considered excessive relative to the available resources, it is expected to be covered by increased grants or loans or debt relief, this may undermine a government's

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<sup>6</sup> Finance Department, Government of Mizoram, “Debt Management Manual”, pg. no. 13-14, downloaded from <http://www.mizofin.nic.in/> on 28<sup>th</sup> November 2011.

incentives to maintain sound macroeconomic policies and increase its own repayment capacity. With very limited alternative financing options, poor states usually face higher risks not only of becoming unable to meet their debt-service obligations, but also of seeing their social and developmental progress halted, or even reversed, in the event that official aid from central government or donor agencies recedes. This creates uncertainties about the future that tend to discourage governments and private investors from engaging in longer-term commitments. Finally, a rising share of revenues devoted to debt service payments, even if financed by new aid or grant flows, weakens a government's ability to implement its own policies, particularly as aid or grant flows are often earmarked. The result can be a severe loss of ownership that undermines public support for policy reforms and brings governments under pressure on their debt-service obligations. These problems are exacerbated by certain characteristics of many heavily indebted states that adversely affect their ability to cope with high debt. These include risks of misuse and mismanagement of resources, due to weak public institutions, poor governance, and generally low implementation capacity. The more prevalent these factors, the larger the risk that debt-service obligations, even on concessional terms, reach levels that undermine a government's ability to devote sufficient resources to areas of social and economic priority. This calls for the necessity of regularly assessing debt sustainability that incorporates the extent to which state government is subject to such political, institutional, and structural risks. This study will attempt to assess public debt sustainability condition of Mizoram and prescribes policy options or action required to correct the problem, if any, based on the research findings.



### 1.3 Theoretical Perspectives:

Public borrowing and its related controversy of 'debt burden' and 'debt sustainability' is an issue long been widely debated among the economists and policymakers. Views on public debt have also undergone significant changes over the years. There has been no clear cut agreement among economists and policymakers either on analytical grounds or on the basis of empirical results whether financing government expenditure by incurring a fiscal deficit is good, bad, or neutral in terms of its real effects, particularly on investment and growth (C. Rangarajan and D.K. Srivastava, 2005)<sup>7</sup>.

Historically, three schools of thought have emerged on the subject. One school takes the position that persistent deficits have adverse influence on inflation, interest rates and private investment. As yearly borrowings to finance budget deficits accumulate into the stock of national debt, interest payments on such debt increase the burden of taxation and have inequitable distributional consequences. Second school of thought suggested that deficits can be employed to support economic activity and employment. Finally, there is a third school, which considers that the (deficit and) public debt has little overall impact on the economy.

Among the mainstream analytical perspectives, the neo-classical view considers deficit financing detrimental to investment and economic growth, while in the Keynesian paradigm, it constitutes a key policy prescription. Ricardian equivalence<sup>8</sup> emphasizes that deficit financing does not really

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<sup>7</sup> Rangarajan, C. and D.K. Srivastava,(2005), "Fiscal Deficits and Government Debt in India. Implications for Growth and Stabilisation", NIPFP Occasional paper, 2005.

<sup>8</sup> Ricardian Equivalence is an economic theory that suggests that when a government tries to stimulate demand by increasing debt-financed government spending, demand remains unchanged. This is because the public will save its excess money in order to pay for future tax increases that will be

matter except for smoothing the adjustment to expenditure or revenue shocks. While the neoclassical and Ricardian School emphasize on the long run, the Keynesian view focuses on the short run effects.

Balassone et al (2004) concluded that the debate lasting over two centuries has come to justifying government deficits under three set of circumstances: first, when non-remunerative expenses of a wholly abnormal scale have to be financed; second, for financing fixed capital formation; third, when the economy is under unfavourable macroeconomic conditions<sup>9</sup>. Thus from a strictly public finance perspective the existence of public debt is theoretically justified as the cumulated result of deficits incurred under the above mentioned three circumstances. However, these factors should not normally justify large debts: exceptional, cyclical and tax smoothing consideration only justify temporary debt accumulation, while debt for capital formation is somehow limited by the fact that only net investment should be financed by borrowing.

#### **1.4 Review of Literature:**

The debate on public debt has involved economists and policy makers, and has highlighted many, sometimes radically different, views. The concept of public borrowing as such was condemned earlier by classical economists like Hume and Adam Smith who considered that it would compel the government to tax the public and hence lead to disequilibrium in the economic system. Smith argued that government borrowing would deprive society of

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initiated to pay off the debt. This theory was developed by David Ricardo in the nineteenth century (Source <http://www.investopedia.com/terms/r/ricardianequivalence.asp#ixzz1jnnUGHfJ> )

<sup>9</sup> Balassone, Fabrizio, Daniel Franco and Stefania Zotteri (2004), *Public Debt: A Survey of Policy Issues*, Public Debt, Banca D'Italia, Research Department Public Finance Workshop, Perugia, 1-3 April, 2004, pg. 30

resources which could be invested more productively. He further noted that beyond a certain threshold debt inevitably leads to national bankruptcy while recognizing the necessity of incurring debt during war time<sup>10</sup>.

In contrast, Ricardian equivalence theory pointed to the macroeconomic irrelevance of the debt/tax mix (Barros, 1974)<sup>11</sup>. The theory is based on the consideration that debt implies future taxes with a present value equal to the value of debt. Rational agents proceeded as if the debt does not exist resulting in the debt having no effects on the economy. Several studies tried to evaluate the empirical foundation of Ricardian equivalence. Buiter and Tobin (1980)<sup>12</sup> concluded that the case for debt neutrality is not well established. Bernheim (1987)<sup>13</sup> study concluded that evidence does not justify claims that government borrowing has little or no effect on the economy. He found that there is a significant likelihood that deficits have large effects on current consumption, and there is good reason to believe that this would drive up interest rates. Elmendorf and Mankiw (1998)<sup>14</sup> analysis on the effects of public debt concluded that debt can affect economic activity both in the short and in the long term. In the short term it increases aggregate demand, in the long term it reduces savings, increases interest rates and reduces productive public capital formation.

The precept of a balanced budget has found a widespread endorsement well into 20<sup>th</sup> century as is witnessed by Pigou's (1929) writing

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<sup>10</sup> **Smith, Adam** (1904) *An Inquiry into the Wealth of Nations*, Book V. Chapter III Of Public Debt, London: Methuen & Co., Ltd (5<sup>th</sup> Edition)

<sup>11</sup> **Barro, Robert**, (1974) "*Are Government Bonds Net Wealth?*," *The Journal of Political Economy*, Vol. 82, No. 6. (Dec. 1974), pp. 1095-1117.

<sup>12</sup> **Buiter, W.H. and J. Tobin** (1980), "*Debt Neutrality: A Brief Review of Doctrine and Evidence*", in G.Von Fustenberg (ed), *Social Security vs. Private Savings*, Cambridge, 1980

<sup>13</sup> **Bernheim, Douglas, B.** (1987), "Ricardian Equivalence: AN Evaluation of Theory and Evidence" in NBER Macroeconomic Annual 1987, Volume 2 by Stanley Fisher (ed), The MIT Press, Pg. 263-316.

<sup>14</sup> **Elmendorf, D.W. and N.G. Makiw** (1998), "Government Debt", Discussion Paper No. 1820, Harvard Institute for Economic Research, Harvard University.

“in normal times the main part of government’s revenue is required to meet regular expenditure that recurs year after year. There can be no question that in a well-ordered State all such expenditure will be provided for out of taxation, and not by borrowing. To meet it by borrowing... would involve an ever growing government debt and a corresponding ever growing obligation of interest... the national credit would suffer heavy damage;...this thesis is universally accepted”<sup>15</sup>.

Later the Great Depression of 1929 brought about a marked change in economic thinking of which J.M. Keynes was the pioneer. It was felt that public debt would raise the national income, lead to effective demand in the economy, increase the employment and output. Hence it was after the Second World War that public borrowings came to occupy a prominent place in the budgets of governments<sup>16</sup>. However, Buchanan (1977)<sup>17</sup> warned that Keynesian deficits not only represent a clearly ineffective long-term policy but are also the key ideological lever for undermining the integrity of the supreme social contract, the Constitution, and ultimately the self-sufficiency, autonomy and independence of the Republic.

More recently, economic literature on public debt, extensively focus on the burden of public debt and its sustainability. This type of analysis was pioneered by Domar (1944)<sup>18</sup> to answer the concerns that “...continuous government borrowing results in an ever rising public debt, the servicing of which will require higher and higher taxes; and that the latter will eventually

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<sup>15</sup> **Pigou, A.C.** (1929), *A Study in Public Finance*, 2<sup>nd</sup> revised edition, London, Macmillan, Pg. 233

<sup>16</sup> <http://www.egyankosh.ac.in/bitstream/123456789/25384/1/Unit-15.pdf> - Public Debt Management and Role of the Reserve Bank of India downloaded on 18<sup>th</sup> January 2012

<sup>17</sup> **Buchanan, J.M.** (1977), *Democracy in Deficit: the Political Legacy of Lord Keynes*, New York, Acamedic Press

<sup>18</sup> **Domar, Evsey D.** "The 'burden'of the debt and the national income," American Economic Review XXXIV, Dec. 1944, pp. 798-827.

destroy our economy or result in outright repudiation of the debt". Domar showed that a constant overall deficit to GDP ratio ensures convergence of both the debt to GDP ratio and the interest to GDP ratio to finite values. Consequently also taxes needed to service interest payments converge to a finite value as a share of GDP. Blanchard et al. (1990)<sup>19</sup> proposed two necessary conditions for sustainability: (a) the ratio of debt to GNP eventually converges back to its initial level; and (b) the present discounted value of the ratio of primary deficits to GNP is equal to the negative of the current level of debt to GNP.

Luis Foncerrada (2005)<sup>20</sup> contended that discussion on debt sustainability in recent literature has followed two general approaches, the first one considers that the interest rate at which a government borrows cannot be greater than the rate of growth of the economy, so that the ratio of debt to GDP does not rise, and an unsustainable debt does not take place. In other words, the rate of growth of the economy (GDP) should be higher than the rate of growth in public debt to have a sustainable level of public debt. The other approach considers that if there is a present value borrowing constraint, which could limit the quantities to borrow, then that would be the main criterion to achieve sustainability.

In recent years, mainly after the introduction of the Heavily Indebted Poor Country (HIPC) Initiative<sup>21</sup>, and more recently, with the definition of the

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<sup>19</sup> **Blanchard, O., J.C. Chouraqui, R.P. Hagemann and N. Sator** (1990), "*The Sustainability of Fiscal Policy: New Answers to Old Questions*", OECD, Economic Studies, No. 15.

<sup>20</sup> **Luis Foncerrada** (2005), "*Public debt sustainability. Notes on debt sustainability, development of a domestic government securities market and financial risks*". Análisis Económico, Núm. 44, vol. XX, 2005.

<sup>21</sup>The **Heavily Indebted Poor Countries (HIPC) Initiative** is a comprehensive approach to debt reduction for heavily indebted poor countries pursuing IMF- and World Bank-supported adjustment and reform programs.

Millennium Development Goals (MDGs)<sup>22</sup> by the United Nations, the concept has been discussed and used intensively by a number of economists and authors, particularly by the Staffs of the International Monetary Fund (IMF) and the World Bank (WB). The concept of debt sustainability, especially in the last few years, has been defined as a group of indicators and, lately, as a set of thresholds. In most of the cases the concept is closely linked to the question of its assessment, and practically identified with indicators used to assess sustainability. For example, recent IMF documents (2004)<sup>23</sup> suggest that debt sustainability can be assessed on the basis of indicators of the debt stock or debt service relative to various measures of repayment capacity (typically GDP, exports, or government revenues).

The European Central Bank (August 2010)<sup>24</sup> study investigates the average impact of government debt on per-capita GDP growth in 12 euro area countries over a period of about 40 years starting in 1970 and finds a non linear impact of debt on growth with a turning point – beyond which the government debt-to-GDP ratio has a deleterious impact on long term growth. Reinhart and Rogoff (2010) study on the association between debt and growth suggest that there is no association between debt and growth at low or moderate levels of debt, but there exists a well defined threshold (90%) of government debt relative to GDP above which economic growth is hindered<sup>25</sup>.

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<sup>22</sup>The **Millennium Development Goals** (MDGs) are a set of development targets agreed by the international community, which center on halving poverty and improving the welfare of the world's poorest by 2015.

<sup>23</sup>**IMF and World Bank** (2004) *“Debt Sustainability in Low Income Countries Proposal for an Operational Framework and Policy Implications”* February, 2004.

<sup>24</sup> **European Central Bank** (2010) *The Impact of High Growing Government Debt on Economic growth: An Empirical Investigation for the Euro Area* Working Paper Series No. 1237/ August 2010

<sup>25</sup> **Reinhart, Carmen M., and Kenneth S. Rogoff** (2010) *Growth in a Time of Debt*, American Economic Review: Papers & Proceedings 100 (May 2010) Pg 573-578.

However, EPI study (2010)<sup>26</sup> demonstrates several theoretical and empirical flaws of Reinhart and Rogoff approach and findings and rejected the hypothesis that there is a well defined ratio of debt to GDP above which economic growth suffers.

In the context of India, the fiscal deficit and government debt, have received growing attention of researchers and policymakers, particularly since the nineties, when most years the combined fiscal deficit was higher than 9 percent of GDP argued Rangarajan and Srivastava (2005)<sup>27</sup>. The analysis of fiscal sustainability assumed critical importance starting from late 1980's mainly due to sharp fiscal deterioration both at the national and the states level. The many contributions include Seshan (1987)<sup>28</sup>, Rangarajan, Basu, Jadhav (1989)<sup>29</sup>, Chelliah (1991)<sup>30</sup>, Rangarajan and Srivastava (2003)<sup>31</sup>, and most recently Rangarajan and Srivastava (2005)<sup>32</sup>, Rajaraman, Bhide, Pattnaik (2005)<sup>33</sup>. Besides, the report of Comptroller and Auditor General (CAG) of India starting from 1988 onwards warned against the alarming growth in domestic debt. The Second Finance Commission (1957)<sup>34</sup> was perhaps the first commission to be asked to look into the problem of state

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<sup>26</sup> **Irons, John. and Josh Bivens** (2010) *Government Debt and economic Growth: Overreaching Claims of Debt "Threshold" Suffer from Theoretical and Empirical Flaws*, EPI Briefing Paper, Economic Policy Institute, July 26, 2010, Briefing Paper no. 271

<sup>27</sup> **Rangarajan, C. and D.K. Srivastava**,(2005), *"Fiscal Deficits and Government Debt in India. Implications for Growth and Stabilisation"*, NIPFP Occasional paper, 2005.

<sup>28</sup> **Seshan, A.** (1987), *"The Burden of Domestic Public debt in India"*. RBI Occasional Papers, June, 1987.

<sup>29</sup> **Rangarajan, C. Anupam Basu and Narendra Jadhav** (1989), *"Dynamics of Interaction between Government Deficit and Domestic Debt in India"*, RBI Occasional papers, September, 1989.

<sup>30</sup> **Raja J. Chelliah** (1991), *"The Growth of Indian Public Debt – Dimensions of the Problem and Corrective Measures"* IMF Working Papers, July 1991.

<sup>31</sup> **Rangarajan, C. and D.K. Srivastava**, (2003) *"Dynamics of Debt Accumulation in India: Impact of Primary Deficit, Growth and Interest Rate"*, Economic and Political Weekly, November, 2003.

<sup>32</sup> **Rangarajan, C. and D.K. Srivastava** (2005), *"Fiscal Deficits and Government Debt in India. Implications for Growth and Stabilisation"*, NIPFP Occasional paper, 2005.

<sup>33</sup> **Rajaraman, Indira. Shashank Bhide and R.K. Pattnaik** (2005), *"A Study of Debt Sustainability at State Level in India"*, Working Paper, Reserve Bank of India, August, 2005.

<sup>34</sup> **Government of India** (1957), *Report of the Second Finance Commission, 1957-1962*, Ministry of Finance, New Delhi.

indebtedness in view of the rising central loans to the state and subsequent commission never left the topic untouched since then. The Twelfth Finance Commission (2005)<sup>35</sup> recommended for states to enact 'fiscal responsibility legislation' prescribing specific annual targets with a view to eliminating the revenue deficit by 2008-09 and reducing fiscal deficits based on a path for reduction of borrowings and guarantees.

Chelliah (1991) examines public debt in India by analyzing the causes of the growth of debt by tracing trends in the total fiscal deficit and in the primary deficit and concluded that if trends of borrowing by the Government of India continue, the country will plunge into financial crisis by the end of the 1990's. Rangarajan and Srivastava (2005) examines the long term profile of fiscal deficit and debt relative to GDP in India, with a view to analyzing debt-deficit sustainability issues along with the considerations relevant for determining suitable medium and short-term fiscal policy stance. The study observes that there is a clear need to bring down the combined debt-GDP ratio from its current level, which is in excess of 80 percent of GDP and further suggests that the process of adjustment can be considered in two phases: adjustment phase and stabilization phase. In the adjustment phase, fiscal deficit should be reduced in each successive year until revenue deficit, and correspondingly, government dis-saving, is eliminated. In the second phase, fiscal deficit could be stabilized at 6 percent of GDP. The debt-GDP ratio would eventually stabilize at 56 percent. 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 the social sectors.

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<sup>35</sup> **Government of India** (2005), *Report of the Twelfth Finance Commission*, 2005-2010, Ministry of Finance, New Delhi, February, 2005.



The comprehensive study on state specific assessment of debt sustainability status and the kind of corrective action called for in each case is done by Rajaraman, Bhide and Pattnaik (2005). The study finds out that by 2002-03, the debt of major states in India stood at 41 percent of their combined GSDP, higher by 15.7 percentage points than the average for the quinquennium 1992-97. The study observes that the worrying aspect of the trajectory of debt among the major states is that the more indebted states prior to 1997 in general saw larger increases in their debt ratio and the study concluded that all of the states in India are in need of fiscal correction and the differences across states lie only in the degree and urgency of the corrective action called for.

As regards analytical study on 'public debt - its sustainability or its impact on growth' for the State of Mizoram is concerned, even though persistent and rapid growth of state debt in Mizoram has been one of the most debated issues and a widely known fact among policy makers, intellectuals and common people alike, the topic has been given relatively little analytic attention even by the researching community. However, the available literature and discussion on issues pertaining to public debt in Mizoram are mostly from government reports and tend to confine themselves on simple presentation of trends and compositions.

### **1.5 Scope and objectives of the study:**

There is growing awareness of the urgent need to contain public debt at sustainable level in India both at the centre and the states. The issue of public debt has become a crucial one primarily at the states and it is widely

recognized that the large overhang of debt of almost all states government has implied such large interest payments that the states are effectively crippled with respect to the ability to undertake important socially necessary expenditure (Ghosh 2005)<sup>36</sup>. The need to restructure public debt at almost all the states in India has therefore been widely accepted. Studies on dimensions and policy implications on public debt at the state level have become an emerging topic in the policy research agenda.

Public debt position in Mizoram has been alarmingly high since the last few years. Vanlalchhawna (2001)<sup>37</sup> argued that, “The state is heavily dependent in fiscal transfers from central government. State’s own revenue contributes less than one-tenth of the total receipts of the state while state’s borrowings increased significantly. The state government fails to check the growth of unproductive expenditure and increase the rate of investment in social and economic services. As state debt builds up, interest payments have grown rapidly. State’s plan outlay has been financed mainly from central assistance as state’s own resources are negligible and sometimes less than zero”. The state financial position, in particular indebtedness, clearly calls for a closer study to assess policy action required for immediate and proactive fiscal adjustment on the part of the state government.

The issue of public debt in Mizoram has assumes greater significance considering the sole dependency of the population on the government for providing public goods and the rapid growth of state indebtedness has been a

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<sup>36</sup> **Ghosh, Jayanti** (2005), “Twelfth Finance Commission and Restructuring of Sate Government Debt: A note”, EPW July 30, p.3435 – 3439.

<sup>37</sup> **Vanlalchhawna** (2002), “Prospect of Economic Development in Mizoram: The Role of State Finances”, Seminar paper, Mizoram College Teachers Association (MCTA) Conference, Aizawl.

hot topic in the debate and a widely known fact among policy makers, intellectuals and common people alike. However, the topic has been given relatively little analytic attention. As of now, the available literature and discussions on issues pertaining to public debt in Mizoram are mostly from government reports and tend to confine themselves on simple presentation of trends and compositions. Since the problem of indebtedness of the state government is persisting and become even worse over the years, an in-depth study of the topic poses serious challenge to the economic researching community. At this backdrop, the main objective of the proposed study would be to examine and assess the underlying public debt situation in Mizoram by using relevant analytical frameworks along the following lines:

- a) To investigate the determinants or factors behind the rapid growth of public debt in Mizoram in order to probe whether a steady deterioration or vice versa in the quality of public expenditure contributed to the rapid growth of public debt in Mizoram.
- b) To analyze the trends, magnitude and compositions of public debt in Mizoram since 1987-88. The study proposed to look into the dimensions and the changing share in components of the State public debt.
- c) To examine the sustainability status of public debt in Mizoram by using analytical framework and to find out and highlight the types of corrective measures or policy actions required to solve or reduce the problems.
- d) To analyze the impact of public debt on GSDP growth by employing econometric analysis.

The analysis, besides examining trends, magnitude, composition and determinants of public debt in Mizoram, would make an attempt to assess sustainability status of the State's debt and the types of corrective measures or policy actions to solve or moderate the problems. The study will further attempted to analyze empirical evidence of the impact of public debt on economic growth in the State. The study will cover public debt position in the State since the year 1987-88 (the year in which Mizoram attained fully fledged statehood) till 2010-11 (BE).

### **1.6 Hypotheses:**

Given the context and the broad objectives of the research, the following hypotheses are placed for obtaining an adequate explanation of public debt situations in Mizoram and to obtain useful observation on policy implications:

- a) There has been persistent and rapid growth of public debt in Mizoram.
- b) There has been an increase in public expenditure and steady deterioration in the quality of public expenditure which has contributed to the rapid growth of public debt in the State.
- c) The amount of public debt stock in Mizoram is not sustainable.
- d) High public debt in Mizoram is contributing negatively to economic growth.

## **1.7 Data Base and Research Methodology:**

Much of the empirical research in the study is based on the analysis of secondary data derived from various sources. Major sources of data for the study includes (i) The Reserve Bank of India's report on State Finances in India {various issues} (ii) The Comptroller and Auditor General of India (CAG) Reports on State Finance (iii) State government budget documents (iv) The reports of Finance Commission etc. Since the Reserve Bank of India (RBI) has been the main authentic source of regular information and analysis of State finances on a consolidated and annual basis, major source of data is the RBI publication of state finances in India and study of state budgets.

Statistical analysis on trends of public debt in Mizoram covering the period from 1987 to 2011 is undertaken by taking into account the trends in public debt as a whole and the changing share of different components, maturity pattern, debt servicing and obligations to interest payment. Though loans and advances from the central government constitute the major share in the total debt of the state, it is important to study whether there is a shift towards high cost market borrowing that has resulted in increased debt burden since market loans are high interest bearing with short maturity period.

The study attempted to investigate the determinants or factors behind the rapid growth of public debt in Mizoram by looking into the expenditure pattern of the State government in order to probe whether a steady deterioration or vice versa in the quality of public expenditure contributed to the rapid growth of public debt in the State. Popular belief is that a steady deterioration in the quality of public expenditure of the State has led to the rapid growth of public debt. It is often being accused that the mounting public

debt in the State lies in rapidly growing wasteful and avoidable non-developmental public expenditure. The study attempted to answer the above question by investigating developmental and non-developmental public expenditure pattern of the State government.

To get a better insight into the sustainability status of public debt in Mizoram, the magnitude or extent expressed in terms of debt as a percentage of Gross State Domestic Products (GSDP) and primary deficit over time will be examined and the sustainability questions will be addressed by using statistical analytical framework. The study will assess debt sustainability in Mizoram on the basis of indicators analysis of the debt stock and debt service burden relative to various measures of repayment capacity such as GSDP and State government own revenues. Further, the study will investigate the link between public debt and GSDP growth. To find out empirically the relationship between GSDP and Public Debt in the State, the study analyzes annual time series data from 1987-88 to 2010-11 (BE). The study first employed correlations analysis to check the association and interdependence of variables. Augmented Dickey–Fuller (ADF) test has been used to check the series whether it is normal and stationary. The study then conduct Pair-wise Granger Causality test to find out causal relationship between debt and growth. The study also checked the assumptions of the CLRM and employed regression analysis to predict continuous dependent variables from a number of independent variables. To check the robustness of the result, Breuch-Godfrey Serial Correlation LM Test, and ARCH LM test for Heteroscedasticity Test will be used.

## **1.8 Organization of the Manuscript:**

The thesis is divided into seven chapters. First chapter of the thesis presents overview and design of the research. Second chapter examines expenditure patterns of total public expenditure, and revenue and capital expenditure separately. The chapter also examines trends in developmental and non-developmental expenditure. The third chapter analyzes trends in the key fiscal deficit/surplus indicators of the State government and conduct in-depth studies on the composition of fiscal deficit and its financing. The chapter also analyses trends in the State's own resources. Further, the chapter provides assessment of fiscal performance vis-à-vis the State government's target under FRBMA and Debt Management Manual. The fourth chapter provides detail of the magnitude and dimensions of the public debt and analyses the changing compositions. The analysis takes into account the trends in public debt as a whole and the changing share of different components. The fifth chapter presents an assessment of the sustainability of public debt in Mizoram. It analyses the outstanding debt profile, maturity and debt service burden and assessed public debt / fiscal sustainability based on Domar Stability Condition and Indicators Analysis. The sixth chapter provides empirical analysis of the impact of Public Debt to GSDP growth by employing econometric analysis. The seventh chapter provides summary of the research findings and provides policy implications to give constructive suggestions on policy measures to correct the problem or appropriate policy actions based on the research findings.

## **CHAPTER – 2**

# **Growth and Development of Library Network and Digital Library**



## Chapter II

### TRENDS IN PUBLIC EXPENDITURE PATTERN

#### 2.1 Introductory Statement:

The expenditure of governments in recent years has been steadily increased due to both an intensive and an extensive expansion of government functions. This increase in public expenditure has often results in budgetary deficits forcing the government to resort to public borrowing, both from internally and externally, on a large scale. Thus, in order to understand the complete debt dynamics, it is useful to first study the public expenditure patterns. This chapter, therefore, studies expenditure patterns of Government of Mizoram.

#### 2.2 Trends in Public Expenditure Pattern:

Accounts of the State government are maintained in three parts. Part one forms the Consolidated Fund of the State, part two forms the Contingency Fund of the State and part three covers the transactions in the Public Account<sup>38</sup>. *The Consolidated Fund* consists of two main accounts, namely (1) Revenue Account, and (2) Capital Account. Both these Accounts are in turn, in two parts, viz. (a) Receipts and (b) Expenditure/Disbursements. Receipts on Revenue Account consists of income derived from taxes / duties (including share of Union Taxes/duties, fees for services rendered and from non-tax revenues like forest, irrigation, power, road transport, royalties and grants-in-aid from Central Government). Corresponding revenue expenditure in general

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<sup>38</sup> **Government of Mizoram**, Department of Finance, “Explanatory Memorandum on the Budget 2011-2012”, 14<sup>th</sup> July 2011

does not result in asset formation and expended for such items like those payment of salaries, pension, interest, office and allied expenses, maintenance of capital assets and minor works costing below the prescribed limits, are booked under revenue account. The receipts book under Capital account consist of loans received from the Government of India or raised from various other sources (like market, financial institutions etc.), ways and means advances from the Reserve Bank of India, cash credit accommodation from the State Bank of India, or any other Bank, and all moneys received by the State Government by way of recovery of loans and advances made to various parties. The disbursements on the capital account include outlays which go in for creation of assets, loans and advances made to various parties and repayment of loans obtained.

*Contingency Fund* in Part II is for making advances for urgent and unforeseen expenditure which are recouped to the fund by debit to the Consolidated Fund, after obtaining Supplementary grants for such expenditure. All public moneys received by or on behalf of the State Government which cannot be booked in the Consolidated Fund are credited to the *Public Account* of the State. For payments out of the Public Account, no demand is required to be presented to the Legislature and the requirements are made from time to time as they arise. These demands are in the nature of banking transactions, State Provident Fund, Reserve Funds created by the Government by appropriation from Revenue, miscellaneous deposits; remittances and suspense are included in the Public Accounts. The moneys lying in the Public Account do not really belong to the Government and they have to be paid back some time or the other to the public as in the case of the State Provident Fund, deposits of local bodies, or to be utilized by the

Government in an agreed manner as in the case of Reserve Funds set up for special purposes.

The study will look into the Consolidated Fund on the expenditure side at the aggregates level and on the two accounts, namely Revenue Account, and Capital Account separately.

***Trends in total public expenditure:*** Public expenditure is also referred to as government expenditure. It is incurred by the government to provide public goods and services, and to service its debts. As shown in table 1, there has been tremendous increase in total public expenditure in Mizoram during the study period 1987-88 to 2010-11. The total public expenditure increased from Rs. 306 crores in 1987-88 to Rs. 3869 crores in 2009 - 10 (RE) in absolute terms. Moreover, the ratio of public expenditure to Net State Domestic Product has been extremely high during the study period. Public expenditure as a percentage of Net State Domestic Product peaked at 164.1 percent in 1990-91 and is lowest at 72.7 percent in 2002-03 during the study period. In spite of this fact, a sizeable portion of the population in Mizoram (15.30 percent based on Tendulkar Methodology<sup>39</sup>) remains living below the poverty line failing to obtain even the necessities for human survival. Both physical and social infrastructure has remained uncomfortably poor in the State. For example, household access to drinking water in terms of percentage to total population is among the lowest at 36 percent as compared to 77.9 percent for all India (Government of India, Economic Survey, 2010-11 pg A124). In short, significant portion of the State population hardly derive any significant benefit from the mounting public expenditure.

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<sup>39</sup> **Planning Commission of India**, Press Note on Poverty Line downloaded from [http://planningcommission.nic.in/reports/genrep/Press\\_pov\\_27Jan11.pdf](http://planningcommission.nic.in/reports/genrep/Press_pov_27Jan11.pdf) on 29th December 2011

**Table 1: Trends in Public Expenditure as percentage of NSDP (Rs Crore)**

Year	Government Expenditure	Net State Domestic Product (At current prices)	% of Government expenditure to NSDP
1987-88	306	259.00	118.1
1988-89	287	260.00	110.4
1989-90	304	281.00	108.2
1990-91	502	306.00	164.1
1991-92	414	417.00	99.3
1992-93	490	478.00	102.5
1993-94	522	618.00	84.5
1994-95	593	672.00	88.2
1995-96	715	859.00	83.2
1996-97	810	983.00	82.4
1997-98	870	1022.00	85.1
1998-99	893	1139.00	78.4
1999-2000	1160	1410.00	82.3
2000-01	1288	1567.00	82.2
2001-02	1333	1752.00	76.1
2002-03	1405	1933.00	72.7
2003-04	1826	2083.00	87.7
2004-05	1817	2400.00	75.7
2005-06	2172	2664.00	81.5
2006-07	2295	2944.00	78.0
2007-08	2559	3411.00	75.0
2008-09	3386	4187.00	80.9
2009-10	3869 (RE)	5078.00	76.2
2010-11	3578 (BE)	NA	NA

**Source:** Reserve Bank of India - Handbook of Statistics on State Government Finances 2010 and Handbook of Statistics of the Indian Economy 2010-11, State Finances: A Study of Budgets 2010 -11

### **2.3 Trends in the Share of Revenue Expenditure and Capital Expenditure:**

The unprecedented and uncontrolled growth in revenue or current expenditure of the State government has been an important cause for the burgeoning government expenditure. As shown in table 2, the percentage share of revenue expenditure to total public expenditure has always been extremely high during the study period peaked at 84.62 percent in 2001-02

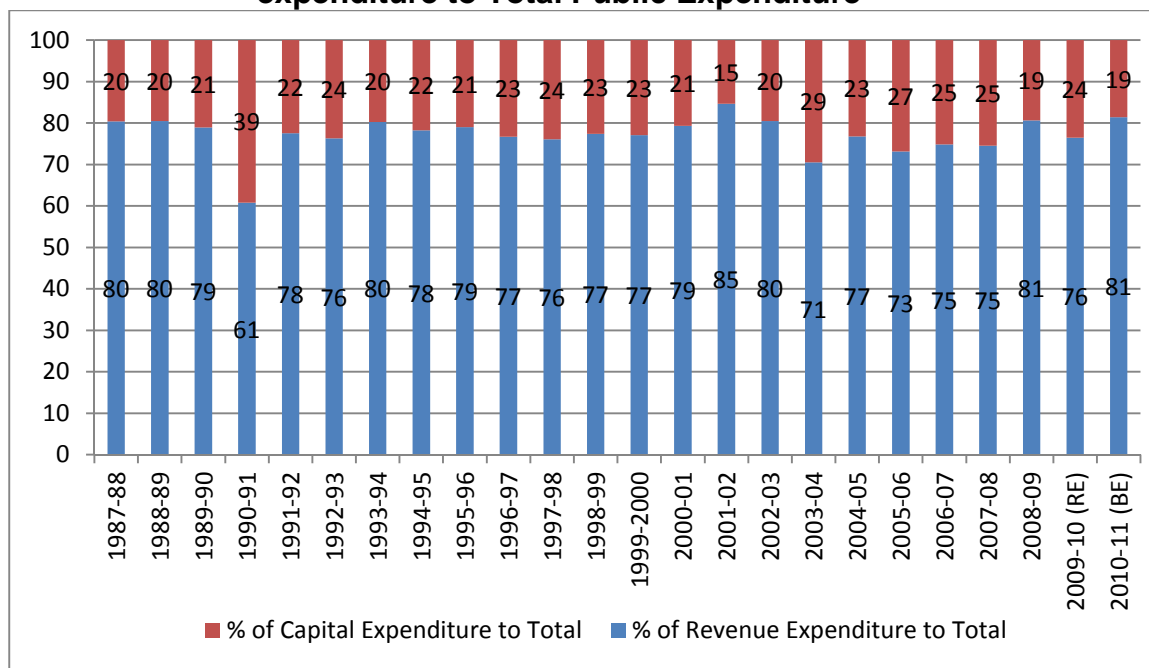
and lowest at 60.8 percent in 1990-91. On the average during the study period, revenue expenditure account for 77.3 percent and capital expenditure account for merely 22.7 percent. As stated earlier, revenue expenditure is in the nature of current consumption and capital expenditure is on investments. Even though revenue expenditure is not all unproductive, larger share of capital expenditure has implications for growth prospects of the State.

**Table 2: Trends in Public Expenditure Patterns (Rs crore)**

Year	Revenue Expenditure	% of Revenue Expenditure to Total	Capital Expenditure	% of Capital Expenditure to Total	Total Expenditure
1987-88	246	80.39	60	19.61	306
1988-89	231	80.49	56	19.51	287
1989-90	240	78.95	64	21.05	304
1990-91	305	60.76	197	39.24	502
1991-92	321	77.54	93	22.46	414
1992-93	374	76.33	116	23.67	490
1993-94	419	80.27	103	19.73	522
1994-95	464	78.25	129	21.75	593
1995-96	565	79.02	150	20.98	715
1996-97	621	76.67	189	23.33	810
1997-98	662	76.09	208	23.91	870
1998-99	691	77.38	202	22.62	893
1999-2000	894	77.07	266	22.93	1160
2000-01	1022	79.35	266	20.65	1288
2001-02	1128	84.62	205	15.38	1333
2002-03	1131	80.50	274	19.50	1405
2003-04	1288	70.54	538	29.46	1826
2004-05	1394	76.72	423	23.28	1817
2005-06	1588	73.11	584	26.89	2172
2006-07	1717	74.81	578	25.19	2295
2007-08	1908	74.56	651	25.44	2559
2008-09	2314	80.66	555	19.34	2869
2009-10 (RE)	2957	76.43	912	23.57	3869
2010-11 (BE)	2912	81.39	666	18.61	3578

**Source:** RBI - Handbook of Statistics on State Government Finances 2010 and State Finances: A Study of Budgets 2010 -11

**Figure 1: Percentage share of Revenue expenditure and Capital expenditure to Total Public Expenditure**



## 2.4 Trends in the Share of Developmental Expenditure and Non-Developmental Expenditure:

Public expenditure whether capital or revenue is classified into developmental and non-developmental depending on the nature of government expenditures. It is perhaps the most significant classification of expenditure in terms of quality of government expenditure. Developmental expenditure is that which contributes directly or indirectly to the production levels and productive capacity of the State. It includes expenditure on social services such as education, health, social welfare, etc. and on economic services such as agriculture & rural development, industry, transport, etc. Expenditure on general services such as administration, police, pensions and debt servicing are non-developmental in character. Developmental expenditure is both, investment and consumption expenditure, but practically

all non-developmental expenditure is in the nature of consumption expenditure.

A disconcerting aspect of the Mizoram State fiscal performance has been the attrition in development momentum as reflected in abating share of developmental expenditure in the total public expenditure. The declining trend in developmental expenditure is found in both revenue and capital expenditures.

As shown in table 3, even though developmental expenditure has always been more than 60 percent in the revenue account, percentage share of non-developmental expenditure has been increasing albeit gradually and the percentage share of developmental expenditure has shown a steady fall. Developmental expenditure, as a proportion of total revenue expenditure decreased from 71.1 percent in 1990-91 to 63.5 percent in 2010-11 (BE) 2000 while non-developmental expenditure increased from 28.9 percent to 36.5 percent during the same period.

As shown in table 4, even though average share of developmental expenditure in the capital account during 1990-91 to 2010-11 (BE) is 78.9 percent, it has shown a declining trends from 89.2 percent in 1991-92 to 58.3 percent in 2010-11 (BE) during the study period. Meanwhile non-developmental expenditure increased at an uncomfortable pace from 10.8 percent in 1991-92 to as high as 41.7 percent in 2010-11 (BE). Since, capital account is more in the nature of investment and as such expenditure on this account is expected to have resulting in creation of assets. Persistent increase of non-developmental expenditure in the capital account is

worrisome as much of the capital account is expected to finance by creating debts.

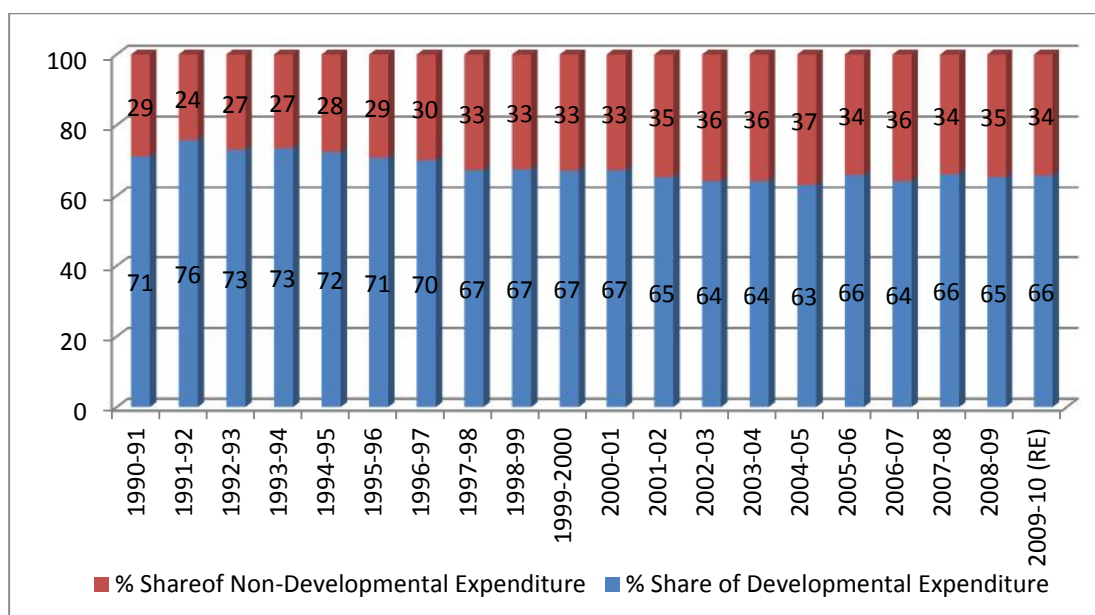
**Table 3: Share of developmental and non-developmental expenditure in the total revenue expenditure (Rs crores)**

Year	Developmental Expenditure	% Share to total revenue expenditure	Non-Developmental Expenditure	% Share to total revenue expenditure	Total revenue expenditure
1990-91	217	71.1	88	28.9	305
1991-92	243	75.7	78	24.3	321
1992-93	273	73.0	101	27.0	374
1993-94	307	73.4	111	26.6	418
1994-95	335	72.4	128	27.6	463
1995-96	400	70.8	165	29.2	565
1996-97	435	70.0	186	30.0	621
1997-98	445	67.2	217	32.8	662
1998-99	466	67.4	225	32.6	691
1999-2000	600	67.1	294	32.9	894
2000-01	687	67.2	335	32.8	1022
2001-02	736	65.2	392	34.8	1128
2002-03	725	64.1	406	35.9	1131
2003-04	825	64.1	463	35.9	1288
2004-05	880	63.1	515	36.9	1395
2005-06	1046	65.9	542	34.1	1588
2006-07	1100	64.1	617	35.9	1717
2007-08	1262	66.1	646	33.9	1908
2008-09	1510	65.3	804	34.7	2314
2009-10 (RE)	1945	65.8	1012	34.2	2957
2010-11 (BE)	1849	63.5	1063	36.5	2912

**Source:** RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11



**Figure 2: Percentage share of Developmental Expenditure and Non-Developmental Expenditure in the Total Revenue Expenditure**

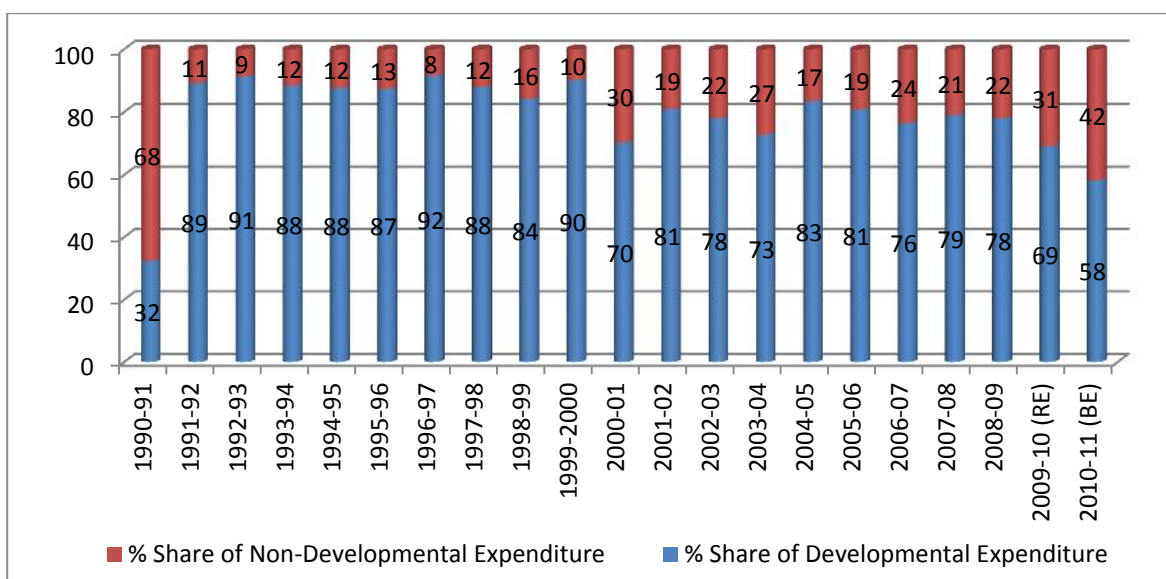


**Table 4: Share of developmental and non-developmental expenditure in the total capital expenditure (Rs crores)**

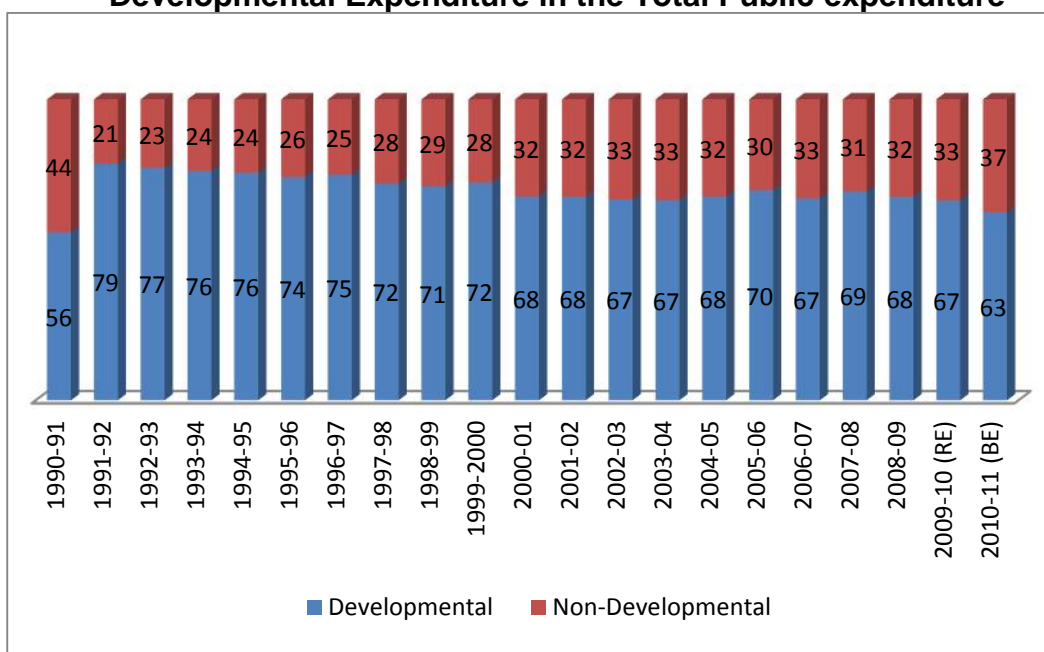
Year	Developmental Expenditure	% Share to total capital expenditure	Non-Developmental Expenditure	% Share to total capital expenditure	Total capital expenditure
1990-91	64	32.5	133	67.5	197
1991-92	83	89.2	10	10.8	93
1992-93	106	91.4	10	8.6	116
1993-94	91	88.3	12	11.7	103
1994-95	113	87.6	16	12.4	129
1995-96	131	87.3	19	12.7	150
1996-97	173	91.5	16	8.5	189
1997-98	183	88.0	25	12.0	208
1998-99	170	84.2	32	15.8	202
1999-2000	240	90.2	26	9.8	266
2000-01	187	70.3	79	29.7	266
2001-02	166	81.0	39	19.0	205
2002-03	214	78.1	60	21.9	274
2003-04	392	72.9	146	27.1	538
2004-05	353	83.5	70	16.5	423
2005-06	472	80.8	112	19.2	584
2006-07	442	76.5	136	23.5	578
2007-08	515	79.1	136	20.9	651
2008-09	433	78.0	122	22.0	555
2009-10 (RE)	630	69.1	282	30.9	912
2010-11 (BE)	388	58.3	278	41.7	666

**Source:** RBI - RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11

**Figure 3: Percentage share of Developmental Expenditure and Non-Developmental Expenditure in the Total Capital Expenditure**



**Figure 4: Percentage share of Developmental Expenditure and Non-Developmental Expenditure in the Total Public expenditure**



**2.5 Concluding Statement:**

The chapter analyzes public expenditure patterns of the Government of Mizoram. It analyses public expenditure patterns of both the revenue and

capital accounts, and further analyzes trends in both the developmental and non-developmental public expenditures.

There has been tremendous increase in the total public expenditure in Mizoram during the study period 1987 to 2011. The total public expenditure increased from Rs. 306 crores in 1987-88 to as much as Rs. 3869 crores in 2009- 10 (RE) in absolute terms. Moreover, the ratio of public expenditure to Net State Domestic Product (NSDP) has always been high during the study period. Public expenditure as a percentage of Net State Domestic Product peaked at 164.1 percent in 1990-91 and is lowest at 72.7 percent in 2002- 03 during the study period.

The percentage share of revenue expenditure to the total public expenditure has always been uncomfortably high during the study period which peaked at 84.62 % in 2001-02 and lowest at 60.8 percent in 1990-91. On an average, during the study period, revenue expenditure accounted for 77.3 percent and capital expenditure accounted for merely 22.7 percent.

Developmental expenditure has always been more than 60 percent in the revenue account, percentage share of non-developmental expenditure has been increasing albeit gradually and the percentage share of developmental expenditure has shown a steady fall. Developmental expenditure, as a proportion of the total revenue expenditure decreased from 71.1 percent in 1990-91 to 63.5 percent in 2010-11 (BE) 2000 while non-developmental expenditure increased from 28.9 percent to 36.5 percent during the same period.

The share of developmental expenditure in the capital account during 1990-91 to 2010-11 (BE) is 78.9 percent. But it has shown a declining trends

from 89.2 percent in 1991-92 to 58.3 percent in 2010-11 (BE). Meanwhile non-developmental expenditure has increased at an uncomfortable pace from 10.8 percent in 1991-92 to as high as 41.7 percent in 2010-11 (BE) during the study period. Since, capital account is more in the nature of investment and as such expenditure on this account is expected to have resulting in creation of assets. Persistent increase in the share of non-developmental expenditure in the capital account is worrisome as much of the capital account is expected to be finance by creating debts.

Analysis of the public expenditure patterns in Mizoram indicated that there have been fiscal imbalances in the State government finance during the study period. The period witnessed enormous increase in public spending and the increase has shown a more rapid increase in the share of non-developmental expenditure. This trend is experienced both in the revenue and capital accounts of the State government.

## **CHAPTER- 3**

### **Library Consortia: Organization and Services.**

## Chapter III

### TRENDS IN KEY FISCAL INDICATORS

#### 3.1 Introductory Statement:

A cursory glance at the trends and patterns of key fiscal indicators during the study period (1987–2011) helps us understand the relationship between fiscal expansion and accumulation of public debt of the Mizoram Government. We have seen from the previous chapter that there has been persistent increased in public expenditure during the study period. Unfortunately, we have also find that the percentage share of non-developmental expenditure has increased significantly while the percentage share of developmental expenditure show a declining trends. The present chapter analyzes trends in key fiscal deficit / surplus indicators. The analysis is based on annual time series corresponding to the fiscal year (1 April to 31 March).

#### 3.2 Trends in Key Fiscal Deficit / Surplus Indicators:

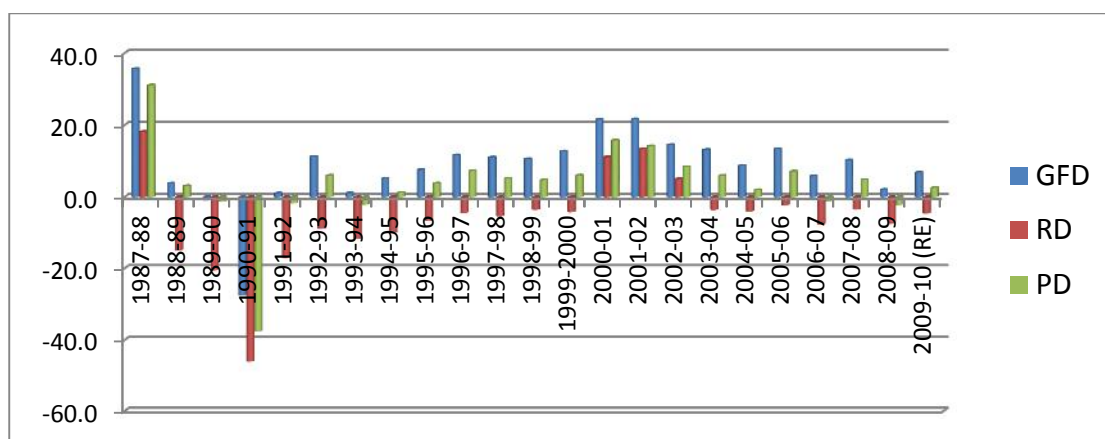
***Fiscal Deficit.*** The difference between total revenue and total expenditure of the government is termed as fiscal deficit. It is an indication of the total borrowings needed by the government. While calculating the total revenue, borrowings are not included. *Gross Fiscal Deficit* (GFD) is the difference between aggregate disbursements net of debt repayments and recovery of loans and revenue receipts and non-debt capital receipts. As shown in table 5, barring two years (1989-90 and 1990-91) Mizoram government has been continuously running fiscal deficits during the study

period. The period from 1994-95 onwards has shown persistent increase in the fiscal deficits. In terms of percentage to GSDP, as shown in table 6, it has been painfully high in most of the years. However, it has shown a declining trend though scattered year on year from as high as 35.7 percent deficit in 1987-88 to 6.9 percent in 2009-10 (RE). The next section will look into detail of financing of these deficits.

**Primary deficit:** Primary deficit is a part of fiscal deficit. It is calculated by deducting interest payment from fiscal deficit. Interest payment is the payment that a government makes on its borrowings to the creditors. As shown in the table 5 and 6, Primary Deficit has been persistently high during the study period and there has been minus sign in primary deficit (i.e surplus) in the years 1989-90, 1990-91, 1991-92, 1993-94, 2006-07, 2008-09, 2010-11 (BE) indicating that interest payments by the State government has been higher than the Gross Fiscal Deficit in those years.

**Revenue deficit:** Revenue deficit arises when the government's actual net receipts is lower than the projected receipts. On the contrary, if the actual receipts are higher than expected one, it is termed as revenue surplus. During the study period there has been revenue surplus (minus sign) except in four years (1987-88, 200-01, 2001-02, and 2002-03). However, this does not mean that the State government is running a fiscal surplus as has been shown by Gross Fiscal Deficit.

**Figure 5: Trends in key fiscal indicators (% of GSDP)**



**Table 5: Key fiscal deficit/surplus indicators (Rs crores)**

Year	Gross Fiscal Deficit	Revenue Deficit	Primary Deficit
1987-88	102	52	89
1988-89	11	-43	9
1989-90	-3	-64	-4
1990-91	-94	-157	-128
1991-92	5	-79	-8
1992-93	60	-47	32
1993-94	8	-84	-15
1994-95	38	-75	9
1995-96	71	-62	36
1996-97	125	-47	78
1997-98	124	-60	58
1998-99	132	-44	59
1999-2000	179	-59	85
2000-01	375	193	274
2001-02	422	260	276
2002-03	315	109	182
2003-04	306	-83	139
2004-05	234	-107	53
2005-06	397	-66	212
2006-07	191	-252	-38
2007-08	392	-131	183
2008-09	94	-339	-99
2009-10 (RE)	386	-257	145
2010-11 (BE)	42	-342	-178

Minus sign (-) indicates surplus in the deficit indicators

**Source:** RBI – RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11



**Table 6: Key Fiscal Deficit Indicators as percentage of GSDP**

Year	GFD/GSDP	RD/GSDP	PD/GSDP
1987-88	35.7	18.2	31.1
1988-89	3.8	-14.9	3.1
1989-90	-1.0	-20.5	-1.3
1990-91	-27.6	-46.0	-37.5
1991-92	1.1	-17.0	-1.7
1992-93	11.3	-8.8	6.0
1993-94	1.1	-11.8	-2.1
1994-95	5.1	-10.1	1.2
1995-96	7.6	-6.6	3.8
1996-97	11.7	-4.4	7.3
1997-98	11.0	-5.3	5.2
1998-99	10.6	-3.5	4.7
1999-2000	12.7	-4.2	6.0
2000-01	21.6	11.1	15.8
2001-02	21.7	13.4	14.2
2002-03	14.5	5.0	8.4
2003-04	13.2	-3.6	6.0
2004-05	8.7	-4.0	2.0
2005-06	13.4	-2.2	7.1
2006-07	5.8	-7.7	-1.2
2007-08	10.3	-3.4	4.8
2008-09	2.1	-7.4	-2.2
2009-10 (RE)	6.9	-4.6	2.6

Minus sign (-) indicates surplus in the deficit indicators

*Source: RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11*

### **3.3 Decomposition of Fiscal Deficit:**

Generally fiscal deficit takes place due to either revenue deficit or high capital expenditure. Capital expenditure is incurred to create long-term assets such as factories, buildings and other development. As long as fiscal deficit is used to finance for investments to create assets and other developmental purposes, accumulation of debt may be justified. In order to understand

whether this has been the case in Mizoram, this section will analyze decomposition of fiscal deficits during the study period.

As shown in table 7, fiscal deficit of Government of Mizoram is decomposed into three major categories namely, revenue deficit, capital outlay and net lending. Barring four years (1987-88, 2000-2001, 2001-02, and 2002-03), Mizoram Government has revenue surplus in all other years during the study period. It implies that fiscal deficit had not been due to the revenue deficits except for the four years noted above. Net lending has not been very significant but it has shown on the surplus side from 2006-07 onwards. Capital outlay figure indicated that fiscal deficit has always been largely on account of capital expenditure for assets creation during the study period.

**Table 7: Decomposition of Fiscal Deficit (Rs crores)**

Year	Revenue Deficit	Capital Outlay	Net Lending	GFD
1987- 1988	52	44	6	102
1988 - 1989	-43	46	8	11
1989 - 1990	-64	52	9	-3
1990 - 1991	-157	58	5	-94
1991 - 1992	-79	76	8	5
1992 - 1993	-47	96	11	60
1993 - 1994	-84	83	9	8
1994 - 1995	-75	106	8	38
1995 - 1996	-62	124	9	71
1996 - 1997	-47	160	13	125
1997 - 1998	-60	167	17	124
1998 - 1999	-44	143	34	132
1999 - 2000	-59	205	34	179
2000 - 2001	193	164	18	375
2001 - 2002	260	139	23	422
2002 - 2003	109	188	18	315
2003 - 2004	-83	372	17	306
2004 - 2005	-107	330	12	234
2005 - 2006	-66	451	11	397
2006 - 2007	-252	466	-24	191
2007- 2008	-131	544	-21	392
2008 - 2009	-339	441	-7	94

2009-2010 (RE)	-257	648	-5	386
2010-11 (BE)	-342	388	-5	42

Minus sign (-) indicates surplus in the deficit indicators

**Source:** RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11

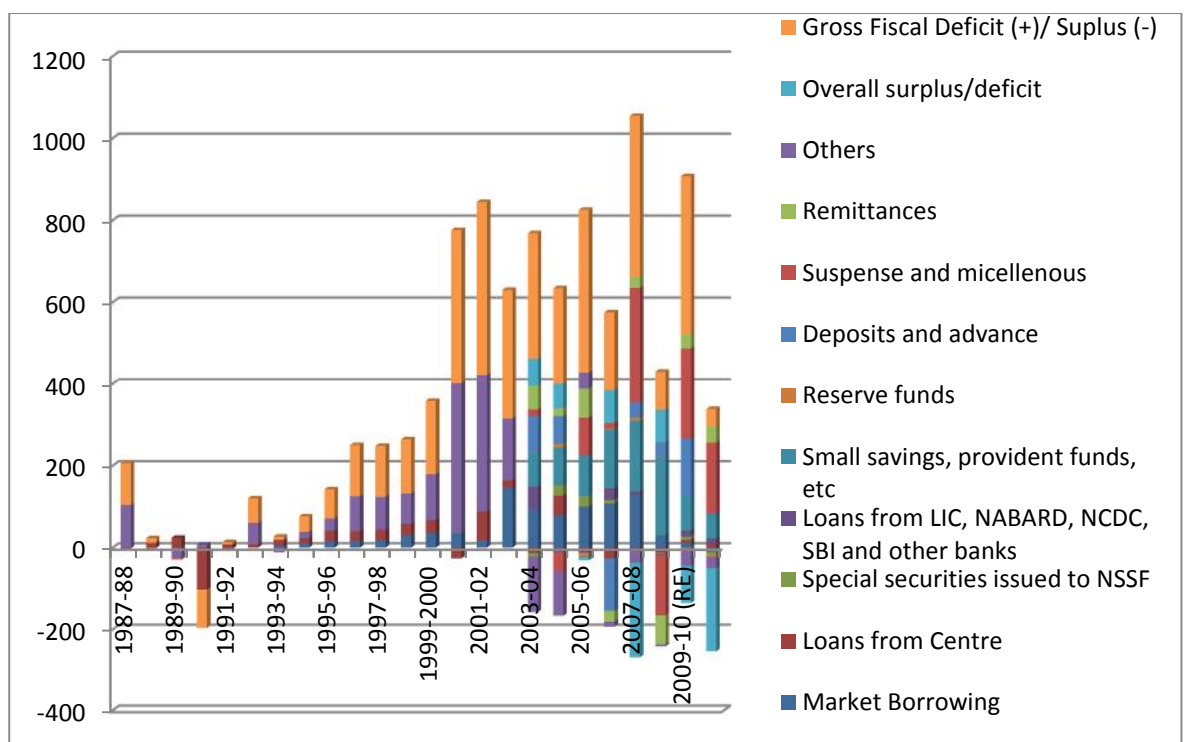
### 3.4 Financing of Fiscal Deficit:

The Reserve Bank of India has classified financing of fiscal deficit at sub-national (state) level into various categories, namely market borrowing, loans from central government, special securities issues to National Small Savings Fund (NSSF), loans from Life Insurance Corporation (LIC), National Bank for Agriculture and Rural Development (NABARD), National Cooperative Development Corporation (NCDC), State Bank of India (SBI) and other Banks, Small Savings and provident funds etc, reserve funds, deposits and advances, suspense and miscellaneous, remittances and other (including loans from other institutions, compensation bonds, appropriation of contingency fund, inter-state settlement and contingency fund).

The financing of fiscal deficit during the study period based on the RBI classification as explained above is shown in table 8. More diverse sources of financing have been witnessed since 2004. While detail analysis of the financing of fiscal deficit in the state is beyond the objectives of this study it is important to note that, as may be seen from table 8, market borrowing has been one of the major source of financing fiscal deficit in the state government. A more detail picture on market borrowings by the state government will be conducted in the forthcoming chapter. Small savings, provident fund etc., suspense and miscellaneous, and others (that includes loans from other institutions, compensation bonds, appropriation of contingency fund, inter-state settlement and contingency fund) categories has

been contributing a substantive portions. Loans from the centre have shown declining trends. Surprisingly, remittances have also form a significant portion of the financing in some years but it has not been increasing overtime and its share has not been consistent during the study period. Details of the financing of fiscal deficit in the State may be seen from table 8.

**Figure 6: Financing of Fiscal Deficit**



**Table 8: Financing of Fiscal Deficits (Rs crores)**

Year	Market Borrowing	Loans from Centre	Special securities issued to NSSF	Loans from LIC, NABARD, NDCDC, SBI and other banks	Small savings, provident funds, etc	Reserve funds	Deposits and advance	Suspense and micellenous	Remittances	Others	Overall surplus/deficit	Gross Fiscal Deficit (+)/ Suplus (-)
1987-88		-2								104		102
1988-89		12								-1		11
1989-90		24								-27		-3
1990-91		-102								8		-94
1991-92		8								-3		5
1992-93		8								52		60
1993-94	5	14								-11		8
1994-95	10	13								15		38
1995-96	15	26								30		71
1996-97	16	24								85		125
1997-98	18	26								80		124
1998-99	30	28								74		132
1999-2000	35	32								112		179
2000-01	35	-26								366		375
2001-02	17	71								334		422
2002-03	146	18								151		315
2003-04	96	-13	-9	53	84	1	87	16	58	-135	67	306
2004-05	79	48	25	-10	92	9	68	-47	19	-109	60	234
2005-06	100	-9	26	-3	99	-9	-2	92	71	40	-8	397
2006-07	108	-26	8	29	143	2	-128	14	-27	-12	80	191
2007-08	129	-7	-1	8	172	8	37	281	27	-29	-232	392
2008-09	30	-12	-2	-2	188	1	38	-149	-72	-5	79	94
2009-10 (RE)	12	7	8	15	84	-5	140	221	34	-39	-91	386
2010-11 (BE)	-10	9	-7	13	60	-5	1	173	40	-28	-204	42

"other" include loans from other institutions, compensation bonds, appropriation of contingency fund, inter-state settlement and contingency fund

### **3.5 Trends in the State's Own Revenue:**

The analysis in the previous sections clearly indicates serious imbalances in the State fiscal condition. Government expenditures have been escalated at a very fast rate necessitating huge fiscal deficits during the study period. Restoring fiscal balance, however, will have to be achieved mainly by States' own effort. In order to understand the position in Mizoram, this section will analyze trends in State's own revenue both own tax revenue and non-tax revenue during the study period.

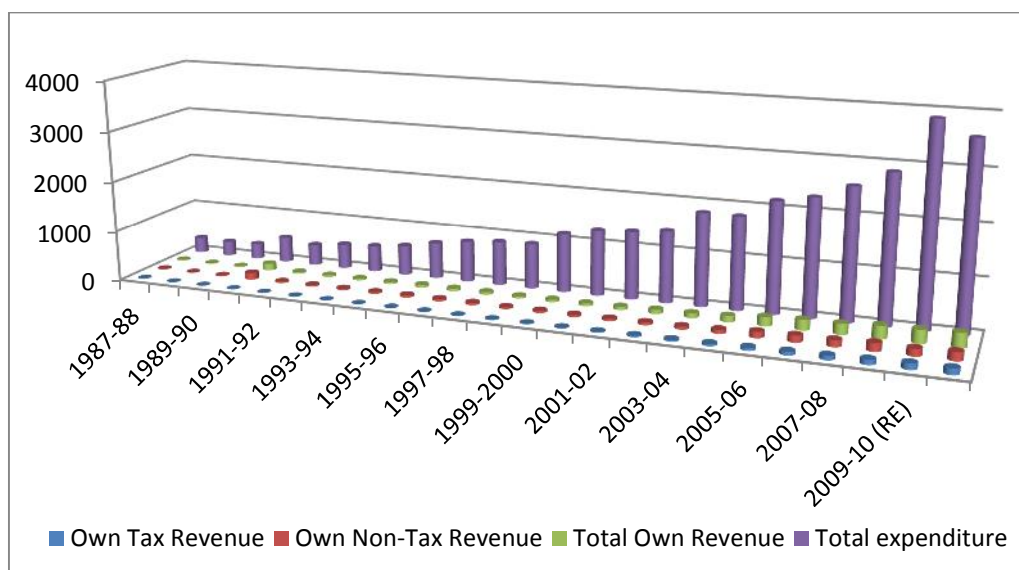
The State's own tax revenue includes sales tax, state excise, stamp duty and registration charges etc. As shown in table 9, share of tax revenue to total state's own revenue has been increased from 25 percent in 1987-88 to 42 percent in 2010-11 (BE). However, the share of State's own tax revenue to total public expenditure has been extremely low during the study period remaining below 3.5 percent during the study period and it has been increased only gradually from 1.3 percent in 1987-88 to 3.3 percent in 2010-11 (BE). The growth of States' own tax revenue has not at all been impressive during the study period.

State's own non-tax revenues comprises of interest receipts, dividends, royalty receipts, forestry receipts, fees and charges for various services provided by the government etc. The share of non-tax revenue to the total State's own revenue declined from 75 percent in 1987-88 to 58 percent in 2010-11 (BE). However, the performance in terms of total public expenditure is not impressive as average percentage share of State's own non-tax revenue to total public expenditure is only at 6 percent. The nominal growth in State's own non-tax revenue is mainly due to the State's inability to

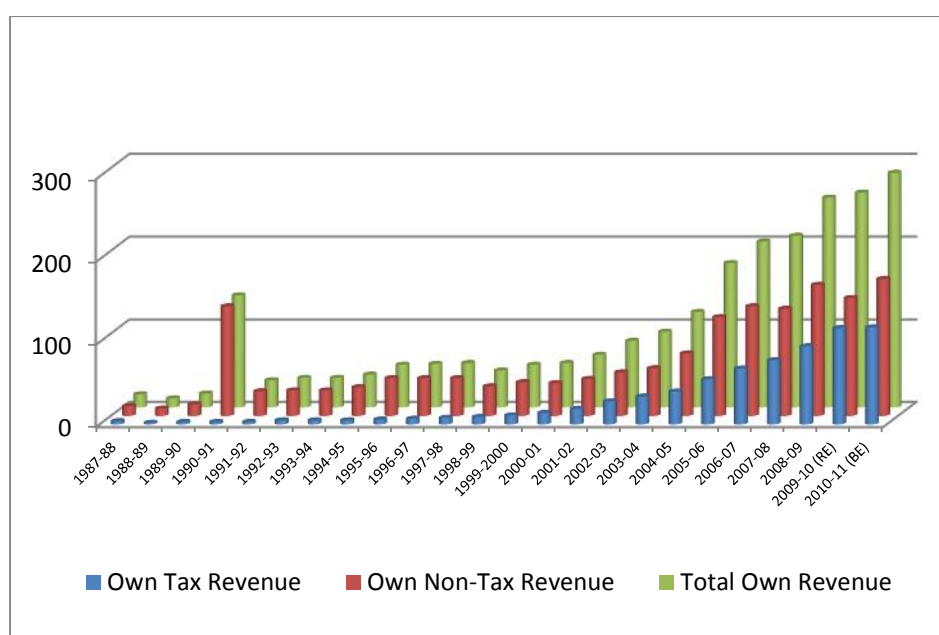
make proper cost recoveries from public services provided and generate adequate returns from public investments.

The percentage share of the total State's own revenue to the total public expenditure has been increased from 5.2 percent in 1987-88 to 7.9 percent in 2010-11 (BE). In absolute terms it has increased from Rs 16 crores in 1987-88 to Rs 284 crores in 2010-11 (BE). The minimal share of state's own recourses has clearly indicated that the State government finances have been heavily dependent on the central government transfer and fiscal deficits (debt).

**Figure 7: Share of State's Own Revenue to total Government Expenditure**



**Figure 8: Share of Tax and Non-Tax Revenue in the State's Own Revenue**



**Table 9: Share of State Own Tax Revenue to Total Government Expenditure (Rs Crores)**

Year	Own Tax Revenue	% of own tax revenue to total own revenue	% of own tax revenue to total government expenditure	Own Non-Tax Revenue	% of own non-tax revenue to total own revenue	Total Own Revenue	% to total expenditure	Total government expenditure
1987-88	4	25	1.3	12	75	16	5.2	306
1988-89	2	18	0.7	9	82	11	3.8	287
1989-90	3	18	1.0	14	82	17	5.6	304
1990-91	3	2	0.6	133	98	136	27.1	502
1991-92	3	9	0.7	30	91	33	8.0	414
1992-93	5	14	1.0	31	86	36	7.3	490
1993-94	5	14	1.0	31	86	36	6.9	521
1994-95	5	13	0.8	35	88	40	6.8	592
1995-96	6	12	0.8	46	88	52	7.3	715
1996-97	7	13	0.9	46	87	53	6.5	810
1997-98	8	15	0.9	46	85	54	6.2	870
1998-99	9	20	1.0	36	80	45	5.0	893
1999-2000	11	21	0.9	41	79	52	4.5	1160
2000-01	14	26	1.1	40	74	54	4.2	1288
2001-02	19	30	1.4	45	70	64	4.8	1333
2002-03	28	35	2.0	53	65	81	5.8	1405
2003-04	34	37	1.9	58	63	92	5.0	1826
2004-05	40	34	2.2	76	66	116	6.4	1818
2005-06	55	31	2.5	120	69	175	8.1	2172
2006-07	68	34	3.0	133	66	201	8.8	2295
2007-08	78	38	3.0	130	63	208	8.1	2559



2008-09	95	37	3.3	159	63	254	8.9	2869
2009-10 (RE)	117	45	3.0	143	55	260	6.7	3869
2010-11 (BE)	118	42	3.3	166	58	284	7.9	3578

**Source:** RBI - Handbook of Statistics of State Government Finances 2010, and State Finances: A Study of Budgets 2010 -11

### 3.6 Assessment of Fiscal Performance:

The section will examine fiscal performance of the Mizoram Government based on available data with respect to fiscal management targets under The Mizoram Fiscal Responsibility and Budget Management Act, 2006 as well as Debt Management Target (debt/GSDP) of Debt Management Manual, Finance Department, Government of Mizoram. As regard achievement on the fiscal targets, actual data or estimates available with the RBI are used for accuracy. The table 10 below set out fiscal performance in respect to targets set out by the Mizoram Government:

As may be seen from the table that the Debt Management Manual target and FRBM rolling target set out in the Medium Term Fiscal Policy Statement documents are not the same. This may be due to definitional difference. However, judging from the achievement as per the RBI estimates, Debt Management Manual target seems to be more realistic. As regard Fiscal Deficit as percentage of GSDP, the State government is doing very well even outperforming the target. This is a very healthy trend which is expected to continue in the years to come. Target of revenue surplus has also been achieved in 2009-10 (RE). However, total outstanding liabilities as percentage of total revenue receipt is way above target during 2008-09, 2009-20 (RE) and 2010-11 (BE) which is also reflected in interest payment as percentage of

total revenue receipt that remains higher than rolling target. Moreover, outstanding public debt as percentage to GSDP remains overtly high.

**Table 10: Fiscal Performance as compared to targets under FRBMA and Debt Management Manual**

Year	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-05
<b>Public debt / outstanding liabilities as percentage to GSDP</b>							
Debt Management Manual Target	-	-	87.3	85.7	82.9	79.2	74.8
FRBM Rolling Target	-	54.16 (RE)	49.62	47.36	45.21	-	-
Achievement*	90.6	82.6 (RE)	-	-	-	-	-
<b>Fiscal Deficit as percentage of GSDP</b>							
FRBM Rolling Target	5.7	11.64	2.40	2.40	2.40	2.40	-
Achievement*	2.1	6.9 (RE)	-	-	-	-	-
<b>Revenue Deficit (-) / Surplus (+) as a percentage of GSDP</b>							
FRBM Rolling Target	4.7	5.4	0.26	4.5	4.5	4.5	-
Achievement*	7.4	4.6 (RE)	-	-	-	-	-
<b>Total outstanding liabilities as a percentage to Total Revenue Receipt (TRR)</b>							
FRBM Rolling Target	57.5	50.8	54.2	49.2	47.4	45.2	-
Achievement*	156.3	144.8 (RE)	144.1 (BE)	-	-	-	-
<b>Interest Payments as a percentage of Total Revenue Receipt (TRR)</b>							
FRBM Rolling Target	9.4	7.56	6.96	7.2	7.2	7.2	-
Achievement*	8.5	8.1 (RE)	7.6 (BE)				

\* RBI Estimates

**Sources:** Government of Mizoram, Medium Term Fiscal Policy Statement 2011-12, RBI Handbook of Statistics of State Government Finances 2010 and State Finances: A Study of Budgets 2010 - 11

### 3.7 Concluding Statement:

The chapter analyses key fiscal indicators of the Government of Mizoram. The chapter also study trends in the share of State's own revenue to total public expenditure in the State. The chapter also provides an assessment of fiscal performance of Government of Mizoram with respect to Fiscal Management Targets under The Mizoram Fiscal Responsibility and

Budget Management Act, 2006 as well as Debt Management Target (debt/GSDP) of Debt Management Manual, Finance Department, Government of Mizoram.

The analyses results illustrated that Mizoram Government has been running fiscal deficits, barring two years (1989-90 and 1990-91), during the study period. The period from 1994-95 onwards is showing persistent increase in the fiscal deficits. In terms of percentage to GSDP, it has been painfully high in most of the years. However, it has shown a declining trend though scattered year on year from as high as 35.7 percent deficit in 1987-88 to 6.9 percent in 2009-10 (RE).

During the study period there has been revenue surplus (minus sign) except in four years (1987-88, 2000-01, 2001-02, and 2002-03). However, this does not mean that the State government is running a fiscal surplus as has been indicated by the Gross Fiscal Deficit.

Primary Deficit has been persistently high during the study period and there has been primary surplus in the years 1989-90, 1990-91, 1991-92, 1993-94, 2006-07, 2008-09, 2010-11 (BE) indicating that interest payments by the State government has been higher than the Gross Fiscal Deficit in those years.

Decomposition of fiscal deficit into revenue deficit, capital outlay and net lending suggested that barring four years (1987-88, 2000-2001, 2001-02, and 2002-03), Mizoram Government has been running a revenue surplus in all other years during the study period while major share of the fiscal deficit has been recorded on account of capital outlay.

Analysis of the fiscal condition indicated that there has been a major imbalance in the State fiscal condition. Even though there has been increasingly diversified financing of the fiscal deficit, the State government has been continuing to resort to market borrowings.

The analysis of the contribution of State's own revenue to the total government expenditure clearly indicated that the State government finances have been heavily dependent on central transfer and fiscal deficits (debt). The share of State's own revenue (both tax and non-tax revenue) has remained 7.3 percent on the average during the study period indicating the State's inability to take appropriate measures to generate its own tax revenue and its failure to adequately generate returns from public investments. The State's own revenue has registered a minimal growth during the study period. The percentage share of State's own revenue to the total government expenditure has always been small though it has increased from 5.2 percent in 1987-88 to 7.9 percent in 2010-11 (BE) during the study period.

The assessment of fiscal performance of Mizoram government based on FRBM and Debt Management Manual targets indicated that as regard fiscal deficit as a percentage to GSDP, revenue deficit/surplus as a percentage to GSDP the Mizoram government is doing well and even outperformed target set out in the two policy documents. However, as regards total outstanding liabilities as percentage to total revenue receipt and interest payments as percentage to total revenue receipt the performance has been highly unsatisfactory. Mizoram government has also not been able to be ambitious enough to reduce outstanding public debt to GSDP ratio. The results indicated that fiscal policy stance of the government during 2008-09 and 2009-10 has been haunted by bad performances of the previous years

which have been reflected by the overtly high outstanding liabilities and high debt service burden (interest payments).

## **CHAPTER – 4**

### **Library Network and Consortia for North-East Region Central University: A Model**

## Chapter IV

### MAGNITUDE AND DIMENSIONS OF THE PUBLIC DEBT

#### 4.1 Introduction:

Theoretically, government accumulates debt whenever it runs a budget deficit (i.e., whenever public expenditure is higher than revenues). In fact, the standard debt accumulation equation states that change in the stock of debt is equal to the budget deficit:

$$\text{Debt}_t - \text{Debt}_{t-1} = \text{Deficit}_t$$

and that the stock of debt is equal to the sum of past budget deficits. Nevertheless, in practice the standard debt accumulation equation rarely holds and that debt accumulation can be better described as:

$$\text{Debt}_t - \text{Debt}_{t-1} = \text{Deficit}_t + SF_t$$

Where  $SF_t$  is what is usually called “stock-flow reconciliation” which is mostly explained by contingent liabilities. However, the standard debt accumulation equation is a good approximation of debt accumulation only if one assumes that  $SF_t$  is not very large or negligible.

For the sake of simplicity and lack of data at the sub-national level, the study will assume that the standard debt accumulation equation holds and overlook the role of stock-flow reconciliation or contingent liabilities in analyzing public debt dynamics in Mizoram. This means to say that for the current study purpose, the debt dynamics are based on the assumption that changes in liabilities are the result of above-the-line budgetary operations and therefore, the debt path is determined by the path of overall fiscal balances (or primary balances and interest bill).

This chapter study trends and magnitude of public debt in Mizoram. The chapter examines composition of public debt and changes in these components over the study period.

#### **4.2 Magnitude of Public Debt in Mizoram:**

The Reserve Bank of India (RBI) has been compiling the consolidated position of states government liabilities in India. RBI publishes the estimated data based on states government budget document on a yearly basis with a lag of approximately a year. Public Debt / liabilities as published by the RBI includes open market borrowings, borrowings from banks and financial institutions, ways and means advances from the RBI, special securities issued to the National Small Savings Fund, bonds / debentures which are issued by the states government, loans from the central government, provident fund, reserve fund, deposits and advances and contingency fund. However, the implicit liabilities of states government including guarantees and off-budget borrowings are excluded from the definition of states government budgetary liabilities or debt<sup>40</sup>. For the sake of simplicity and convenience, the study will adopt the Reserve Bank of India's definition of state liabilities or public debt. Table 11 below present public debt stock in Mizoram during the study period, and a separate column for public debt in terms of its percentage to Gross

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<sup>40</sup> Data on outstanding liabilities of State Governments for various years as published by the RBI are compiled from (i) the outstanding debt (stock) data (under various categories) reported in the CAG's "Combined Finance and Revenue Accounts of the Union and State Governments in India" for the year 1986-87 and (ii) 'flows' data (net of repayments) on the corresponding items reported in the budget documents of the State Governments for the subsequent years. The estimates of outstanding liabilities are obtained by progressively adding the 'flow' data for each year to the stock data for 1986-87. The items that are included in the liabilities of State Governments are (i) Internal Debt (including Special Securities issued to the National Small Savings Fund (NSSF) and WMA from the Reserve Bank); (ii) Loans from the Central Government; (iii) Small Savings, Provident Funds, etc (including State Provident Funds, Insurance and Pension Funds, Trusts and Endowments, and Small Savings).



State Domestic Product (GSDP) during the same period is also presented.

**Table 11: Outstanding Liabilities / Public Debt as percentage of GSDP**

Year	Outstanding Liabilities / Public Debt (Rs Crore)	Gross State Domestic Product at Current Prices (Rs Crore)	Public Debt as % of GSDP
1987- 1988	127	286	44.4
1988 - 1989	179	288	62.2
1989 - 1990	209	312	67.0
1990 - 1991	330	341	96.8
1991 - 1992	314	465	67.5
1992 - 1993	322	533	60.4
1993 - 1994	378	711	53.2
1994 - 1995	444	739	60.1
1995 - 1996	538	937	57.4
1996 - 1997	574	1072	53.5
1997 - 1998	771	1123	68.7
1998 - 1999	842	1246	67.6
1999 - 2000	1178	1409	83.6
2000 - 2001	1375	1737	79.2
2001 - 2002	1713	1947	88.0
2002 - 2003	1967	2166	90.8
2003 - 2004	2606	2325	112.1
2004 - 2005	2922	2682	108.9
2005 - 2006	3154	2971	106.2
2006 - 2007	3354	3290	101.9
2007- 2008	3951	3816	103.5
2008 - 2009	4147	4577	90.6
2009-2010 (RE)	4655	5633	82.6
2010-2011 (BE)	4688	NA	NA

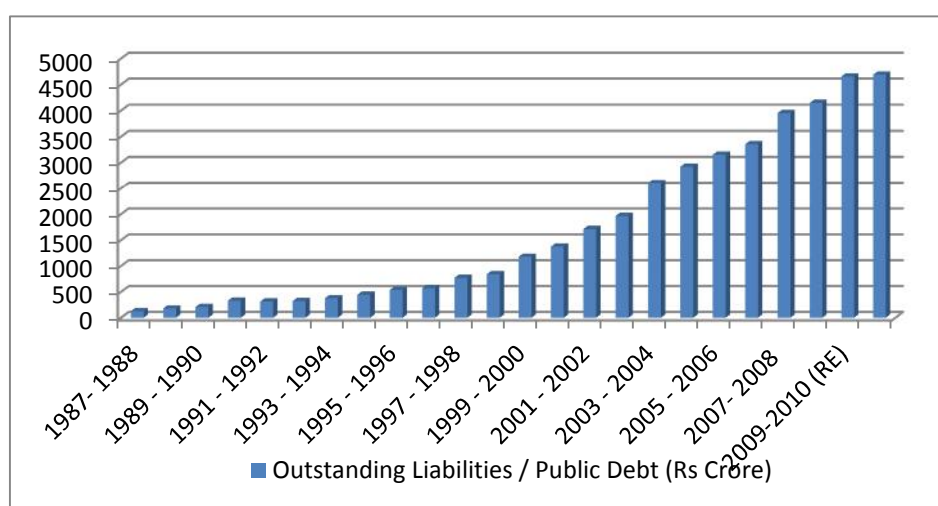
**Source:** Handbook of Statistics of State Government Finances 2010, Study of State Finances 2010-11 and Central Statistical Organisation (CSO)

As shown in table 11, the public debt stock of Mizoram has increased significantly from 1987-88 level of Rs 127 to Rs 4688 in 2010 – 2011 (BE) in absolute terms and from 1987-88 level of 44.4 percent to 82.6 percent in 2010-2011 (BE) in percentage to GSDP term. With the exception of few years during the study period, there has been a rapid and persistent rise in public debt stock in the State both in absolute terms as well as in percentage to GSDP term. In percentage to GSDP term from its lowest points at 44.4 percent to GSDP in 1987 - 88 to its peak at 112.1 percent to GSDP in 2003-

04. In absolute terms, it has increased from Rs 127 crore in 1987-1988 to as much as Rs 4688 crore in 2010-2011 (BE).

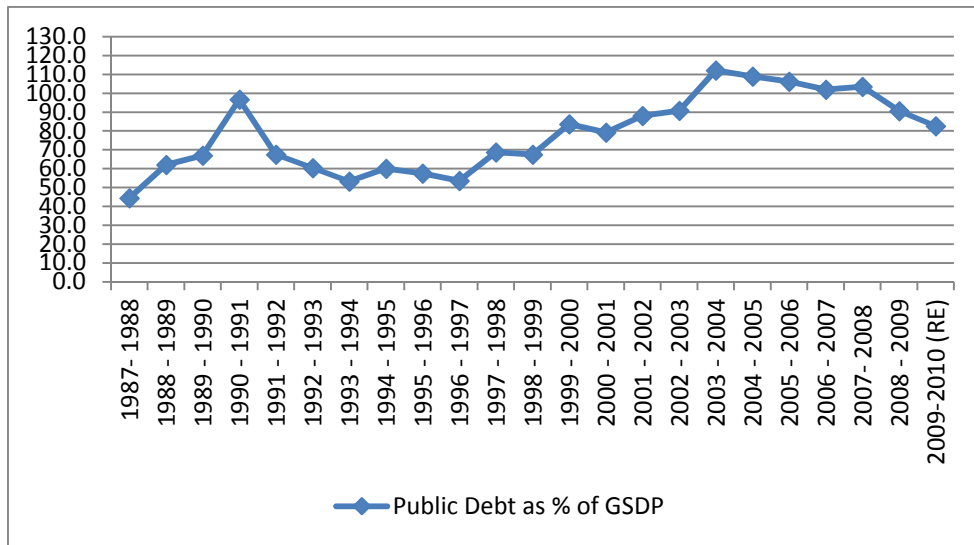
In the context of public debt, a government which does not generate enough current revenues for debt service must either default on its obligations, or borrow more in order to service past debt as well as to cover its ongoing imbalances. If one look at the sheer size of absolute amount of debt stock during the study period (Table 11), one would clearly see that the level of absolute amount increasing year on year in a tremendous rate during the study period. Moreover, the time path of debt/GSDP ratio of public debt in Mizoram (Figure 6) clearly indicates continual and persistent borrowing by the State government. This condition of continual borrowing with persistently increase in debt/GSDP ratio also indicated that the State government has been under a severe debt trap<sup>41</sup>. This condition calls for proper assessment of debt sustainability of the State government. Therefore, the issue of debt sustainability would be dealt in great details on a separate chapter.

**Figure 9: Outstanding Liabilities / Public Debt (Rs Crore)**



<sup>41</sup> A debt trap is generally described as an unsustainable level of and rate of increase in the government debt, where continued rise in the ratio of government debt to gross domestic product cannot be prevented (South African Reserve Bank, Occasional paper no. 6, May 1993, “Is South Africa in a debt trap?”, E.J. van der Merwe, pg. 2

**Figure 10: Ratio of Public Debt to GSDP**



**4.3 Comparative position of Mizoram Public Debt with other states in India:**

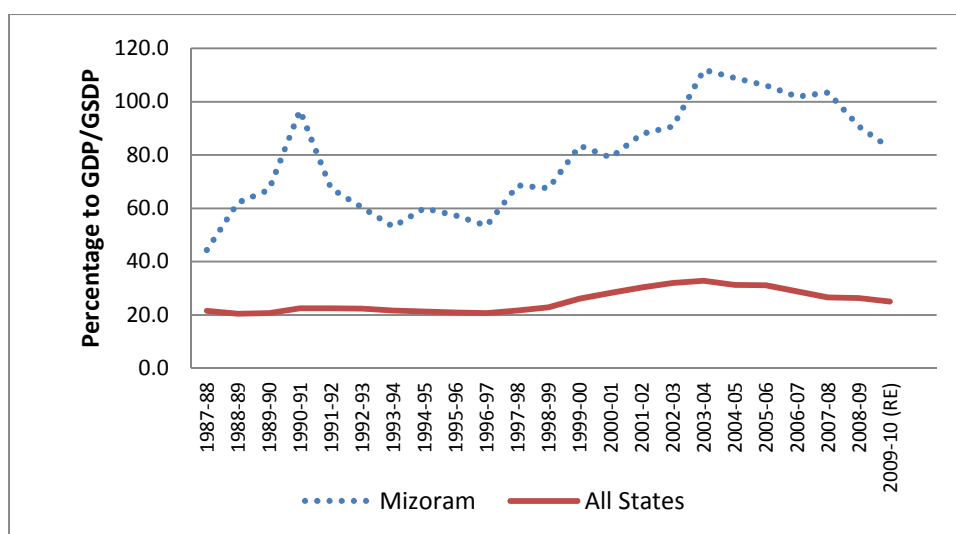
The most straightforward and easily understandable comparison of the State standing among all other states in the country would be to compare with averages of all the states in the country. Table 12 provides data of total liabilities / public debt stock of all the states during the study period and also separately in terms of its percentage to the country Gross Domestic Product (GDP). Comparatively, Mizoram has far exceeded average debt/GDP ratio of all the states in all the years during the study period. Debt/GDP ratio for all the states peaked at 32.8 percent in 2003-04 as compared to 119.0 percent for Mizoram in 2004-05. The lowest debt/GSDP level for Mizoram during the study period was 44.4 percent in 1987-88 as compare to 20.4 percent in 1988-89 for all the states in India. Therefore, it is undoubtedly visible that comparatively Mizoram has been fared much worse in terms of indebtedness as compared to average of all the states in the country.

**Table 12: Total Liabilities / Public Debt as percentage of GDP (All States)**

Year	Outstanding Liabilities at the end of the financial year	Public Debt as % to GDP
1987-88	69083	21.5
1988-89	78184	20.4
1989-90	91390	20.7
1990-91	128155	22.5
1991-92	147030	22.5
1992-93	168365	22.4
1993-94	187875	21.7
1994-95	216473	21.3
1995-96	249535	20.9
1996-97	285898	20.7
1997-98	330816	21.7
1998-99	399576	22.8
1999-00	509529	26.1
2000-01	594148	28.3
2001-02	690747	30.3
2002-03	786427	32.0
2003-04	903174	32.8
2004-05	1014067	31.3
2005-06	1147717	31.1
2006-07	1241576	28.9
2007-08	1328302	26.6
2008-09	1470195	26.3
2009-10 (RE)	1638474	25.0
2010-11 (BE)	1820155	23.1

**Source:** RBI, *Handbook of Statistics of State Government Finances 2010 and State Finances: A Study of Budgets 2010 -11*

**Figure 11: Comparison - Mizoram and All States Percentage of Public Debt to GDP/GSDP**



#### 4.4 Dimensions and Composition of Public Debt in Mizoram:

The Working Group on Compilation of State Government Liabilities constituted by the Reserve Bank of India has recommended that total budgetary liabilities of the states government may be decomposed into four categories viz. (a) Public debt – which would include open market borrowings, borrowings from banks and financial institutions, special securities issued to the NSSF, bonds / debentures which are issued by the state government and loans from the central government; (b) WMA and Overdrafts from the RBI or any other bank; (iii) Public Accounts – which would include state provident funds, small savings, insurance and pension funds, reserve funds and deposits and advances; and (iv) Contingency Fund<sup>42</sup>.

The components of public debt in Mizoram are listed in table 13. Breakup of the composition are available only from 1990-91 onwards. The items or component included in the liabilities / debt of State government are: (i) *Internal debt* including Special Securities issued to the National Small

<sup>42</sup> Ibid. pg. 4.

Saving Fund (constituted in 1999-2000)<sup>43</sup>, Ways and Means Advance (WMA) from the RBI, State Development Loan, loans from Life Insurance Corporation of India (LIC), loans from National Bank for Agriculture and Rural Development (NABARD), loans from other institutions, banks and other financial institutions, loans from National Cooperative Development Corporation (NCDC), and power bonds, (ii) Loans from the centre government, (iii) Provident Fund (including state provident funds, insurance and pension funds, trusts and endowments, and small savings), (iv) Reserve Fund, (v) Deposits and Advances, and (vi) Contingency Fund. The decomposition or break up of the internal debt was not published or available until 2004 which is the case for other states as well.

As shown in table 14, it can be seen that the share of internal debt has been gradually increasing over the study period in percentage to total public debt from 14.85 percent in 1990-91 to 34.92 percent in 2010-11 (BE). In absolute terms, it has been increased from Rs 49 crores 1990-91 to Rs 1637 crores in 2010-11 (BE). The literature and studies regarding the principles and practical considerations involved in the choice between external and domestic financing of fiscal deficits usually support domestic as a better choice in terms of costs and risks. However, in the case of fiscal stability at sub-national level, the condition may be less clear and even if sub-national government choose domestic debt financing, it will still need to ensure to meet their debt-service obligations. The choice would then be clearer if one link the issue with overall debt management framework and the implied debt service burden. However, a study of whether internal debt would be a better choice for the government at sub-national level is beyond the objects of the current study.

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<sup>43</sup> RBI (2005), Report of the Working Group on Compilation of State Government Liabilities, p. 9.

**Table 13: Composition of Public Debt / Outstanding Liabilities**  
(as at end-March)

(Rs Crore)

YEAR	SDLs	Power bonds	NSSF	WMA From RBI	Loans from LIC	Loans from NABARD	Loans from NCDC	Loans from other institutions / other loans	Loans from banks and FI	Total Internal debt	Loans and advances from the centre	Provident Fund	Reserve Fund	Deposits and Advances	Contingency Fund	Outstanding Liabilities / Public debt
1	2	3	5	6	7	9	11	12	13 = 7 to 12	14 = (2 to 6) + 13	15	16	17	18		20
1987-88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>127</b>
1988-89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>179</b>
1989-90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>209</b>
1990-91	-	-	-	29	2	-	1	18	20	<b>49</b>	122	17	-	142	-	<b>330</b>
1991-92	-	-	-	31	1	-	1	21	23	<b>54</b>	135	28	-	97	-	<b>314</b>
1992-93	-	-	-	24	2	-	1	35	39	<b>63</b>	146	48	-	65	-	<b>322</b>
1993-94	5*	-	-	17	2	-	2	54	59	<b>81</b>	152	59	-	-	-	<b>378</b>
1994-95	15*	-	-	16	2	-	2	54	64	<b>100</b>	165	77	-	-	-	<b>444</b>
1995-96	30*	-	-	27	8	-	3	65	77	<b>121</b>	191	105	-	-	-	<b>538</b>
1996-97	46*	-	-	27	11	-	3	29	43	<b>117</b>	262	142	2	52	-	<b>574</b>
1997-98	64*	-	-	27	19	2	5	26	52	<b>144</b>	293	177	1	156	-	<b>771</b>
1998-99	94*	-	-	27	44	2	6	34	86	<b>208</b>	324	221	3	86	-	<b>842</b>
1999-2000	129*	7	27	85	11	6	30	133	297	<b>517</b>	253	5	107	-	<b>1178</b>	
2000-01	165*	10	27	121	22	6	33	183	482	<b>491</b>	311	4	87	-	<b>1375</b>	
2001-02	208*	10	166	161	34	6	25	226	610	<b>562</b>	384	4	154	-	<b>1713</b>	
2002-03	326*	10	116	201	42	5	29	277	729	<b>580</b>	477	4	178	-	<b>1967</b>	
2003-04	422	46	73	27	237	41	5	104	387	<b>955</b>	359	602	16	675	-	<b>2606</b>
2004-05	501	46	106	27	225	43	5	113	385	<b>1,065</b>	403	728	30	695	-	<b>2922</b>
2005-06	601	46	132	27	262	41	6	115	423	<b>1,229</b>	394	720	27	785	-	<b>3154</b>
2006-07	709	41	140	47	285	48	4	106	443	<b>1,380</b>	384	863	41	686	-	<b>3354</b>
2007-08	838	36	140	27	286	56	2	82	426	<b>1,468</b>	377	1035	49	1021	-	<b>3951</b>
2008-09	964	34	137	27	282	60	-	81	423	<b>1586</b>	363	1223	65	910	-	<b>4147</b>
2009-10 (RE)	1062	30	146	27	280	79	-2	46	404	<b>1668</b>	370	1307	60	1050	200	<b>4655</b>
2010-11 (BE)	1052	25	139	27	266	107	-2	23	394	<b>1637</b>	378	1367	55	1051	200	<b>4688</b>

\*Market loans

*Source: RBI – Handbook of Statistics of State Government Finances 2010 and State Finances: A Study of Budgets 2010 -11*

**Table 14: Share of Internal Debt in the Total Liabilities (Rs Crore)**

Year	Internal	Total	% of Internal Debt to Total Liabilities
1990-91	49	330	14.85
1991-92	54	314	17.20
1992-93	63	322	19.57
1993-94	81	378	21.43
1994-95	100	444	22.52
1995-96	121	538	22.49
1996-97	117	574	20.38
1997-98	144	771	18.68
1998-99	208	842	24.70
1999-2000	297	1178	25.21
2000-01	482	1375	35.05
2001-02	610	1713	35.61
2002-03	729	1967	37.06
2003-04	955	2606	36.65
2004-05	1,065	2922	36.45
2005-06	1,229	3154	38.97
2006-07	1,380	3354	41.14
2007-08	1,468	3951	37.16
2008-09	1586	4147	38.24
2009-10 (RE)	1668	4655	35.83
2010-11 (BE)	1637	4688	34.92

**Source:** RBI – Handbook of Statistics of State Government Finance 2010 and State Finances: A Study of Budgets 2010 -11

#### **4.5 Changing Share in Components of Public Debt**

Traditionally, loans from the central government formed a major part of public debt in Mizoram. However, since 1999 share of internal debt, provident fund and deposits and advances (since 2004) gained proportionally and over the years, the share of loans from the central government in State's liabilities has declined significantly. Table 15 present changing shares in the components of public debt in Mizoram during the study period.



During the study period there has been a significant decline in percentage share of loans from the central government from as much as 45.34 percent in 1992-93 to 8.06 percent in 2010-11 (BE). Share of deposits and advances has also been gradually decline. On the reverse, the percentage share of internal debt in the State's liabilities increased from 14.85 percent in 1990-91 to 34.92 percent in 2010 -11 (BE). In the same token, percentage share of provident fund in the State's liabilities has been increased from 5.15 percent in 1990-91 to as high as 29.16 percent in 2010-11 (BE).

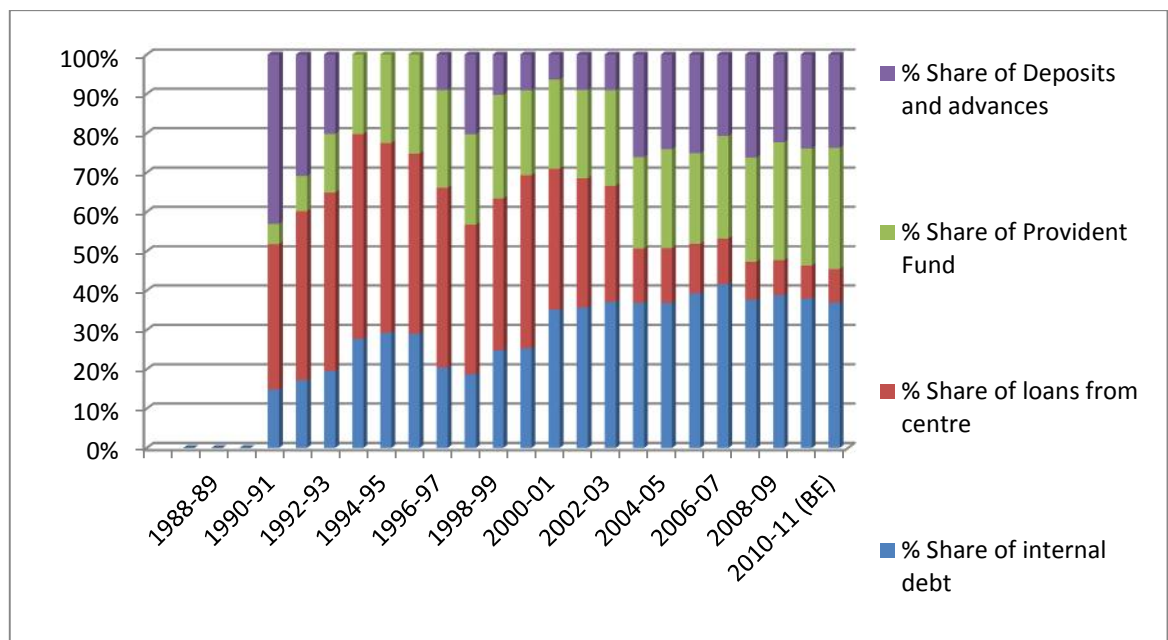
**Table 15: Changing Share in the Component of Public Debt**

YEAR	Internal debt	% Share of internal debt	Loans from the centre (Rs crore)	% Share of loans from centre	Provident Fund	% Share of Provident Fund	Deposits and Advances	% Share of Deposits and advances	Outstanding Liabilities / Public debt (Rs crore)
1987-88	-	-	-	-	-	-	-	-	127
1988-89	-	-	-	-	-	-	-	-	179
1989-90	-	-	-	-	-	-	-	-	209
1990-91	49	14.85	122	36.97	17	5.15	142	43.03	330
1991-92	54	17.2	135	42.99	28	8.92	97	30.89	314
1992-93	63	19.57	146	45.34	48	14.91	65	20.19	322
1993-94	81	21.43	152	40.21	59	15.61	-	-	378
1994-95	100	22.52	165	37.16	77	17.34	-	-	444
1995-96	121	22.49	191	35.50	105	19.52	-	-	538
1996-97	117	20.38	262	45.64	142	24.74	52	9.06	574
1997-98	144	18.68	293	38.00	177	22.96	156	20.23	771
1998-99	208	24.7	324	38.48	221	26.25	86	10.21	842
1999-00	297	25.21	517	43.89	253	21.48	107	9.08	1178
2000-01	482	35.05	491	35.71	311	22.62	87	6.33	1375
2001-02	610	35.61	562	32.81	384	22.42	154	8.99	1713
2002-03	729	37.06	580	29.49	477	24.25	178	9.05	1967
2003-04	955	36.65	359	13.78	602	23.10	675	25.90	2606
2004-05	1,065	36.45	403	13.79	728	24.91	695	23.79	2922
2005-06	1,229	38.97	394	12.49	720	22.83	785	24.89	3154
2006-07	1,380	41.14	384	11.45	863	25.73	686	20.45	3354

2007-08	1,468	<b>37.16</b>	377	<b>9.54</b>	1035	<b>26.20</b>	1021	<b>25.84</b>	<b>3951</b>
2008-09	1586	<b>38.24</b>	363	<b>8.75</b>	1223	<b>29.49</b>	910	<b>21.94</b>	<b>4147</b>
2009-10 (RE)	1668	<b>35.83</b>	370	<b>7.95</b>	1307	<b>28.08</b>	1050	<b>22.56</b>	<b>4655</b>
2010-11 (BE)	1637	<b>34.92</b>	378	<b>8.06</b>	1367	<b>29.16</b>	1051	<b>22.42</b>	<b>4688</b>

**Source:** RBI – Handbook of Statistics of State Government Finances 2010 and State Finances: Study of State Budgets 2010-11

**Figure 12: Share in the Component of Public Debt**



Market borrowing (SDLs and power bonds) data of Government of Mizoram was available only from 1993-94. Time series data of the market borrowing is presented at table 16. Market borrowing pattern by Mizoram government during 1993-94 to 2010-19 has shown that there has been an increasing recourse to market loans by the State government in terms of actual amount as well as in percentage terms. Gross Market borrowing has

increased in absolute terms from Rs 5 crores in 1993-94 to Rs 1077 crores in 2010-11 (BE). In percentage terms, share of market borrowings increased from 1.3 percent in 1993-94 to 23 percent in 2010-11 (BE). Repayment to previous market borrowing has been witnessed from 2003-04 fiscal years which were pegged at Rs 5 crore only jumped to Rs 35 crores in 2009-2010 (RE). Net market borrowing in 1993-94 was Rs 5 crores and it was increased astonishingly to Rs 1060 crores in 2010-11 (BE).

**Table 16: Trends in Market Borrowings**  
(Rs Crore)

Year	Gross	Repayment	Net	Total Outstanding Liabilities	% of Gross Market Borrowing to Total Liabilities
1993-94	5	0	5	374	1.3
1994-95	15	0	15	444	3.4
1995-96	30	0	30	538	5.6
1996-97	46	0	46	574	8.0
1997-98	64	0	64	771	8.3
1998-99	94	0	94	842	11.2
1999-00	129	0	129	1178	11.0
2000-01	165	0	165	1375	12.0
2001-02	208	0	208	1713	12.1
2002-03	326	0	326	1967	16.6
2003-04	468	5	463	2606	18.0
2004-05	547	10	537	2922	18.7
2005-06	647	15	632	3154	20.5
2006-07	750	17	733	3354	22.4
2007-08	874	18	856	3951	22.1
2008-09	998	30	968	4147	24.1
2009-10 (RE)	1092	35	1057	4655	23.5
2010-11 (BE)	1077	17	1060	4688	23.0

**Source:** RBI – Handbook of Statistics of State Government Finances 2010 and State Finances: A Study of Budgets 2010 -11

#### **4.5 Concluding Statement:**

This chapter analyses trends of public debt in Mizoram, its composition and changes in percentage share of its components over the study period (1987-88 to 2010-11). The analyses result indicates the following glaring features.

Firstly, the analysis of State's outstanding liabilities indicated that the public debt stock of Mizoram has risen by more than double both in absolute terms and almost double in percentage to GSDP terms during the study period. The debt / GSDP in 1987-88 was 61.1 percent (Rs 179 crore in absolute terms) to 109.1 percent in 2009-10 (Rs 3611 crore in absolute terms) in the revised estimates which is expected to be moderated down to 98.1 percent of GSDP in 2010-11 budget estimates. A rapid and persistent increase in the debt / GSDP ratio indicates continual and persistent borrowing by the State government.

Secondly, as compared to the average for all the states in India, public debt to GSDP ratio of Mizoram has always been far greater during the study period. A state-wise trend shows that Mizoram is currently having the highest debt to GSDP ratio as per 2010-2011 (BE) even among the special category states. The debt condition is a vexing issue in policy analysis as the situation reinforces the growing vulnerability of the Mizoram economy and accelerated its slide into macroeconomic instability.

Thirdly, there have been significant changes in share of various components of the outstanding liabilities (public debt stock) of Government of

Mizoram. Share of loans from the central government has been declining while share of internal debt, provident fund and deposits and advances increases significantly over the study period. The share of loans from the central government has declined from 36.97 percent in 1990-91, which is peaking at 45.64 percent in 1996-97, to merely 8.06 percent in 2010-11 (BE). However, the percentage share of internal debt in the State's liabilities increased from 4.5 percent in 1989 to 42.2 percent in 2009 while percentage share of provident fund in the State's liabilities were also increased from 14.85 percent in 190-91 to as high as 35.83 percent in 2009-10 (RE) and 34.92 percent in 2010-11 (BE) respectively.

Finally, the analysis indicated that there has been an increasing recourse to market loans by the State government in terms of actual amount as well as in percentage terms during the study period. However, data on market borrowing are available only from 1993 onwards.

# **CHAPTER- 5**

## **Electronic Licensing**

## Chapter V

### ASSESSMENT OF THE SUSTAINABILITY OF PUBLIC DEBT

#### 4.1 Introductory Statement

The issue of sustainability of public debt has been discussed widely both by the policymakers and academic researchers, but the issue remains an imprecise concept as there has been no generally accepted definition of what constitutes a sustainable public debt position. The existing literature has proposed several methods to define and assess public debt sustainability, differing in both time horizons and choice of variables. The chapter attempts to assess sustainability of public debt in Mizoram based on two distinct approaches viz., Domar debt stability condition and public debt sustainability indicators.

Government debt is the stock of outstanding IOUs issued by the government at any time in the past and not yet repaid. Government issue debt whenever they borrow to cover fiscal deficits. The outstanding debt equals the cumulative amount of net borrowing that the government has done. The size, composition and trends of public debt in Mizoram have already been analyzed in the previous chapter. However, what is more important than the sheer size of government debt is the debt's effects on the economy.

Public debt can have important influence over the economy both in the short- and the long run. The conventional view is that debt (reflecting deficit

financing) can stimulate aggregate demand and output in the short run, but could crowd out capital and reduce output in the long run. A key issue relates to the extent to which large public debts are likely to have an adverse effect on capital accumulation, as well as productivity, and reduce economic growth. If economic growth is negatively affected, fiscal sustainability issues are likely to be exacerbated, which would have policy implications for decisive fiscal adjustment efforts to reduce the debts to a more sustainable levels.

A related issue is the desirability of deliberately using deficits to influence the path of the economy as using deficits to stimulate the economy comes at the cost. Whether that is a good exchange is not obvious and requires justification. When the government borrows, it promises to repay the lender. The economic effect of public debt depends heavily on the extent of debt service burden on the government.

The chapter will attempt to assess sustainability of public debt by using debt sustainability analytical framework including Domar debt stability condition and public debt sustainability indicators analysis. The chapter analyze debt service burden of the State government and also examine the maturity profile of the State government outstanding liabilities.

#### **4.5 Assessment of Public Debt Sustainability:**

***Domar debt stability condition:*** A common starting point for the assessment of sustainability risks is to examine a country's (explicit)



government debt-to-GDP ratio or in the case of sub national level the ratio of public debt to GSDP. This is because high and rising government debt ratios indicate potential sustainability problems. According to the Domar stability condition, if the rate of growth of the economy is higher than the rate of interest, the debt to GDP ratio stabilized. The Domar stability condition has been defined as:

$$Y - R > 0 \quad (i)$$

$$R = (IP)_t / (OD)_{t-1} \quad (ii)$$

Where:

Y = Growth of GSDP at current market prices, R = Average interest rate

IP = Interest payment, OD = Outstanding public debt, t = Time period

Equation (i) and (ii) imply that the debt/GSDP ratio (D/Y) is stable if the nominal GSDP growth (Y) exceeds the nominal interest rate (R) on public debt. According to this condition, larger the gap between interest rate and growth rate the higher will be the D/Y. Thus, to stabilize debt/GSDP ratio (D/Y), rate of interest should be lower than the output growth ( $R < Y$ ). Domar stability condition has been tested and the results are set out in table 17.

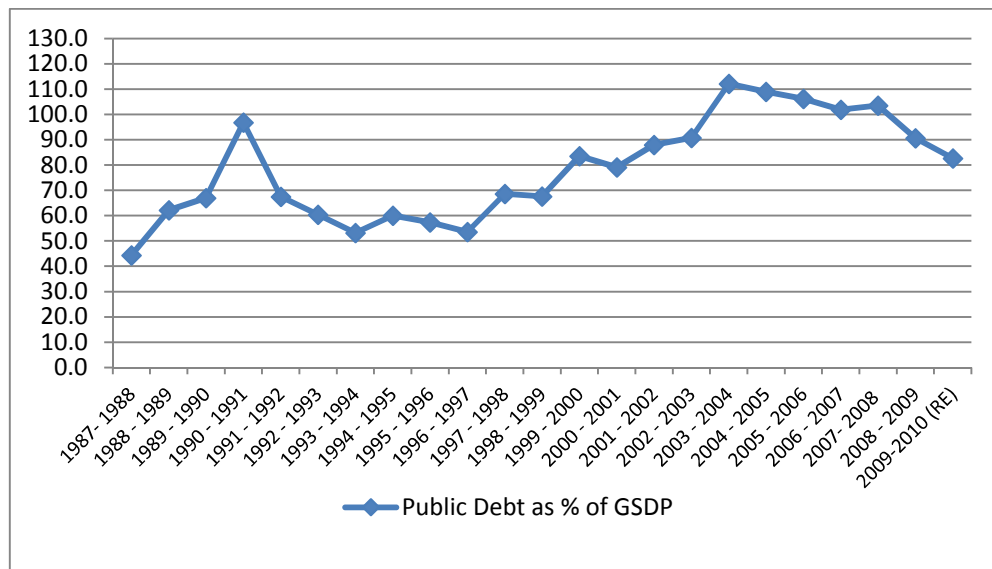
As shown in table 17, the movements in the average interest rates vis-à-vis growth rate in nominal GSDP (GSDP at current prices) indicated that the Domar stability condition was not fulfilled for six years (ie. 1988-89, 1990-91, 1994-95, 1997-98, 2003-04) during the study period. The data during the study period confirmed weak debt sustainability condition in terms of stability of public debt to GSDP ratio.

**Table 17: Domar Stability Condition of Debt Sustainability**

Year	Y = Growth rate of GSDP at current prices	R = Average interest rate for the total debt
1987- 1988	25.2	12.0
1988 - 1989	0.7	1.6
1989 - 1990	7.7	0.6
1990 - 1991	8.5	15.8
1991 - 1992	26.7	3.9
1992 - 1993	12.8	8.9
1993 - 1994	25.0	7.1
1994 - 1995	3.8	7.9
1995 - 1996	21.1	7.9
1996 - 1997	12.6	8.9
1997 - 1998	4.5	11.5
1998 - 1999	9.9	9.6
1999 - 2000	11.6	11.2
2000 - 2001	18.9	8.6
2001 - 2002	10.8	10.6
2002 - 2003	10.1	7.8
2003 - 2004	6.8	8.5
2004 - 2005	13.3	7.0
2005 - 2006	9.7	6.3
2006 - 2007	9.7	7.3
2007- 2008	13.8	6.2
2008 - 2009	16.6	5.7
2009-2010 (RE)	18.7	6.2
2010-2011 (BE)	NA	5.3

R is calculated as ratio of interest payment to the previous year's outstanding liability.

**Figure 13: Trends in the ratio of Public debt to GSDP**



Moreover, it is pertinent to note that mere stabilization of the debt to GSDP ratio is not a sufficient condition for debt sustainability if the level at which the ratio is stabilized is already high. As indicated by figure 6, the ratio of public debt to GSDP has been extremely high during the study period especially in the more recent years. The ratio of public debt to GSDP has been continuously more than 100 percent for five consecutive years from 2003-04 to 2007-08 and it has been estimated at 82.6 percent in 2009-10 (RE).

**Indicators analysis:** Sustainability indicators rule requires growth rate to exceed interest rate (necessary condition) and primary balance to be non-negative for the debt/GSDP ratio to be stable (sufficient condition)<sup>44</sup>. The necessary condition is akin to the Domar stability condition ( $Y > R$ ). The sufficient condition explains that the debt/GSDP ratio stability may not serve as an appropriate indicator of sustainability if rate of interest ( $R$ ) exceeds rate of growth in GSDP ( $Y$ ) as interest burden on the existing debt may be translated into perpetual growth in debt/GSDP ratio. In such a scenario adequate primary surplus is required to offset the gap between ( $R$ ) and ( $Y$ ) and to stabilized debt/GSDP. Considering this rule, a host of alternative conditions (excluding Domar Stability Condition) to test fiscal and debt sustainability are set out below and the result are summarized in table 18:

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<sup>44</sup> Dr Narendra Jadhav, 2007, "Fiscal Sustainability in India: An Assessment and Implications" at [http://www.drnarendrajadhav.info/drnjadhav\\_web\\_files/Published%20papers/Fiscal%20Sustainability%20in%20India.pdf](http://www.drnarendrajadhav.info/drnjadhav_web_files/Published%20papers/Fiscal%20Sustainability%20in%20India.pdf) downloaded on 20<sup>th</sup> December 2010.

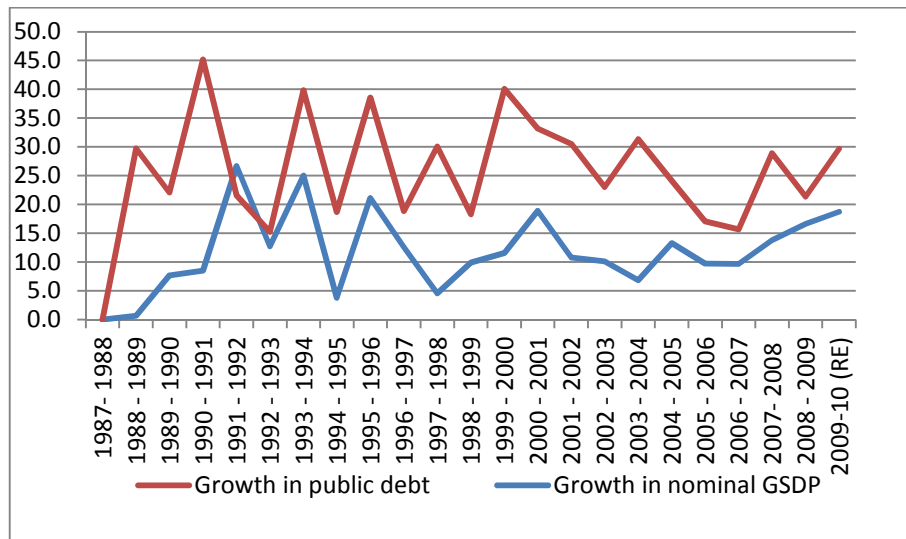
- a) The rate of growth of GSDP (Y) should be more than the rate of growth of public debt (D) =  $Y - D > 0$
- b) Primary Deficit (PD) should not be rising faster than GSDP =  $PD/GSDP < 0$
- c) Interest burden defined by interest payments (IP) to GSDP ratio should decline over time =  $IP/GSDP$
- d) Interest payments as a proportion of government expenditure should decline overtime =  $IP/AE$

**Table 18: Summary Table of the Indicators Analysis**

Sl.no	Indicators / Sustainability Condition	Result	Criteria fulfilled
1	$Y - R > 0$ (Domar Stability condition)	$Y - R < 0$	No
2	$Y - D > 0$	$Y - D < 0$	No
3	$PD/GSDP < 0$	$PD/GSDP > 0$	No
4	$IP/GSDP$	$IP/GSDP$	No
5	$IP/AE$	$IP/AE$	No

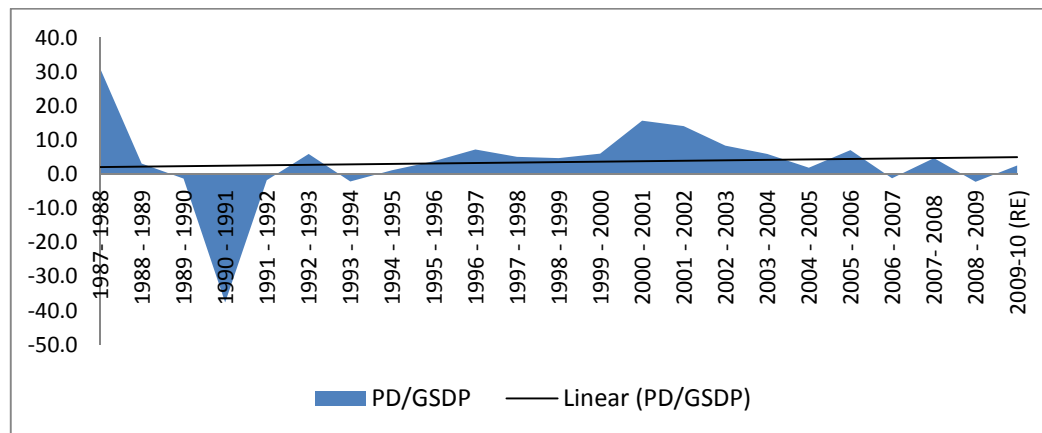
**Indicator 1:** According to indicator 1 criteria, the rate of growth of GSDP (Y) should be more than the rate of growth of public debt (D) =  $Y - D > 0$  to stabilize public debt or to indicate fiscal sustainability. As clearly shown in figure 14, on the average the rate of growth in the public debt has been higher than the rate growth in nominal GSDP. The position violates a necessary condition of indicators analysis.

**Figure 14: Rate of growth of nominal GSDP and growth of Public Debt**



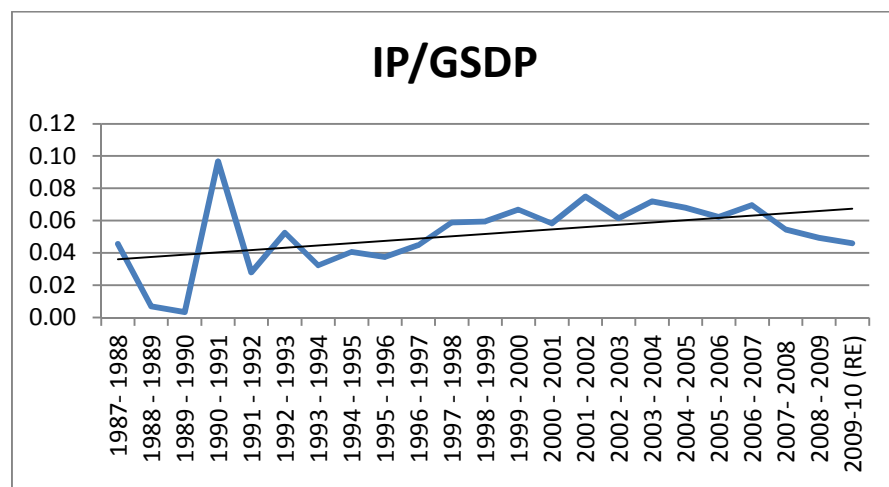
**Indicator 2:** According to indicator 2 criteria, Primary Deficit (PD) should not be rising faster than GSDP =  $PD/GSDP < 0$ . This means that ratio of  $PD/GSDP$  should remain the same or should decreased. As shown in figure 15, the slope of the trend line is slightly upward i.e  $PD/GSDP < 0$  during the study period violating the condition.

**Figure 15: Trends of the ratio of Primary Deficit to GSDP**



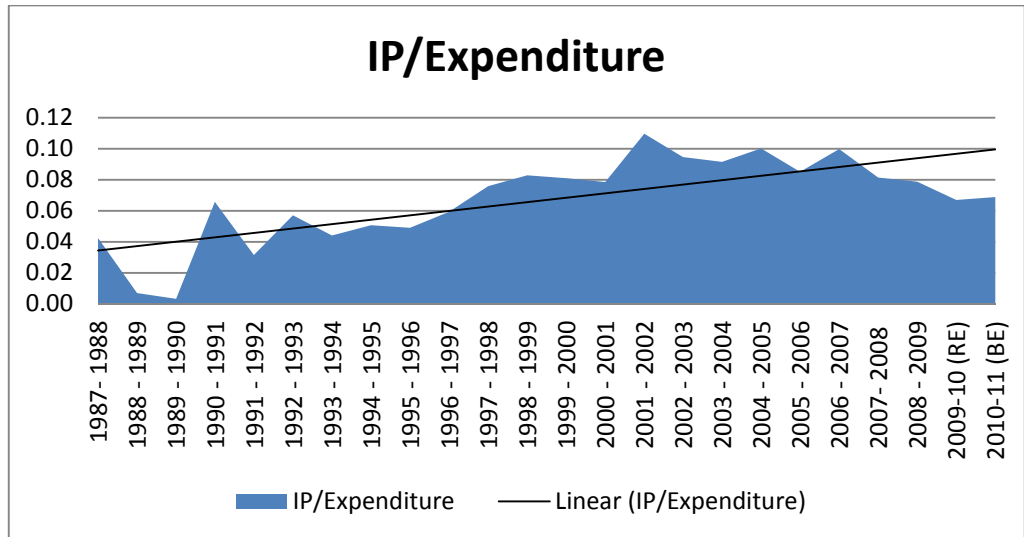
**Indicator 3:** According to indicator 3 criteria, Interest burden defined by interest payments (IP) to GSDP ratio should decline over time =  $IP/GSDP$ . As shown in figure 16, this condition has been violated during the study period as IP/GSDP line is showing increasing trends over the study period.

**Figure 16: Trends of the ratio of Interest Payments to GSDP**



**Indicator 4:** According to indicator 4 criteria, interest payments as a proportion of the government expenditure should decline overtime =  $IP/AE$ . However, as shown in figure 17, the ratios of interest payments to total government expenditure has indicated an increasing trends during the study period.

**Figure 17: Trends of the ratio of Interest Payment to Total Government Expenditure**



### 4.3 Public Debt Service Burden

The terms “debt” and “deficit” are often used almost interchangeably in fiscal policy debates. To be clear, budget deficit is simply the gap between flows of government revenues and outlays in a given year. However, public debt is outstanding liabilities of government that were issued to finance past budget deficits. In years when revenues exceed outlays (i.e., when budget surpluses instead of deficits are accumulated), the overall debt actually falls. The theory underlying why government borrowing can be bad for economic growth primarily concerns deficits, not debt. However, an important question refers to the economic consequences of a regime of high and potentially persistent public debt that comes along with debt service burden.

Since public debt involves a burden, both in money and real terms, directly in servicing and redeeming debt and indirectly through decreasing the opportunities for productive use of funds, which would have been available for productive investment in the absence of the need for servicing and repayment of debt. Therefore, high and mounting government debt increases interest payments or expenditure and crowds out other expenditure possibly more favorable to economic growth such as public investment. A 'snowball' effect, where higher debt increases government interest expenditure, which is financed by additional issuance of debt, causes a vicious circle that may be detrimental to the sustainability of public finances and overall economic conditions.

As shown in table 19, interest payment by Government of Mizoram has always been significantly high during the study period. It has to be noted here that the figure relates only to interest payments in a particular year and not the repayments of debt principal. In absolute terms, interest payments have been increased from Rs 13 crores in 1987-88 to as high as Rs 246 crores in 2010-11 (BE). Interest payments as percentage of total government expenditure have been in the range of 0.3 percent to 11 percent during the study period averaged at about 6.7 percent. In terms of percentage to Gross State Domestic Product (GSDP) it averaged at about 5.2 percent during the study period ranging between 0.3 percent to as high as 7.5 percent.

More worrying picture has been indicated by the amount of interest payments as compared to total capital expenditure which averaged at 30



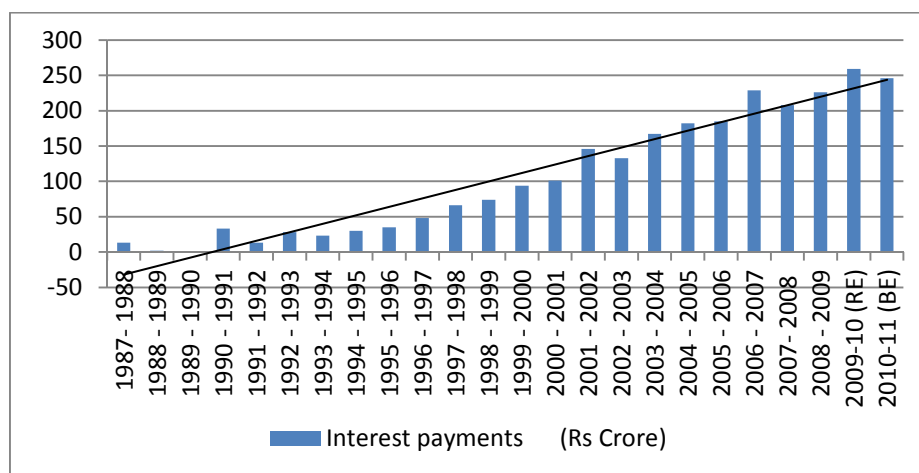
percent during the study period. Interest payments by the Government of Mizoram have persistently been more than 20 percent since 1991-93 which peaked at 71.2 percent in 2001-02. Moreover, as compared with capital outlay the picture is gloomier. Interest payments by the Mizoram Government have been averaged at about 42.1 percent of the capital outlay during the study period. It was peaked in the year 2001-02 at as high as 105 percent which means that interest payment was more than the total capital outlay in this particular year. As stated earlier the public debt service burden here indicates only the interest payments and it does not include repayment of the principal. If there has been no public debt to repay, amount spend for interest payments could have been used for creating assets i.e capital outlay. The magnitude of debt service burden as indicated in the interest payments during the study period, it can clearly be seen that debt service expenditure by the State government has been crowding out capital investments and that the State government have been in a severe debt trap. Moreover, as fiscal deficit widen, it is the extent of repayment obligations or debt service burden that often determine fiscal sustainability rather than simply the size of the debt or deficit.

**Table 19: Trends of Interest Payment**

Year	Interest payments (Rs Crore)	% to Total Government Expenditure	% to GSDP	% to Capital Expenditure	% to Capital Outlay
1987- 1988	13	4.2	4.5	21.7	29.5
1988 - 1989	2	0.7	0.7	3.6	4.3
1989 - 1990	1	0.3	0.3	1.6	1.9
1990 - 1991	33	6.6	9.7	16.8	56.9
1991 - 1992	13	3.1	2.8	14.0	17.1
1992 - 1993	28	5.7	5.3	24.1	29.2
1993 - 1994	23	4.4	3.2	22.3	27.7
1994 - 1995	30	5.1	4.1	23.3	28.3
1995 - 1996	35	4.9	3.7	23.3	28.2
1996 - 1997	48	5.9	4.5	25.4	30.0
1997 - 1998	66	7.6	5.9	31.7	39.5
1998 - 1999	74	8.3	5.9	36.6	51.7
1999 - 2000	94	8.1	6.7	35.3	45.9
2000 - 2001	101	7.8	5.8	38.0	61.6
2001 - 2002	146	11.0	7.5	71.2	105.0
2002 - 2003	133	9.5	6.1	48.5	70.7
2003 - 2004	167	9.1	7.2	31.0	44.9
2004 - 2005	182	10.0	6.8	43.0	55.2
2005 - 2006	185	8.5	6.2	31.7	41.0
2006 - 2007	229	10.0	7.0	39.6	49.1
2007- 2008	208	8.1	5.5	32.0	38.2
2008 - 2009	226	7.9	4.9	40.7	51.2
2009-10 (RE)	259	6.7	4.6	28.4	40.0
2010-11 (BE)	246	6.9	NA	36.9	63.4

**Sources:** RBI – Handbook of Statistics of State Government Finances 2010, State Finances: A Study of Budgets 2010 -11, Central Statistical Organization and own calculations

**Figure 18: Trends of Interest Payment**



#### 4.4 Public Debt Maturity Profile

It is crucially important to understand the importance of debt maturity profile to appropriately understand sustainability of government debt position. The maturity profile tells us over what period debt is due to be repaid (or refinanced). As far as debt sustainability issue is concern, the maturity profile is relevant for the analysis of possible liquidity problems. While government may have some control over the speed at which they reduce the deficit or outstanding debt, and while they would hope that making the right choices delivers a lower rate of interest, they have no ability in normal condition to influence the redemption profile of the existing debt. Therefore, much of the attention has to be dedicated to understand timeline of debt financing operations to properly assess debt sustainability.

Table 20 provides maturity profile of the outstanding liabilities or public debt of the Government of Mizoram. The maturity profile of the State

government debt indicated that about 57 percent of the total liabilities amounting to about Rs 2646 crores would have to be repaid within the next seven years (since March 2010). About 43 percent of the total liabilities have maturity of more than seven years (since March 2010).

The Mizoram Government debt maturity profile also compares unfavorably with average of all states combined as indicated in Table 21. While about 57 percent of the Mizoram Government debt will mature within seven years, it is about 39 percent in the case of average of all states combined and about 61 percent of the outstanding public debt has maturity of more than seven years.

**Table 20: Maturity profile of outstanding Mizoram State Government Securities**  
(as at end- March 2010)

<b>Maturity Buckets</b>	<b>Amount (Rs Crore)</b>	<b>% to total outstanding</b>
0-1 Years	73	1.56
1-3 Years	693	14.88
3-5 Years	371	7.97
5-7 Years	1510	32.43
Above 7 years	2009	43.15

**Table 21: Maturity profile of outstanding state governments securities (average of all states)**

<b>Maturity Buckets</b>	<b>% to total outstanding</b>
0-1 Years	3.03
1-3 Years	10.2
3-5 Years	12.69
5-7 Years	12.93
Above 7 years	61.14

**Source:** RBI - State Finances: A Study of Budgets 2010 -11

#### 4.5 Concluding Statement

The chapter assessed sustainability of public debt of Mizoram by employing widely accepted debt sustainability analytical framework including Domar debt stability condition and sustainability indicators analysis. The chapter also analyzes debt service burden of the State government and the maturity profile of the outstanding liabilities.

Result of the analysis indicated that the Domar stability condition was not fulfilled for six years (ie. 1988-89, 1990-91, 1994-95, 1997-98, 2003-04) during the study period. The data during the study period confirmed uncomfortably weak fiscal sustainability condition in terms of stability of public debt to GSDP ratio.

The sustainability indicators analysis based on four indicators: (i) The rate of growth of GSDP ( $Y$ ) should be more than the rate of growth of public debt ( $D$ ) =  $Y - D > 0$ ; (ii) Primary Deficit ( $PD$ ) should not be raising faster than GSDP =  $PD/GSDP < 0$ ; (iii) Interest burden defined by interest payments ( $IP$ ) to GSDP ratio should decline over time =  $IP/GSDP$  : and (iv) Interest payments as a proportion of government expenditure should decline overtime =  $IP/AE$  indicated that none of these conditions are fulfilled and the sustainability indicators clearly depicted unsustainable fiscal / debt condition of the State government.

Since the results clearly indicated weak fiscal condition and unsustainable level of public debt, even the necessary condition for sustainability based on empirical analysis with Domar Stability Condition and

sustainability indicators analysis are not fulfilled, further examination to assess sustainability of public debt of Government of Mizoram has not been conducted, as it was found unnecessary.

The study also finds that interest payment by Government of Mizoram has always been significantly high during the study period. Interest payments as percentage of total government expenditure have been in the range of 0.3 percent to 11 percent during the study period which is averaged at about 6.7 percent. In terms of percentage to Gross State Domestic Product (GSDP), it has been averaged at about 5.2 percent during the study period ranging between 0.3 percent to as high as 7.5 percent. More worrying picture has been indicated by the amount of interest payments as compared to total capital expenditure which averaged at about 30 percent during the study period. The public debt service burden here indicates only the interest payments and it does not include repayment of the principal. The magnitude of debt service burden as indicated by interest payments during the study period, considering poor availability of resources for capital investment, it can clearly be seen that debt service expenditure in the State has been crowding out capital investments and that the State has been in a severe debt trap. Moreover, as fiscal deficit widens, it is the extent of repayment obligations or debt service burden that often determine fiscal sustainability rather than simply the size of the debt or deficit.

The maturity profile of Mizoram Government debt indicated that about 57 percent of the total liabilities totaling about Rs 2646 crores would have to

be repaid within the next seven years (since March 2010). About 43 percent of the total liabilities have maturity of more than seven years (since March 2010). The Mizoram Government debt maturity profile also compares unfavorably with average of all the states combined. While about 57 percent of the Mizoram Government debt will mature within seven years, it is about 39 percent in the case of all states combined and about 61 percent of outstanding public debt has maturity of more than seven years.

# **CHAPTER- 6**

## **Data Analysis, Findings**



## Chapter VI

### ASSESSMENT OF THE IMPACT OF PUBLIC DEBT ON GROWTH: AN EMPIRICAL ANALYSIS

#### 6.1 Introductory Statement:

There has been a revival of interest among policymakers and researchers in understanding the linkages between fiscal policies and economic growth. However, literature on empirical analysis of the relationship between public debt and economic growth are rather scarce and they vary in terms of data sets, econometric techniques, and often produce conflicting results<sup>45</sup>. In the Keynesian model, increase in government expenditure (on infrastructures) or public debt leads to higher economic growth. Contrary to this view, the neo-classical growth models argue that government fiscal policy does not have any effect on the growth of national output. However, it has been argued that government fiscal policy (intervention) helps to improve failure that might arise from the inefficiencies of the market<sup>46</sup>. The relationship between fiscal policies (particularly public debt) and economic growth has continued to generate series of debate among scholars.

Higher government expenditure finance with borrowing may or may not contribute positively to the overall performance of the economy. For

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<sup>45</sup> Niloy Bose et al, (September 2007), "Public expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries", *Manchester School*. Vol. 75(5), September 2007, 533-556.

<sup>46</sup> Abu Nurudeen and Usman, Abdullahi, (June 18,2010), "Government expenditure and Economic Growth in Nigeria, 1970 – 2008: A Disaggregated Analysis", *Business and Economic Journal*, Volume 2011: BEJ-4, <http://astonjournals.com/bej> access on 26th November 2011.

instance, if government increases borrowing in order to finance its expenditure, it will compete (crowds-out) away the private sector, thus reducing private investment or it may spend substantive amount on servicing its existing liabilities that can otherwise be used for investment. This has been the case observed in Mizoram based on the analysis of the preceding chapter. Furthermore, in a bid to score cheap popularity and ensure that they continue to remain in power, politician and government officials sometimes increase public expenditure and investment in unproductive projects or in goods that the private sector can produce more efficiently. Thus, government activity sometimes produces misallocation of resources and impedes the growth of national output. In such cases, unfortunately, rising public debt for ever mounting public expenditure will not translated into meaningful growth and development.

In the previous section, the study analyzes trends and public expenditure and magnitude of outstanding liabilities or public debt in Mizoram. The study found that public debt has been increasing at a rapid rate during the study period and that it has been too high to be sustainable. We also looked at State's own resources that have been negligible as percentage to the total expenditure during the study period. With this backdrop, it is pertinent to undertake closer look at the linkages between fiscal policies (public debt) and economic growth. Particularly, this chapter will attempt to investigate the effect of public debt on economic growth in the State.

## **6.2 Analytical Framework**

Large debt stocks are typically expected to lower growth through the channel of reduced investment or expenditure which is usually described by the debt overhang hypothesis where debt is translated into sluggish economic growth. In such case, outstanding debt ultimately becomes so large that investment or expenditure will be inefficiently low without sizable debt or debt service reduction.

In order to find out the empirical evidence of the relationship between GSDP and public debt in Mizoram, the study analyses annual time series data from 1987-88 to 2010-11 (BE). The study first employed correlations analysis to check the association and interdependence of variables. Augmented Dickey–Fuller (ADF) test has been used to check the series whether it is normal and stationary. The study then conduct Pair-wise Granger Causality test to find out causal relationship between debt and GSDP growth. The study also checked the assumptions of the CLRM (Classical Linear Regression Model) and employed regression analysis to predict continuous dependent variables from independent variables. To check the robustness of the result, Breuch-Godfrey Serial Correlation LM Test, and ARCH (Auto regression conditional heteroscedasticity) LM test for Heteroscedasticity Test were used. The same empirical exercise has been conducted by studies undertaken by Rogoff and Reininhart (Growth in a Time of Debt, 2010), M. Kumar and Woo (Public Debt and Growth, 2010) and Bose, Haque and Osborn (2004).

In the process of our investigation, the study used data of GSDP and public debt (outstanding liabilities) on annual time series (1987-88 to 2010-11). For each variable we have constructed returns based on the actual time series. The returns (relative change) of the series are calculated based on the formula  $\left(\frac{x_t - x_{t-1}}{x_{t-1}}\right)$ .

**Table 22: Descriptive Statistics**

	RET_GSDP	RET_DEBT
Mean	0.148395	0.186129
Median	0.125858	0.167415
Maximum	0.363636	0.578947
Minimum	0.006993	-0.048485
Std. Dev.	0.091002	0.147581
Skewness	0.845957	0.945925
Kurtosis	3.166494	3.581988

In a regression model, to see the relationship between public debt and growth (GSDP) or to find the impact of public debt to growth (GSDP), growth is defined as a function of public debt. To check the robustness of the result, Breuch-Godfrey Serial Correlation LM Test, and ARCH LM test for heteroscedasticity Test were used and it is found that there is no auto correlation and heteroscedasticity in the regression model employed.

To determine the direction of causality when temporarily there is a lead lag relationship between the studied variables, the study employed Granger Causality test. It is found that the growth (GSDP) is granger causing public debt at 5<sup>th</sup> lag; and that public debt s not granger causes growth (GSDP).

VAR is used to resemble simultaneous equation modeling that we have considered all variables as endogenous variables. Each endogenous variable explained by its lagged or past values and the lagged values of all other endogenous variables in the model usually there is no exogenous variables in the model. The study also employed variance decomposition to determine how much of the forecast error variance of each of the variable can be explained by exogenous shocks to the other variables.

### 6.3 Results of the Empirical Analysis:

**Correlation Results:** The correlation coefficient,  $r$ , quantifies the direction and magnitude of correlation. As per the simple correlation results summarized at table 23, we can infer that the GSDP is having a negative correlation with public debt. However, the negative correlation between public debt and GSDP is not very strong (-0.47).

**Table 23: Correlations Result**

	RGSDP	RDEBT
RGSDP	1.000000	-0.465211
RDEBT	-0.465211	1.000000

However, the cross-correlation results (table 24) indicated that the growth (GSDP) and public debt are having a correlation with either signs consequently with negative in 0, 2, 4, 6, 8 and 9 lags. The cross correlations between the two series  $x$  and  $y$  are given by,

$$r_{xy}(l) = \frac{c_{xy}(l)}{\sqrt{c_{xx}(0) \cdot c_{yy}(0)}} \text{ and}$$

$$c_{xy}(l) = \begin{cases} \sum_{t=1}^{T-1} ((x_t - \bar{x})(y_{t+l} - \bar{y}) / T \\ \sum_{t=1}^{T-1} ((y_t - \bar{y})(x_{t-l} - \bar{x}) / T \end{cases}$$

Note that, unlike the autocorrelations, cross correlations are not necessarily symmetric around lag 0. The dotted lines in the cross-correlograms are the approximate two standard error bounds computed as  $\pm 2 / (\sqrt{T})$

**Table 24: Cross Correlograms**

RET_GSDP,RET_DEBT(-i)	RET_GSDP,RET_DEBT(+i)	i	lag	lead
*****  .	*****  .	0	-0.4652	-0.4652
.  ** .	. **  .	1	0.2234	-0.2017
. ***  .	.   .	2	-0.2634	-0.0388
.  ****	.  * .	3	0.4225	0.0896
****  .	.  *** .	4	-0.3947	0.3270
.  ****	. **  .	5	0.4108	-0.2269
.   .	.  *** .	6	-0.0195	0.2816
.   .	. *  .	7	0.0072	-0.0787
. *  .	.  *** .	8	-0.0770	0.3393
. *  .	. **  .	9	-0.1277	-0.1837
.  ** .	.  * .	10	0.1995	0.1463
.   .	. *  .	11	0.0087	-0.1398
.  * .	.  * .	12	0.1068	0.1081

\*\*\*, \*\* and \* denotes the results are significant at 1%, 5% and 10 % level

**Causality:** Even if a negative correlation between public and debt and growth (GSDP) was found, it still would not be a sound basis on which to draw policy conclusions as the result did not provide to causality. Pair-wise Granger Causality<sup>47</sup> tests are performed on GSDP growth and public debt for

<sup>47</sup> The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting the other. The test for Granger causality works by first doing a regression of Y on lagged values of Y. (Here Y is the first difference of the variable Y—

the entire sample allowing the lag length to vary between 2 and 5 years. The result is summarized below at table 25. In every case we cannot reject the hypothesis that growth in public debt does not Granger cause GSDP growth. By contract, we can reject the hypothesis that GSDP growth does not Granger causes a rise in public debt at 5<sup>th</sup> lag. In short, the statistical evidence suggests that the causality runs from growth to debt, and not the reverse but this evidence is clearly seen at 5<sup>th</sup> lag only. The result may have indicated five year plan periodicity. But our sample may not be large enough to draw that conclusion. The result may also indicate that high debt does not necessarily slow down GSDP growth. But public debt does not contribute positively to growth in GSDP, which is clearly indicated by the result.

**Table 25: Pair-wise Granger Causality Test Summary Result**

	Lag =2		Lags =3		Lags=4		Lags=5	
	F-Statistic	P-value	F-Statistic	P-value	F-Statistic	P-value	F-Statistic	P-value
RET_DEBT does not Granger Cause RET_GSDP	1.24983	0.314	1.19694	0.352	1.29822	0.3408	1.44868	0.329
RET_GSDP does not Granger Cause RET_DEBT	2.09674	0.157	1.29003	0.3226	2.63070	0.1050	3.63070	<b>0.0739</b>

that is,  $Y$  minus its one-period-prior value. The regressions are performed in terms of  $\Delta Y$  rather than  $Y$  if  $Y$  is not stationary but  $\Delta Y$  is.) Once the set of significant lagged values for  $Y$  is found (via t-statistics or p-values), the regression is augmented with lagged levels of  $X$ . Any particular lagged value of  $X$  is retained in the regression if (i) it is significant according to a t-test, and (ii) it and the other lagged values of  $X$  jointly add explanatory power to the model according to an F-test. Then the null hypothesis of no Granger causality is retained if and only if no lagged values of  $X$  have been retained in the regression. [http://en.wikipedia.org/wiki/Augmented\\_Dickey%E2%80%93Fuller\\_test](http://en.wikipedia.org/wiki/Augmented_Dickey%E2%80%93Fuller_test) access on 21th November 2011.

**Augmented Dickey Fuller Test<sup>48</sup>:** The ADF test result summarized at the following table indicated that the series are in stationary at levels and first differenced series.

**Table 26: Unit Roots Test - ADF**

Variable	ADF_Test_Statistic	P_value (lag)
Ret_GSDP	-5.231264	0.0004 (0)
Change in Ret_Debt	-10.84719	0.0000 (0)

**Regression Estimation:** Since our data is stationary at levels and first difference, we have used the same for conducting the regression analysis to find whether there is significance effect of the causal relationship exists between growth (GSDP) and public debt. A specification assumes a linear relationship between public debt and growth (GSDP):

$$rgsdp = S_0 + S_1 \Delta rdebt + v_t$$

<sup>48</sup> An augmented Dickey–Fuller test (ADF) is a test for a unit root in a time series sample. The augmented Dickey–Fuller (ADF) statistic, used in the test, is a negative number. The more negative it is, the stronger the rejection of the hypothesis that there is a unit roots at some level of confidence. The testing procedure applied to the model  $\Delta y_t = \gamma + \delta t + \alpha y_{t-1} + u \Delta y_{t-1} + \dots + u_{p-1} \Delta y_{t-p+1} + v_t$  where  $\gamma$  is a constant,  $\delta$  the coefficient on a time trend and  $p$  the lag order of the autoregressive process. Imposing the constraints  $\delta = 0$  and  $\alpha = 0$  corresponds to modelling a random walk and using the constraint  $\alpha = 0$  corresponds to modelling a random walk with a drift. The unit root test is carried out under the null hypothesis  $\alpha = 0$  against the alternative hypothesis of  $\alpha < 0$ . Once a value for the test statistic

$$DF_t = \frac{\hat{\alpha}}{SE(\hat{\alpha})}$$

is computed it can be compared to the relevant critical value for the Dickey–Fuller Test. If the test statistic is less (this test is non symmetrical so we do not consider an absolute value) than (a larger negative) the critical value, then the null hypothesis of  $\alpha = 0$  is rejected and no unit root is present. [http://en.wikipedia.org/wiki/Augmented\\_Dickey%E2%80%93Fuller\\_test](http://en.wikipedia.org/wiki/Augmented_Dickey%E2%80%93Fuller_test) access on 21<sup>st</sup> November 2011



where  $rgsdp$  represent returns of Gross State Domestic product,  $rdebt$  represent returns of public debt and  $s_0$  is the intercept.  $s_1$  is the coefficient of returns of debt and  $v_t$  is an error term.

The estimation result summarized at table 27 indicated that for the sample period (1987-88 to 2010-11), if public debt is fixed at zero, the average rate of actual GSDP would have been about 15 percent. The partial regression coefficient of -0.14 means that the actual GSDP on the average increased (decreased) by about 14 percent for every one unit decrease (increase) in the previous relative change of public debt over the study period.

**Table 27: Estimation Result**

Variable	Coefficient	Std.Error	t-Statistic
C	0.153095	0.018017	8.497304***
D (RET_DEBT)	-0.148808	0.079306	-1.876379**

\*\*\* and \*\* denotes the results are significant at 1 % and 5% level

*Robustness: The Durbin-Watson test* is a widely used method of testing for autocorrelation. The first-order Durbin-Watson statistic is printed by default (detail at the annexure). This statistic can be used to test for first-order autocorrelation. The D-W statistic is 2.19 is suspicious and with the help of Breusch-Godfrey Test for autocorrelation and ARCH-LM test for heteroscedasticity, the analysis found that there is no autocorrelation and heteroscedasticity exists in the regression model (details at the annexure).

<b>Table 28: Breusch-Godfrey Serial Correlation LM Test:</b>			
F-statistic	0.967030	Prob. F(2,17)	0.4002
Obs*R-squared	2.145089	Prob. Chi-Square(2)	0.3421

Heteroskedasticity Test: ARCH			
F-statistic	0.042075	Prob. F(1,18)	0.8398
Obs*R-squared	0.046641	Prob. Chi-Square(1)	0.8290

**VAR Estimations:** A recursive Vector autoregression (VAR)<sup>49</sup> constructs the error terms in each regression equation to be uncorrelated with the error in the preceding equations. This is done by judiciously including some contemporaneous values as regressors<sup>50</sup>. In this study we have only two variables returns on GSDP (rgsdp) and returns on public debt (rdebt). In the equation of the corresponding recursive VAR, rgsdp is the dependent variable, and the regressor is lagged value of rdebt and vice versa:

$$\begin{bmatrix} rgsdp \\ rdebt \end{bmatrix} = \begin{bmatrix} c1 \\ c2 \end{bmatrix} + \sum_{s=1}^2 \begin{bmatrix} S_{11} & S_{12} \\ S_{21} & S_{22} \end{bmatrix} \begin{bmatrix} rgsdp_{t-s} \\ rdebt_{t-s} \end{bmatrix} + \begin{bmatrix} u_{1t} \\ u_{2t} \end{bmatrix}$$

---

<sup>49</sup> VAR is a statistical model used to capture the linear interdependencies among multiple time series. All the variables in a VAR are treated symmetrically; each variable has an equation explaining its evolution based on its own lags and the lags of all the other variables in the model. VAR model provides a theory-free method to estimate economic relationships, thus being an alternative to the "incredible identification restrictions" in structural models [http://en.wikipedia.org/wiki/Vector\\_autoregression](http://en.wikipedia.org/wiki/Vector_autoregression) access on 21st November 2011

<sup>50</sup> James H. Stock and Watson, Mark W. (2001), "Vector Autoregressions", *Jornal of Economic Perspectives* – Volume 15, Number 4 – Fall 2011, pg. 101-115

**Table 29: Vector Autoregression Estimates**

Date: 11/20/11 Time: 16:24

Sample (adjusted): 1991 2010

Included observations: 20 after adjustments

Standard errors in ( ) &amp; t-statistics in [ ]

	RET_GSDP	RET_DEBT
RET_GSDP(-1)	-0.001768 (0.25530) [-0.00692]	-0.823189 (0.40225) [-2.04648]
RET_GSDP(-2)	0.343713 (0.26491) [ 1.29746]	-0.152038 (0.41739) [-0.36426]
RET_DEBT(-1)	0.238079 (0.16726) [ 1.42341]	-0.403797 (0.26353) [-1.53226]
RET_DEBT(-2)	-0.017417 (0.16254) [-0.10715]	0.271680 (0.25610) [ 1.06085]
C	0.071276 (0.09711) [ 0.73400]	0.340674 (0.15300) [ 2.22665]
R-squared	0.242744	0.315253
Adj. R-squared	0.040809	0.132654
Sum sq. resids	0.111734	0.277373
S.E. equation	0.086307	0.135984
F-statistic	1.202088	1.726477
Log likelihood	23.49487	14.40247
Akaike AIC	-1.849487	-0.940247
Schwarz SC	-1.600554	-0.691314
Mean dependent	0.158718	0.175889
S.D. dependent	0.088124	0.146013
Determinant resid covariance (dof adj.)		0.000118
Determinant resid covariance		6.64E-05
Log likelihood		39.43732
Akaike information criterion		-2.943732
Schwarz criterion		-2.445866

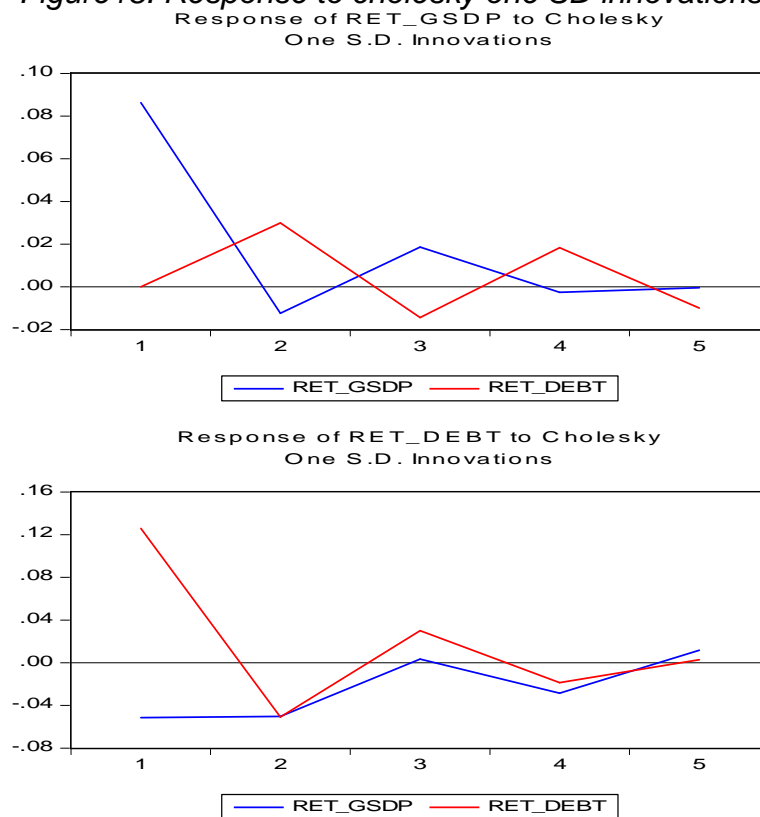
Standard errors in ( ) &amp; t-statistics in [ ]

The impulse responses are investigated using impulse-response functions, which describe the response of a variable to a one-time shock to one of the elements of  $u_t$ . This study uses a *Cholesky decomposition* to

identify the disturbances  $u_t$ . The impulse responses trace out the response of current and future values of each of the variables to a one-unit increase in the current value of one of the VAR errors, assuming that this error returns to zero in subsequent periods and that all other errors are equal to zero.

The impulse responses for the VAT are plotted in figure 18. The result indicated that response of GSDP to public debt is positive in 2 and 4 years and negative in the consecutive years. However, response of public debt to GSDP is positive and increasing.

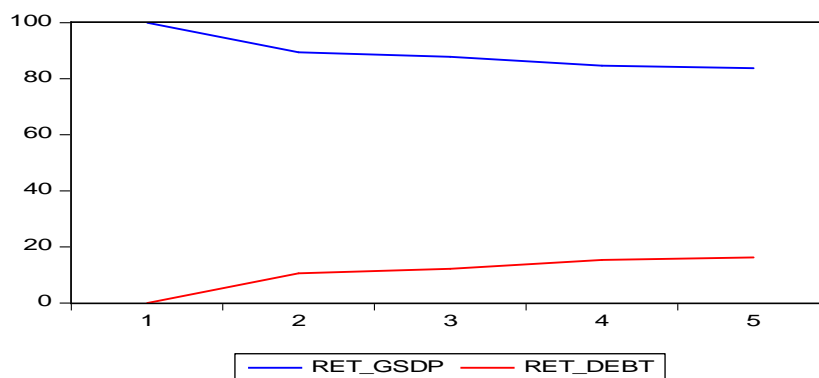
**Figure 18: Response to cholesky one SD innovations**



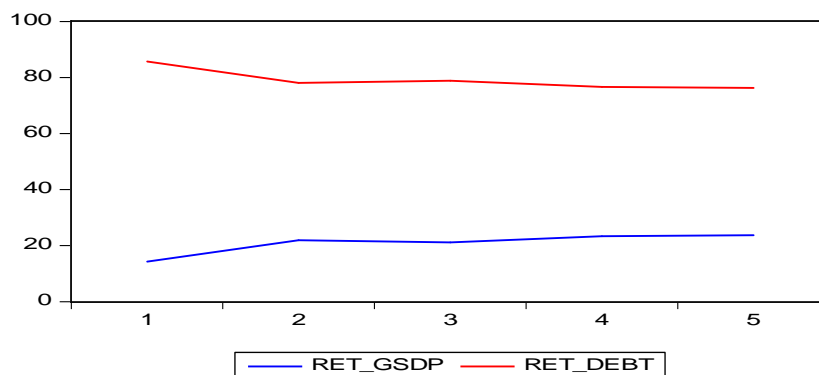
**Variance Decompositions:** Variance decomposition or forecast error variance decomposition indicates the amount of information each variable

contributes to the other variables in a vector auto regression (VAR) models. Variance decomposition determines how much of the forecast error variance of each of the variable can be explained by exogenous shocks to the other variables. The method posits a sort of “causal chain” of shocks. The first shock affects all of the variables at time t. The second only affects two of them at time t, and the last shock only affects the last variable at time t. The reasoning usually relies on arguments such as “certain variables are sticky and don’t respond immediately to some shocks.” The variance decomposition is plotted at figure 19 below and it indicates that both GSDP and public debt are moving inverse relationship and relative change in growth will have opposite effect of debt and visa-versa.

**Figure 19: Variance Decomposition**  
 Variance Decomposition of RET\_GSDP



Variance Decomposition of RET\_DEBT



**Table 30: Cholesky and Variance Decomposition Results**

Variance Decomposition of RET_GSDP:				
Period		S.E.	RET_GSDP	RET_DEBT
	1	0.086307	100.0000	0.000000
	2	0.092200	89.43007	10.56993
	3	0.095147	87.80004	12.19996
	4	0.096939	84.65570	15.34430
	5	0.097448	83.77534	16.22466

Variance Decomposition of RET_DEBT:				
Period		S.E.	RET_GSDP	RET_DEBT
	1	0.135984	14.27258	85.72742
	2	0.153645	21.89887	78.10113
	3	0.156595	21.12933	78.87067
	4	0.160259	23.33323	76.66677
	5	0.160712	23.73551	76.26449

Cholesky Ordering: RET\_GSDP RET\_DEBT

Response of RET_GSDP:			
Period		RET_GSDP	RET_DEBT
	1	0.086307	0.000000
		(0.01365)	(0.00000)
	2	-0.012383	0.029976
		(0.02151)	(0.02159)
	3	0.018606	-0.014350
		(0.02064)	(0.02012)
	4	-0.002597	0.018370
		(0.01701)	(0.01473)
	5	-0.000441	-0.009939
		(0.01307)	(0.01219)

Response of RET_DEBT:			
Period		RET_GSDP	RET_DEBT
	1	-0.051373	0.125906
		(0.02930)	(0.01991)
	2	-0.050303	-0.050841
		(0.03493)	(0.03414)
	3	0.003427	0.030060
		(0.03456)	(0.03391)
	4	-0.028483	-0.018695
		(0.02847)	(0.02511)
	5	0.011742	0.002775
		(0.02205)	(0.02046)

Cholesky Ordering: RET\_GSDP RET\_DEBT  
Standard Errors: Analytic

#### **6.4 Concluding Statement:**

The chapter analyses linkages between fiscal policies (public debt) and economic growth. Attempt has been made in particularly to investigate the effect of public debt on economic growth (GSDP) in Mizoram.

To find out empirical evidence of the relationship between GSDP and Public Debt in Mizoram, the study analyzes annual time series data from 1987-88 to 2010-11 (BE). The study first employed correlations to check the association and interdependent of variables. ADF test has been used to check normalcy and stationary of the series. The study also checked the assumptions of the CLRM and employed regression analysis to predict continuous dependent variables from a number of independent variables.

The simple correlation results indicated that the GSDP is having a negative correlation with public debt. However, the negative correlation between public debt and GSDP is not very strong (-0.47). Further, the cross-correlation result indicated that the growth (GSDP) and public debt are having a correlation with either signs consequently during the study period with negative correlation in the 0, 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> lags.

A closer look at the causality between public debt and GSDP indicated that in every case we cannot reject the hypothesis that growth in public debt does not Granger causes GSDP growth. By contrast, we can reject the hypothesis that GSDP growth does not Granger causes a rise in public debt at 5<sup>th</sup> lag. In short, the statistical evidence suggests that the causality runs from growth to debt, and not the reverse but this evidence is clearly seen at

5<sup>th</sup> lag only. The result may have indicated five year plan periodicity. But our sample is not large enough to draw that conclusion. The result may also indicate that high debt does not necessarily slow down GSDP growth. But the result clearly indicated that public debt does not contribute positively to growth of GSDP in the State.

The regression estimation result indicated rather strong result, for the sample period (1987-88 to 2010-11), if public debt is fixed at zero, the average rate of actual GSDP would have been about 15 percent. The partial regression coefficient indicated that the actual GSDP on the average increased (decreased) by about 14 percent for every one unit decrease (increase) in the previous relative change of public debt over the study period.

Additionally, Vector autoregression (VAR) estimation has been conducted. The *Cholesky decomposition* and Variance Decomposition plotted from the VAR results has further confirmed negative response of GSDP to public debt.



**ANNEXURE**

**Annex 1: ADF\_Tests\_Statistics**

Null Hypothesis: RET\_GSDP has a unit root  
 Exogenous: Constant  
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.231264	0.0004
Test critical values: 1% level	-3.788030	
5% level	-3.012363	
10% level	-2.646119	

\*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(RET\_GSDP)  
 Method: Least Squares  
 Date: 12/20/11 Time: 16:01  
 Sample (adjusted): 1990 2010  
 Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RET_GSDP(-1)	-1.137360	0.217416	-5.231264	0.0000
C	0.174973	0.036907	4.740908	0.0001
R-squared	0.590218	Mean dependent var		0.010654
Adjusted R-squared	0.568651	S.D. dependent var		0.135204
S.E. of regression	0.088798	Akaike info criterion		-1.914514
Sum squared resid	0.149816	Schwarz criterion		-1.815036
Log likelihood	22.10240	Hannan-Quinn criter.		-1.892925
F-statistic	27.36612	Durbin-Watson stat		2.002525
Prob(F-statistic)	0.000048			

Null Hypothesis: D(RET\_DEBT) has a unit root  
 Exogenous: None  
 Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-10.84719	0.0000
Test critical values: 1% level	-2.685718	
5% level	-1.959071	
10% level	-1.607456	

\*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(RET\_DEBT,2)  
 Method: Least Squares  
 Date: 12/20/11 Time: 16:03

Sample (adjusted): 1991 2010  
 Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RET_DEBT(-1))	-1.696924	0.156439	-10.84719	0.0000
R-squared	0.860779	Mean dependent var		0.015737
Adjusted R-squared	0.860779	S.D. dependent var		0.435420
S.E. of regression	0.162465	Akaike info criterion		-0.747999
Sum squared resid	0.501504	Schwarz criterion		-0.698213
Log likelihood	8.479992	Hannan-Quinn criter.		-0.738280
Durbin-Watson stat	2.068089			

### Annex 2: Tests for Serial Correlation and Heteroscedasticity

Dependent Variable: RET\_GSDP  
 Method: Least Squares  
 Date: 12/20/11 Time: 16:12  
 Sample (adjusted): 1990 2010  
 Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.153095	0.018017	8.497304	0.0000
D(RET_DEBT)	-0.148808	0.079306	-1.876379	0.0761
R-squared	0.156335	Mean dependent var		0.155128
Adjusted R-squared	0.111932	S.D. dependent var		0.087454
S.E. of regression	0.082414	Akaike info criterion		-2.063724
Sum squared resid	0.129050	Schwarz criterion		-1.964246
Log likelihood	23.66911	Hannan-Quinn criter.		-2.042135
F-statistic	3.520800	Durbin-Watson stat		2.194460
Prob(F-statistic)	0.076050			

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.967030	Prob. F(2,17)	0.4002
Obs*R-squared	2.145089	Prob. Chi-Square(2)	0.3421

Test Equation:  
 Dependent Variable: RESID  
 Method: Least Squares  
 Date: 12/20/11 Time: 16:18  
 Sample: 1990 2010  
 Included observations: 21  
 Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000276	0.018126	0.015233	0.9880

D(RET_DEBT)	-0.055365	0.089065	-0.621626	0.5424
RESID(-1)	-0.155028	0.245274	-0.632060	0.5358
RESID(-2)	0.305989	0.266856	1.146646	0.2674
R-squared	0.102147	Mean dependent var	0.000000	
Adjusted R-squared	-0.056298	S.D. dependent var	0.080327	
S.E. of regression	0.082558	Akaike info criterion	-1.980997	
Sum squared resid	0.115868	Schwarz criterion	-1.782041	
Log likelihood	24.80047	Hannan-Quinn criter.	-1.937818	
F-statistic	0.644687	Durbin-Watson stat	1.680380	
Prob(F-statistic)	0.596862			

Heteroskedasticity Test: ARCH

F-statistic	0.042075	Prob. F(1,18)	0.8398
Obs*R-squared	0.046641	Prob. Chi-Square(1)	0.8290

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 12/20/11 Time: 16:19

Sample (adjusted): 1991 2010

Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.005603	0.002606	2.150108	0.0454
RESID^2(-1)	0.047963	0.233828	0.205122	0.8398
R-squared	0.002332	Mean dependent var	0.005893	
Adjusted R-squared	-0.053094	S.D. dependent var	0.009529	
S.E. of regression	0.009779	Akaike info criterion	-6.322561	
Sum squared resid	0.001721	Schwarz criterion	-6.222988	
Log likelihood	65.22561	Hannan-Quinn criter.	-6.303123	
F-statistic	0.042075	Durbin-Watson stat	1.975906	
Prob(F-statistic)	0.839778			

## **CHAPTER- 7**

### **Suggestions and Conclusion**

## Chapter VII

### SUMMARY OF FINDINGS AND POLICY IMPLICATIONS

#### 7.1 Introductory Statement:

The concluding chapter provides a summary of the research findings. An attempt is made to address issues relating to public debt management in order to give practical and constructive suggestions for policy measures and immediate actions called for based on the research findings. There are several policy implications arising from the research findings on current public debt trajectories and fiscal condition in the State.

Chapter I provides an overview and design of the research including justification and reason of the research topic, objectives of the research, hypotheses, theoretical perspectives, review of literature, methodology and data sources. Chapter II examined trends in public expenditure pattern. The chapter analyzed separately trends in the revenue and capital expenditure. The chapter also analyzed trends in developmental and non-developmental expenditure. Chapter III analyzed trends in the key fiscal deficit/surplus indicators and conducted a detail examination on the composition of fiscal deficit and its financing. The chapter also analyzed trends in the State's own resources. Further, the chapter provides assessment of fiscal performance vis-à-vis the State government's target under the FRBMA and Debt Management Manual. Chapter IV provides details of the magnitude and dimensions of the public debt and analysed the changing compositions. The analysis also takes into account the trends in public debt as a whole and the

changing share of different components. Chapter V presents an assessment of the sustainability of public debt in Mizoram. It analyses the outstanding liability, maturity profile and debt service burden. The chapter also assessed public debt / fiscal sustainability in the State. Chapter VI provides an empirical analysis on the impact of public debt to GSDP growth. This concluding chapter provides summary of the research findings and policy implications. Attempt will be made to address issues relating to public debt management in order to give practical and constructive suggestions for policy measures and immediate actions called for based on the research findings.

## **7.2 Summary of the Key Research Findings:**

The study undertook detail analysis of the trends in expenditure patterns of the Mizoram Government. There are several interesting result arising from the research findings relating to fiscal imbalances including the followings observations:

- There has been tremendous increase in the total public expenditure in Mizoram during the study period 1987-88 to 2010-11. In absolute terms, the total public expenditure increased from Rs. 306 crores in 1987-88 to Rs. 3869 crores in 2009- 10 (RE). Moreover, the ratio of public expenditure to the Net State Domestic Product has always been high during the study period. Public expenditure as a percentage of Net State Domestic Product peaked at 164.1 percent in 1990-91 and is lowest at 72.7 percent in 2002- 03 during the study period.

- The percentage share of revenue expenditure to total government expenditure has always been uncomfortably high during the study period which peaked at 84.62 percent in 2001-02 and lowest at 60.8 percent in 1990-91. On the average during the study period, revenue expenditure accounted for 77.3 percent and capital expenditure accounted for merely 22.7 percent.
- Developmental expenditure has always been more than 60 percent in the revenue account. However, percentage share of non-developmental expenditure has been increasing albeit gradually and the percentage share of developmental expenditure has shown a steady fall. Developmental expenditure, as a proportion of the total revenue expenditure decreased from 71.1 percent in 1990-91 to 63.5 percent in 2010-11 (BE) 2000 while non-developmental expenditure increased from 28.9 percent to 36.5 percent during the same period.
- The share of developmental expenditure in the capital account during 1990-91 to 2010-11 (BE) is 78.9 percent and it has shown a declining trend from 89.2 percent in 1991-92 to 58.3 percent in 2010-11 (BE). Meanwhile non-developmental expenditure increased at an uncomfortable pace from 10.8 percent in 1991-92 to as high as 41.7 percent in 2010-11 (BE). Since, capital account is more in the nature of investment and as such expenditure on this account is expected to have resulting in creation of assets. Persistent increase in non-developmental expenditure in the capital account is worrisome as

much of the capital account is expected to be finance by creating debts.

The study conducted a detail analysis of key fiscal indicators of the Mizoram Government and the following observations, arising from the findings, are made:

- Government of Mizoram has been continuously running fiscal deficits, barring two years (1989-90 and 1990-91), during the study period. The period from 1994-95 onwards has been showing a persistent increase in the fiscal deficits. In terms of percentage to GSDP, it has been painfully high in most of the years during the study period. However, it has shown a declining trend though scattered year on year basis from as high as 35.7 percent deficit in 1987-88 to 6.9 percent in 2009-10 (RE).
- There has been a revenue surplus except in four years (1987-88, 200-01, 2001-02, and 2002-03) during the study period. However, this does not mean that the State government is running a fiscal surplus as has been shown by the Gross Fiscal Deficit.
- Primary Deficit has been persistently high during the study period and there has been primary surplus in the following years: 1989-90, 1990-91, 1991-92, 1993-94, 2006-07, 2008-09, 2010-11 (BE) indicating that interest payments by the State government has been higher than the Gross Fiscal Deficit in those years.



- Decomposition of fiscal deficit into revenue deficit, capital outlay and net lending suggested that barring four years (1987-88, 2000-2001, 2001-02, and 2002-03), Mizoram Government has revenue surplus in all other years during the study period while major share of the fiscal deficit has been recorded on account of capital outlay.
- The analysis of the contribution of State's own revenue to the State government expenditure clearly indicated that the State government finances have been heavily dependent on central transfer and fiscal deficits (debt). The share of State's own revenue (both tax and non-tax revenue) has remained meagerly low at 7.3 percent on the average during the study period indicating the State's inability to take appropriate measures to generate tax revenue and its failure to adequately generate returns from public investments.
- The assessment of the fiscal performance based on the FRBMA and Debt Management Manual targets indicated that as regard fiscal deficit to GSDP and revenue deficit/surplus to GSDP the Mizoram Government is doing well and even outperformed target set out in the official policy documents. However, as regards total outstanding liabilities as percentage to total revenue receipt and interest payments as percentage to total revenue receipt the performance has been highly unsatisfactory. Besides, the State government has not been able to take ambitious policy measures to reduce debt/GSDP ratio. The results indicated that fiscal policy stance of the State government

during 2008-09 and 2009-10 has been haunted by bad performances of the previous year's which is reflected by the overtly high outstanding liabilities and high debt service burden (interest payments).

The study conducted a detail analysis on trends of public debt, its composition and changes in percentage share of its components over the study period (1987-88 to 2010-11). The research findings include the following observations:

- The analysis of Mizoram Government outstanding liabilities indicated that the public debt stock has been increased by more than double in absolute terms and almost double in percentage to GSDP terms during the study period. The debt / GSDP in 1987-88 was 61.1 percent (Rs 179 crore in absolute terms) to 109.1 percent in 2009-10 (Rs 3611 crore in absolute terms) in the revised estimates which is expected to be moderated down to 98.1 percent of GSDP in 2010-11 budget estimates. Rapid and persistent rise in the debt / GSDP ratio indicates a continual and persistent borrowing by the State Government.
- Comparatively, the debt / GSDP ratio of Mizoram Government has always been far greater than averages of all the states in India during the study period. A state-wise trend indicated that Mizoram is currently having the highest debt to GSDP ratio as per 2010-2011 (BE) even among the special category states. The debt condition is a vexing issue in policy analysis as the situation reinforces the growing

vulnerability of the Mizoram economy and accelerated its slide into macroeconomic instability.

- There have been significant changes in the share of various components of the outstanding liabilities (public debt stock) of Government of Mizoram. The share of loans from the central government has been declining while share of internal debt, provident fund and deposits and advances increases significantly over the study period.
- The analysis shows that there has been an increasing recourse to market loans by the State government in terms of actual amount as well as in percentage terms during the study period. And that State Development Loans (SDLs) has formed the single largest component of the internal debt in the Mizoram Government total outstanding liabilities.

The study conducted an assessment of public debt sustainability of Mizoram. The result indicated a weak fiscal condition and worrisome public debt situation which calls for immediate policy actions.

- The analytical results indicated that the Domar stability condition have not been fulfilled for six years (ie. 1988-89, 1990-91, 1994-95, 1997-98, 2003-04) during the study period. The data during the study period confirmed uncomfortably weak fiscal sustainability condition in terms of stability of public debt to GSDP ratio.

- The sustainability indicators analyses based on four indicators: (i) The rate of growth of GSDP (Y) should be more than the rate of growth of public debt (D) =  $Y - D > 0$ ; (ii) Primary Deficit (PD) should not be raising faster than GSDP =  $PD/GSDP < 0$ ; (iii) Interest burden defined by interest payments (IP) to GSDP ratio should decline over time =  $IP/GSDP$  : and (iv) Interest payments as a proportion of government expenditure should decline overtime =  $IP/AE$  indicated that none of these conditions are fulfilled and the indicators clearly depicted unsustainable public debt condition in the State.
- Since the above two results clearly indicates unsustainable level of public debt, further analysis on public debt sustainability has not been conducted.
- The study also finds that interest payment by Government of Mizoram has always been significantly high during the study period. Interest payments as percentage of total government expenditure have been in the range of 0.3 percent to 11 percent during the study period which averaged at about 6.7 percent. In terms of percentage to the Gross State Domestic Product (GSDP) it averaged at about 5.2 percent during the study period which is ranging between 0.3 percent to as high as 7.5 percent. A more worrying picture has been indicated by the amount of interest payments as compared to the total capital expenditure which averaged at 30 percent during the study period. The public debt service burden here indicates only the interest

payments and it does not include repayment of the principal. The magnitude of debt service burden as indicated in the interest payments during the study period, considering poor availability of resources for capital investment, it can clearly be seen that debt service expenditure in the State has been crowding out capital investments and that the State has been in a severe debt trap. Moreover, as fiscal deficit widens, it is the extent of repayment obligations or debt service burden that often determine fiscal sustainability rather than simply the size of the debt or deficit.

- The maturity profile of the State government debt indicated that about 57 percent of the total liabilities totaling about Rs 2646 crores would have to be repaid within the next seven years (since March 2010). About 43 percent of the total liabilities have maturity of more than seven years (since March 2010). The Mizoram Government debt maturity profile also compares unfavorably with average of all the states combined. While about 57 percent of the Mizoram Government debt will mature within seven years, it is about 39 percent in the case average of all the states combined and about 61 percent of outstanding public debt has maturity of more than seven years.

Finally, the study conducted an empirical analysis on the linkages between fiscal policies (public debt) and economic growth particularly investigating the effect of public debt on economic growth (GSDP). The result indicated the following striking observations:

- The simple correlation results indicated that the GSDP growth is having a negative correlation with public debt. However, the negative correlation between public debt and GSDP is not very strong (-0.47). Further, the cross-correlation result indicated that the growth (GSDP) and public debt are having a correlation with either signs consequently during the study period with negative correlation in the 0, 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> lags.
- A closer look at the causality between public debt and GSDP growth indicated that high debt does not necessarily slow down GSDP growth. But the result clearly indicated that public debt does not contribute positively to growth in GSDP.
- The regression estimation result indicated rather a strong result, for the sample period (1987-88 to 2010-11) indicating that the actual GSDP on the average increased (decreased) by about 14 percent for every one unit decrease (increase) in the previous relative change of public debt over the study period. Vector autoregression (VAR) estimation result based on the Cholesky decomposition and Variance Decomposition further confirmed negative response of GSDP to public debt.

The research findings can now be employed to evaluate the hypotheses placed in the first chapter for obtaining an adequate explanation of public debt situations and observation on policy implications. The

hypotheses specified in the first chapter and the research findings are set out below:

- e) **Hypothesis I:** *There has been persistent and rapid growth of public debt in Mizoram.* The analysis of Mizoram Government outstanding liabilities indicated that the public debt stock of Mizoram has increased by more than double in absolute term and almost double in percentage to GSDP terms during the study period. Rapid and persistent rise in debt / GSDP ratio also indicates continual and persistent borrowing by the State government. Besides, comparative position of the public debt situation has indicated that Mizoram has been among the state with the largest public debt to GSDP ratio. The research findings clearly proof the hypothesis.
- f) **Hypothesis II:** *There has been an increase in public expenditure and steady deterioration in the quality of public expenditure in Mizoram Government which has contributed to the rapid growth of public debt in the State.* The research findings clearly indicated that there has been tremendous increase in total public expenditure in Mizoram during the study period 1987-88 to 2010-11. In absolute terms, the total public expenditure increased from Rs. 306 crores in 1987-88 to Rs. 3869 crores in 2009- 10 (RE). Moreover, the ratio of public expenditure to the Net State Domestic Product has always been high during the study period. Public expenditure as a percentage of the Net State Domestic Product peaked at 164.1 percent in 1990-91 and is

lowest at 72.7 percent in 2002- 03 during the study period. Moreover, the percentage share of revenue expenditure to total government expenditure has always been uncomfortably high during the study period and that share of developmental expenditure in both the capital and revenue account has witnessed a declining trend during the study period while share of non-developmental expenditure depicted gradual increase. The analysis clearly indicates deterioration in the quality of public expenditure. Further, the analysis of the contribution of State's own revenue clearly indicated that the State government finances have been heavily dependent on central transfer and fiscal deficits (debt) depicting weak fiscal policy stance of the State government. The research findings provide proofs of the hypothesis.

- **Hypothesis III:** *The amount of public debt stock in Mizoram is not sustainable.* The study conducted an assessment of public sustainability of Mizoram based on the most widely recognized statistical framework and the result indicated weak fiscal condition and unsustainable public debt situation which calls for immediate policy actions. The analytical results indicated that the Domar stability condition has not been fulfilled for six years (ie. 1988-89, 1990-91, 1994-95, 1997-98, 2003-04) during the study period. The sustainability indicators analysis based on four indicators: (i) The rate of growth of GSDP (Y) should be more than the rate of growth of public debt (D) =  $Y - D > 0$ ; (ii) Primary Deficit (PD) should not be raising faster than



GSDP = PD/GSDP < 0; (iii) Interest burden defined by interest payments (IP) to GSDP ratio should decline over time = IP/GSDP : and (iv) Interest payments as a proportion of government expenditure should decline overtime = IP/AE indicated that none of these conditions are fulfilled and the sustainability indicators clearly depicted unsustainable public debt condition in the State. Since the above results clearly indicated weak fiscal condition and unsustainable level of public debt, further analysis on public debt sustainability has not been conducted. The study also finds that debt service burden has been uncomfortably high during the study period with interest payment during the study period which averaged at about 5.2 percent to the Gross State Domestic Product (GSDP). The magnitude of debt service burden as indicated in the interest payments during the study period, considering poor availability of resources for capital investment, it can clearly be seen that debt service expenditure in the state has been crowding out capital investments and that the State has been in a severe debt trap. Further, the maturity profile of Mizoram public debt indicated that about 57 percent of the total liabilities totaling about Rs 2646 crores would have to be repaid within the next seven years (since March 2010). About 43 percent of the total liabilities only have maturity of more than seven years (since March 2010). The Mizoram public debt maturity profile also compares unfavorably with average of all the states combined. While about 57

percent of the Mizoram public debt will mature within seven years, it is about 39 percent in the case of average of all the states combined and about 61 percent of outstanding public debt will mature in more than seven years. The research findings provide proofs of the hypothesis.

- **Hypothesis IV:** *High public debt in Mizoram is contributing negatively to economic growth.* The study analyses linkages between fiscal policies (public debt) and economic growth particularly investigating the effect of public debt on economic growth (GSDP). The simple correlation results indicated negative correlation of GSDP with public debt. However, the negative correlation between public debt and GSDP is not very strong (-0.47). Further, the cross-correlation result indicated that the growth (GSDP) and public debt are having a correlation with either signs consequently during the study period with negative correlation in the 0, 2<sup>nd</sup>, 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> lags. However, a closer look at the causality between public debt and GSDP indicated that that even though it is not evidently clear that high debt may be resulting in slow down of GSDP growth, it is clearly seen that public debt did not contribute to growth in GSDP during the study period. The regression estimation result indicated rather strong result indicating that the actual GSDP on the average increased (decreased) by about 14% for every one unit decrease (increase) in the previous relative change of public debt over the study period. Vector autoregression (VAR) estimation result based on the Cholesky decomposition and

Variance Decomposition has further confirmed negative response of GSDP to public debt. The empirical analysis result provides proofs of the hypothesis.

### **7.3 Policy Implications:**

The findings of the research summarizes in the above section indicated several policy implications. The primary objective of the research is to test the hypotheses put forward in the first chapter to understand the condition of public debt in Mizoram so as to provide observations on policy implications. As already explained in the previous section, the four hypotheses put forward for the research has been proved and this section will infer policy implications from the research findings.

On the expenditure side, the research findings indicated that there has been persistent growth of public expenditure during the study period and that percentage share of non-developmental expenditure has witnessed increasing trends both in the revenue and capital accounts. The findings depicted both quantity and quality issues as regard public expenditure. Firstly, persistent increase in public expenditure would need to be rationalized or checked. Secondly, a paradigm shift in public expenditure pattern would need to be evolved to enhance the quality of public expenditure in the State.

On the revenue side, the research findings indicated that the State government has been relying heavily on central transfer and public debt during the study period to cover its ever mounting expenditure. However, the research findings clearly indicated that the State government has not been able to step up its own efforts to raise its own revenue neither through tax or public investments. State's own resources would need to be strengthened and all necessary policy measures have to be taken to enhance them. Moreover, heavy dependence on transfers from central governments seems to have been resulting in excessive spending (may be due to common pool problem, moral hazard and adverse selection) and fiscal laziness (lack of effort to rise own resources) in Mizoram.

The research findings indicated several policy implications regarding fiscal management in the State.

Firstly, the growing State government debt to Gross State Domestic Product ratio (debt/GSDP) would need to be stabilized and put on a sustainable path. It is important to note that the importance of analyzing the magnitude of government debt is linked to answering questions related to a government's solvency. The overtly high level of State's outstanding liabilities is not sustainable. In spite of these facts, so far the state government has not been able to put forward credible fiscal policy measures towards managing mounting debt of the State government.

Secondly, fiscal surveillance will have to be put more emphasis on sustainability indicators. The analyses of the key fiscal indicators clearly

indicated a weak and worrisome fiscal condition in the State that calls for immediate policy measures. As compared to fiscal targets set forth by the State government, public debt indicators imply weak fiscal performance of the State Government during the study period resulting in unsustainable fiscal condition in the State. The State government will have to be seriously mindful of what these sustainability indicators indicate while crafting its fiscal policy.

Thirdly, beyond the size of government debt, its composition is also a key factor in determining public finance vulnerabilities. For example, the research analysis finds that there has been an increasing recourse to market loans by the Mizoram Government in terms of actual amount as well as in percentage terms. The increasing share of market borrowing in the composition may not be sustainable in the long run as markets borrowing often bear high interest with shorter maturity profile. The State government would need to carefully watch out for more favorable components to ease debt service burden.

Fourthly, debt service burdens (interest payments) have been putting so much pressure on the already weak State government fiscal condition. Moreover, maturity profile of the debt stock is not favorable either. Since debt service burden has been considered to be the key factor in determining public finance vulnerabilities, the State government would need to take necessary measure to bring down the burden and also to address concerns

about the management of these liabilities towards a more optimal maturity structure.

Lastly, the empirical findings indicated evidence of public debt accumulation not been able to contribute positively to economic growth (GSDP) in the State. High public debt has rather impacted negatively to growth (GSDP), as negative correlation was found with growth. In normal terms, public debt has been incurred with the main objective of enhancing planned investment for economic development. Public borrowing is therefore expected to enhanced capital investment and then increased productivity in the economy. This has clearly not been the case in Mizoram as public debt is rather contributing negatively to the GSDP growth. The State government would need to develop a focused public expenditure management strategy and evolved transparent debt management framework.

To sum, the research findings calls for effective fiscal reforms in the context of managing alarming public debt problems, and enhancing the quality and efficiency of public expenditure. Perhaps, fiscal reform should be accorded the highest priority for sustaining economic growth in the State.

#### **7.4 Concluding Observations:**

As with any piece of research, the present research has certain limitations at various stages mainly found in the aspects of the research

coverage due to lack of data availability and pragmatically in getting the research implemented.

Firstly, the research depended heavily on the Reserve Bank of India's various publications for consistency. As far as state finances data are concerns, several cases have been found that other data sources have not been consistent due to definitional problems and gaps in data compilation. Moreover, the present research cover the period from 1987-88 to 2010-11 (BE) only as sufficient data before 1987 could not be found to conduct credible analysis.

Secondly, as already stated earlier, the present research could not include contingent liabilities or the "stock-flow reconciliation" in the analysis due to non-availability of data on contingent liabilities of the State government. The empirical findings would have been much gloomier if the present research could include the contingent liabilities as well.

Thirdly, substantial works also remains to be done in understanding public debt dynamics in the State of Mizoram. While this paper has focused on the magnitude and dimensions of public debt, political economy factor has not been considered. However, recent theories of public debt incorporated political decision making in rich dynamic environments. Both theory and experience suggest that debt accumulation reflects political factors and that these can push the debt above prudent levels. These theories provide a new framework with which to interpret empirical evidence and to assess

institutional reforms that may help control political inefficiencies<sup>51</sup>. In-depth research on the inefficiencies that lead to the over accumulation of public debt and their implications for the long-run distribution of debt would surely be an important resourceful input for policymakers.

Besides, key findings of the research summarized in the preceding section depicted several scenarios for further policy research that would be helpful in shedding light on the various factors that would form important inputs to actual policy formulations. Some important topics recommended for further research includes the following:

- a) The study recommended for enhancing fiscal surveillance in Mizoram. Policy research towards developing an appropriate framework for fiscal surveillance in the State government would be insightful.
- b) The research findings indicated the importance of maturity profile in determining debt sustainability. A study on optimal maturity structure for the State would be helpful for formulating debt management strategy.
- c) The research findings depicted that the State government reliance on central transfer and borrowing may have contributing to the State government fiscal laziness (lack of effort to rise own resources). A focus study on the factors that are responsible for State government fiscal laziness along with detail assessment of

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<sup>51</sup> **Annual Reviews (2011), The Political Economy of Public Debt, Annual Review of Economics, Vol. 3: 161-189 (September 2011)**



the State economy to enhance its own revenue resources would provide an important policy inputs.

- d) The research findings depicted an increasing share of non-developmental expenditure in the total public expenditure of the State government. A detail analysis of various component of public expenditure towards finding wasteful expenditure or expenditure that can be avoided would be useful to frame appropriate policy measures to enhance the quality and efficiency of public expenditure in the state.

Further, the research findings have depicted some important theoretical contributions the literature of debt dynamics at the sub-national level. Following are the established empirical findings drawn from the research having important theoretical implications:

- a) Law of rising public expenditures<sup>52</sup> advanced by Adolph Wagner in the 1880s assumed that the development of modern industrial society would give rise to increasing political pressure for social progress, and call for increased allowance for social consideration in the conduct of industry that would result in continual expansion of the public sector and its share in the economy. Some modern economists also holds that as economy grow share of government expenditure also grow. The law of rising public expenditure proved to be right in the case of Mizoram during the study period as

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<sup>52</sup> **Musgrave, Richard A. and Peggy B. Musgrave**, (1989), "Public Finance in Theory and Practice", Mcgrw Hill, Singapore, page 114

indicated by ever rising share of public expenditure to GSDP in the State.

- b) As already stated in the earlier chapter, neo-classical view considers deficit financing detrimental to investment and economic growth while Keynesian paradigm consider it constitutes a key policy as the increase in government spending increases aggregate demand and therefore economic growth. The debt dynamics in Mizoram during the study period seems to have been mostly in line with neo-classical view as public debt is found to have been contributing negatively to GSDP growth in the State. The idea of debt neutrality does not hold either.
- c) Theoretically, economic wisdom does not consider public debt per se as problem because it can be justified based on intergenerational equity. This theory holds that it is fair to place part of the burden of public capital financing on future generations since most public investment does not benefit only current taxpayers. This is possible as far as 'golden rule' principle holds i.e treating borrowing only for capital expenditure. However, in the case of Mizoram where revenue expenditure form a major portion (even though we found that borrowing is mostly on account of capital outlay) intergenerational equity concerns remains and capital expenditure has not been able to generate revenue stream for the benefit of future generations even though they will have to

bear much of the debt service burden. In this regard, considering the specific condition as indicated by empirical evidence, Mizoram and other similarly placed states may need to be treated differently while assessing intergenerational equity of public debt.

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