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GROWTH OF GSDP AND POVERTY: AN ANALYSIS OF THE TRICKLE DOWN MECHANISM IN MIZORAM

(A DISSERTATION SUBMITTED FOR THE AWARD OF THE DEGREE OF MASTER OF PHILOSOPHY IN ECONOMICS)

BY

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CERTIFICATE

This is to certify that the thesis entitled **"Growth of GSDP and Poverty: An Analysis of the Trickle Down Mechanism in Mizoram"** by Shri. Vanlalroluahpuia has been written under my guidance. This dissertation is the result of his investigation into the subject and was never submitted to any other University for any research degree.

DECLARATION

MIZORAM UNIVERISTY

2015

I, Vanlalroluahpuia, do hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form the base of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the dissertation has not been submitted by me for any research degree in any other University/ Institute.

This is being submitted to the Mizoram University for the degree of Master of Philosophy in Economics.

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Head **Supervisor**

For My Father

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1.1 INTRODUCTION

The relationship between economic growth and poverty has beena major source of contention among economists over the last four decades, especially in the context of developing countries. There are those who believe that economic growth takes care of poverty while there are otherswho believe that economic growth leaves the poor behind. There are also others who believe that there is no relationship between growth and poverty and others who advocate a trade-off between the two.

The matter, apart from being an academic debate,has drawn massattentionsimply by the fact that it has serious policy implications. Since optimal allocation of resources is the cornerstone of a sound macroeconomic policy, the question of whether a country should go for growth enhancing policies or policies directly addressing poverty is a baffling one. Even more so when the country in question is a developing one that is more or less plagued with widespread poverty as well as limited resources.Policies addressing these two cannot help but take center stage.

Although several theoretical perspectives have been formulated to map the relationship between growth and poverty, empirical researches have shown mixed results to establish the relationship. And not only is the issue of growth and poverty nexus a bone of

contention, the agent by which poverty should be reduced is a major source of concern.

As early as the 1950s, economists have made efforts to provide a theoretical perspective of the relationship between growth and poverty at least indirectly through various economic models. Some notable works are the 'Dual sector model' invented by W. Arthur Lewis, commonly referred to as the Lewis Model, which for the first time shed light on the possibility of growth taking care of poverty by absorbing the surplus labour from the rural sector into the booming manufacturing sector.[1]

Traces of thoughts regarding the relationship between growth and poverty can also be seen in the works of Simon Kuznets. In his 1954 Presidential address to the 'American Economics Association', he cemented the existence of an 'inverted-U shaped relationship' between income inequality and economic growth.[2] The possible existence of a trade-off between growth and inequality, translated into poverty, was also popularized after the discovery of the 'immiserizing growth' by JagdishBhagwati (1958) where an expanding economy may be faced with the risk of an increased inequality if the terms of trade for that country deteriorate.

[1]Basu, S. &Mallick, S. (2008). When does growth trickle down to the poor? The Indian case.*Cambridge Journal of Economics*,32,461-477.doi:10.1093
[2] http://asociologist.com/2013/03/21/on-the-origins-of-the-kuznets-curve/

The sudden economic surge of the East Asian Countries such as South Korea and Taiwan, popularly called the 'East Asian Miracle' during the 1970s and 1980s, also raised a new interest among economists and social critics to enquire the into the quality of growth achieved by these nations and the translation of growth into welfare and equity.

Controversies began to rise from the earlier works ofChenery et al (1974) Fishlow (1972) and others all pointing to the direction that economic development in the developing countries during the 1970s and 1980s have left a large number of poor behind. Cross country analysis of data was also made possible partly due to the establishment of the Living Standards Measurement Study (LSMS) by Montek Singh Ahluwalia in the 1980s. His use of Purchasing Power Parity (PPP) for global poverty estimates widens the scope for the study of global poverty and its use is now universal.[3]

With globalization renewed during the 1980's and 1990's, the results of such global economies also heightened the interest in the effects of short and long term growth. The argument for and against the relationship between growth and poverty was resurrected due to the fact that more reliable data and tools were available for analysis. By 1990s and early 2000s, the results of most empirical research have

[3]Deaton. (2005): *Measuring poverty in a growing world (or measuring growth in a poor world,* The Review of Economics and Statistics, Vol. LXXXVII, No. 1.

worked against the consensus of economists in the 1970s. Findings from Dollar and Kraay (2001), who analysed cross country data of over 90 countries, suggested that the poor benefits as much as everyone else from growth.[4] A large number of researchers during this period found that growth in the agriculture sector was the most rewarding in the reduction of poverty. The works of Gafar (1998), who studied data from the South American countries; and Block (1999), who studied the case of South Africa, supported this claim. Khan (1999) who studied the case of South Africa; and Warr (2001) who analyzed South East Asian countries have evidence to support this claim. The propositions included the phenomenal rural-urban migration, earlier conceptualized by Kuznets, which resulted in the poor being sucked into the service sector and thereby moving out of poverty.

There are also others such as Donaldson (2008) who found that the conclusion made by Dollar and Kraay were inconsistent with their data. The case of Norway and Finland during the 1970s and 1980s indicates that there is a trade-off between growth and poverty. Donaldson also found that the cases of growth trickling down to the poor are only an exception as there are also economies where in growth does not translate into poverty reduction. The manner in which growth effects the income distribution of a country has been

[4]Deaton. (2005): *Measuring poverty in a growing world (or measuring growth in a poor world,* The Review of Economics and Statistics, Vol. LXXXVII, No. 1.

different form country to country. While growth had achieved greater equality of income in some countries, it has resulted in greater inequality in other countries. This suggests that country specific studies are required to correct market imperfections and to form a basis upon which interventions can be made by respective governments.

Since the early planners of the Indian economy choose to reduce poverty through fast-paced economic growth, it prompted great interest among economists to study our achievements.The continued presence of absolute poverty in India despite the high growth figures in recent times had also fueled the interest in India. Economist are able to generate long term effects of growth in the case of India as it is one among the few countries that possesses abundant data from surveys and censuses.[5] In fact, the many intricate cases of growth and poverty reduction in India has been referred quite often by economists and international organizations such as the International Monetary Fund (IMF) and The World Bank as a synthesis to address the problems faced by developing countries.

In India, the lecture by JagdishBhagwati to the Indian Parliament in December, 2010, triggered a very intense debate organized under the Consumer Unity and Trust Society (CUTS) International.

[5]Panagarya, Arvind. (2008) *India: The emerging giant.* Oxford University Press. Oxford New York. IBSN 978-0-19-975156-3

Renowned Indian economists and social workers have put in numerous reflections and ideas in the CUTS forum which have drawn wide interest by the media and scholars from India and abroad in the debate.[6]

The debate did not just end with the CUTS but continues to surface and resurface in newspapers and television channels in India. Renowned economists such as AmartyaSen and Jean Dreze (2013) have taken a revived stand against growth-oriented policies. On the other hand,JagdishBhagwati and ArvindPanagarya (2013)have favoured growth as an engine to reduce poverty.

The debate between proponents of growth and proponents of poverty reduction have managed to shed light on many other issues such as the quality of growth in India, what we as Indians did right and what we fail to do in our journey to become an economic power house in the world. The debate also opens new perspective into the definition of poverty itself and the measures adopted by the Government of India: Are we to include relative poverty or to stick to absolute poverty in the official measurement? Is the calorific value a sufficient condition to measure poverty or are we to include capability deprivation too?

[6]Mehta and Chatterjee. (2001): *Growth and Poverty: The Great Debate.* CUTS international, Jaipur. ISBN: 978-81-8257-149-5

Nevertheless the debates have succeeded in creating widespread awareness among the general public on the issues of poverty in India, the effectiveness of pro-poor measures introduced by the Government and the continued objectives of successive Governments in India to overtake China's economic growth. It also manages to put into question the Government's craze for double digit growth and how the growth figures flashed by the Government transcend into the pockets of the middles class and the supposed 'Below Poverty Line' class. But most importantly, how far reaching and inclusive is India's economic growth for far flung impoverished States like Mizoram.

Various studies on growth and poverty in India have either took the country as a whole or the scenarios of only a handful of States to draw conclusionson the subject in question. Empirical analysis on smaller States such Mizoram, despite having achieved growth figures above the national average consistently, is lacking. This research is an attempt to further widen the study for cases of small economies such as the State of Mizoram.

1.2 A REVIEW OF TRICKLE-DOWN THEORY

"Trickle-down economics" and the "trickle-down theory" refer to the idea that tax breaks or other economic benefits provided to businesses and upper income levels will benefit poorer members of

society by improving the economy as a whole[7].Trickle-down economics assumes that the real drivers of economic growth are those who are successful in society, such as business owners, investors, and savers. The extra cash they get from tax cuts is used to expand companies directly, investing in business, or adding savings (liquidity) that can be used for business lending.

According to the trickle-down theory, economic growth is favourable because economic gains from growth are transmitted to the poor through various means such as favourablelabour market conditions and improved service provisions by the government (e.g., health, schooling, infrastructure etc.). Thus, policies should be centred in boosting the economy and promoting growth to improve living conditions of the people, eventually reducing poverty and improving the living conditions of the poor[8].

Trickle-down economic theory is based upon supply-side economics. This theory states that general tax cuts, to businesses and workers, will translate to increased economic growth. Businesses will invest, as in trickle-down economics, but workers will also spend the extra cash, further stimulating demand.

Surprisingly, the use of the 'trickle-down effect' was popularized during the John F. Kennedy administration in the US during the

[7] http://en.wikipedia.org/wiki/Trickle-down_economics#cite_note-16
[8]Todaro, M. P. (1997) *Economic development.*Mass.: Addison-Wesley.

1960s and the Reagan Administration of the 1980s to defend the general tax cut in the economy. John F. Kennedy, in reference to the trickle-down economics, was quoted addressing the Congress in 1963 that 'a rising tide lifts all boat' to defend the tax cuts.[9] The use of the term trickle-down was attributed to Will Rogers who was quoted as saying "money was all appropriated for the hopes that it would trickle down to the needy" during the Great Depression.[10]

However the concept that wealth trickles to the poor may have been understood much earlier in the history of economic thoughts. John Kenneth Galbraith claims it as 'the horse and sparrow theory' which according to him was the cause for the 1896 panic in the US. According to Galbraith, the 'trickle-down theory' is nothing new and is a renewal of the 'horse and sparrow theory' that "If you feed the horse enough oats, some will pass through to the road for the sparrows."[11]

In recent past, due to the continued interest in the relationship between growth and poverty, trickle-down economics have resurfaced in popular writings and published materials of The World Bank and IMF. In an attempt to test the validity of the supposed 'trickle-down mechanism', PhillippeAghion and Patrick Bolton in

[9]http://www.jfklibrary.org/JFK/JFK-in-History/JFK-on-the-Economy-and-Taxes.aspx
[10]Moore (1999): *Dear Harry: Truman's Mailroom, 1945-1953.* ISBN: 0-8117-0482-3

[11]Galbraith. (1982): *Recession Economics* .New York Review of Books, Volume 29, No. 1.

1997 (henceforth referred to as Aghion and Bolton) developed an econometric model of growth and income inequalities in the presence of imperfect capital markets and to analyze the trickle-down effect of capital accumulation.[12]

Aghion and Bolton's Model concluded that, first, the rate of capital accumulation is sufficiently high, and the economy converges to a unique invariant wealth distribution. Second, even though the trickle down mechanism can lead to a unique steady–state distribution under laissez-faire, there is room for government intervention: in particular, redistribution of wealth from the rich lenders to poor and middle-class borrowers improves the production efficiency of the economy both because it brings about greater equality of opportunity and also because it accelerates the trickle-down process. Third, the process of capital accumulation initially has the effect of widening inequalities but in later stages it reduces them: in other words, their model is in line with the Kuznets curve.

1.3 CONCEPT OF GSDP

Growth in economics refers to the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product (GDP).

[12]Aghion, P., & Bolton, P. (1997).A theory of trickle-down growth and development.The Review of Economic Studies.

The Oxford Dictionary of Economics defines Gross Domestic Product as the total market value of all final goods and services produced within a country in a given period of time (usually a calendar year). 'Gross' indicates that it is calculated without subtracting any allowance for capital consumption: 'Domestic' that it measures activities carried out in the country regardless of their ownership. It thus includes activities carried out in the country by foreign–owned companies and excludes activities of firms owned by residents but carried out abroad. 'Product' indicates that it measures real output produced rather than output absorbed by residents.

In India, the Gross State Domestics Product (GSDP) commonly known as State Income is one of the important indicators to measure the economic development of the state/UT. In the context of planned economic development of state/UTs, State Income and Per capita Income (PCI) played a vital role in formulation of policies by policy makers, planners and administrators.

The State Domestic Product is defined as the aggregate of the economic value of all goods and goods and services produced within the geographical boundaries of the State/UTs, counted without duplication during specified period of time, usually a year. The estimates are prepared both at Current and Constant prices. The State Domestic Product estimates at Current prices are obtained by evaluating the goods and services at prices prevailing during the year.

The estimates of State Domestic product at current prices, over time do not reveal actual economic growth because these contains the combined effect of (i) the changes in volume of goods and service; and (ii) the changes in the prices of goods and service. In order to eliminate the effect of price changes or inflation, the estimates of State Domestic Product are estimated by evaluating the goods and service at the prices prevailing in the base year known as estimates at constant prices. Nevertheless, the State Domestic Product at Current prices may be a better means of evaluation when considering longer periods of time as the base year for constant prices are revised constantly and the deflation in the value of data in correspondence to a particular base year can also results in inaccuracy of estimation.

For the purpose of estimation of State Domestic Product, the state economy is broadly classified into, Agriculture, Industries and Services sectors. Estimates of the sectors are prepared individually by adopting one or more of the following approaches.

(i) Production Approach: In this method, the sum of economic value of all goods and services produced within the State/UT during the year is considered after deducting the inputs consumed in the process of production. This approach is followed in Agriculture, Livestock, Forestry, Fishing, Mining & Quarrying and Manufacturing (registered) sectors.

(ii) Income Approach: The income accrued to the factors of production namely land, labour, capital and entrepreneurship in the form of rent, salaries and wages, interest and profit is taken into consideration in estimation of the value added. This approach is being followed in Manufacturing (Un-registered), Electricity, Gas and Water Supply, Trade, Hotels & Restaurants, Transport, Storage and Communication, Financing, Insurance, Real Estate, Business Services, Public Administration and Other Services.

(iii) Expenditure Approach: This method is based on the measurement of income which is either ultimately consumed or part of it is saved for future consumption or future production of goods and services. Thus, the money value of consumption expenditure plus the savings gives the income. This approach is used in estimating income from construction sector.[13]

1.4 CONCEPT OF STATE REVENUE

The State revenue can be classified into two main heads, Tax Revenue and Non- Tax Revenue.

Tax Revenue:

Tax Revenue is broadly classified into (i) State's Own Tax Revenue and (ii) Share in Central Taxes.

[13] http://www.and.nic.in/stats/Economic%20survey%20ANI/CHAPTER%20-%203.pdf

(i) State's Own Tax Revenue: It includes (a) Taxes on income such as Agriculture income Tax, Taxes on Profession, Trades Callings and Employment. (b) Taxes on Property and Capital transaction such as Land Revenue, Stamps and Registration fees and Urban immovable Property Tax. (c) Taxes of Commodities and Services including Sales Taxes such as State Sales Tax, Central Sales Tax, Sales Tax on Motor Spirit and Lubricants, Surcharge on Sales Tax, Receipt of Turnover Tax and Other Receipts. (d) State Excise. (e) Taxes on Vehicles. (f) Taxes on Goods and Passengers. (g) Taxes and Duties on Electricity. (h) Entertainment tax. (i) Other taxes and Duties.

(ii) Share in Central Taxes: It in includes the share of the State from Central Taxes such as (a) Corporation Tax. (b) Income Tax. (c) Estate Duty. (e) Other Taxes on Income and Expenditure. (f) Taxes on Wealth. (g) Customs. (h) Union Excise Duties. (j) Service Tax. (k) Other Taxes and Duties on Commodities and Services.

Non-Tax Revenue:

Non-Tax Revenue of the State broadly comprises of (i) State's Own Non-Tax Revenue and (ii) Grants from the Centre.

(i) State's Own Non-Tax Revenue: It comprises of revenue from (a) Interest Receipt. (b) Dividends and Profits.(c) General

Services which includes state lotteries. (e) Social Service Sector which includes Education, Sports, Art and Culture, Medical, Public Health and Family Welfare, Housing, Urban Development, Labour and Employment, Social Security and Welfare, Water Supply and Sanitation and Others. (f) Fiscal Service. (g) Economic Services which includes Crop Husbandry, Animal Husbandry, Fisheries, Forest and Wildlife, Tourism and Others.

(ii) Grants from the Central: It includes (a) State Plan Schemes of which Advance release of Plan Assistance for Natural Calamities is included. (b) Central Plan Schemes. (c) Non-Plan Grants such as Statutory Grants, Grants for relief on account of Natural Calamities and Others.[14]

1.5 CONCEPT OF PUBLIC EXPENDITURE OF STATES

Public Expenditure refers to government expenditures incurred by central, State and local governments of a country for the maintenance of the government, internal and external security and for the promotion of socio-economic welfare of the people.

According to C. Vanramsanga (2012), Accounts of the State Government of Mizoram are maintained in three parts. Part one forms the consolidated Funds of the State, Part two forms the Contingency

[14] Reserve Bank of India (2013): *A study of Budgets 2012-13.*

Fund of the State and Part three covers the transactions in Public Accounts. The Consolidated Fund consists of two main accounts, namely (1) Revenue Account and (2) Capital Account. The two Accounts are again divided in two parts viz., (a) Receipt and (b) Expenditure/disbursements.

1.6 AREA OF THE STUDY

Mizoram is a State in the Republic of India. It lies between 21.58'N to 24.35'N latitude and 92.15'E to 93.29'E longitudewith a total geographical area of the state is 21,087 sq.km., roughly about 0.64 percent of the total area of India.[15] It is bounded by Myanmar in the East and Bangladesh in the west with a total of 722 Km. international boundary. It is also bordered by Assam in the North, Manipur in the Northeast and Tripura in the West in India.

According to the latest figures by Census of India, in 2011 Mizoram has a population of 1,091,014. Spreading of a small population of about 10 lakhs over an area of 2, 1,081 kilometer square, has led to a low population density of about 50 per kilometer square, which makes Mizoram the third state in India with the lowest population density, as shown by the Mizoram state census done in 2011. The density has increased in last 10 years. Population growth rate, however, has decreased by approximately 10%, and currently

[15]Directorate of Economics & Statistics (1994): *Statistical Handbook, Mizoram* 1994.

stands at about 20%.Sex Ratio in Mizoram is 976 i.e. for each 1000 male, which is below national average of 940 as per census 2011. In 2001, the sex ratio of female was 938 per 1000 males in Mizoram.Out of total population of Mizoram, 52.11% people live in urban areas. Of the total population of Mizoram state, around 47.89% live in the villages of rural areas.

The total figure of population living in urban areas is 571,771 of which 286,204 are males and while remaining 285,567 are females. The urban population in the last 10 years has increased by 52.11 percent. Average Literacy rate in Mizoram for Urban regions was 97.63% in which males were 97.98% literate while female literacy stood at 97.02%. Total literates in urban region of Mizoram were 484,841. In actual numbers, males and females were 269,135 and 256,300 respectively. Total population of rural areas of Mizoram state was 525,435. The population growth rate recorded for this decade (2001-2011) was 47.89%.[16]

Mizoram's economy is basically agrarian, with Jhum cultivation still dominating the agriculture sector. The State Government with the assistance of the Central Government has initiated various programmes to correct imbalances in the economy. The New Land Use Policy (NLUP) programme of the State government is aimed directly at reducing Jhum farming. Mizoram registered GSDP growth

[16]http://www.census2011.co.in/census/state/mizoram.html

of 7.23%, which is above the National growth rate of 4.47% in 2012-13 at 2004-05 prices. The economy grew at 7.78% in 2013-14 and in 2014-15 it grew at 8.68% at 2004-15 prices. The State exceeded the national average of 4.74% and 7.61% growth rate in 2013-14 and 2014-15 respectively. [17] The Service sector dominates the State's economy in 2013-14, followed by the Industry sector. The Primary sector contributes the least in the economy. The share of persons in the age group of 60 and above is 6.25%, while persons in the 0-59 age group occupied 93.75% out of the total population.[18]

The Rangarajan Committee (2014) pegged Poverty Line of Rs. 1231.03 in rural and Rs. 1703 in urban areas for Mizoram in 2011-12. As a result the percentage of people living below the poverty line in 2011-12 is 33.7% in rural with a total of 1.8 lakhs persons and 21.5% in urban with a total of 1.2 lakhs persons below the poverty line. Overall, 27.4% of the population or in other words 3.1 lakh persons in Mizoram fall below the Poverty Line. Estimates by the Rangarajan Committee in 2009-10 shows that 27.3% of the population i.e 2.9 lakh persons in Mizoram are below the official Poverty Line. The percentage of poor in Mizoram's increased by 0.1% in two years.[19]

[17]http://statisticstimes.com/economy/gdp-growth-of-indian-states.php
[18]Planning &Programme Implementation Department (2015) *Mizoram Economic Survey 2014-15.* Government of Mizoram
[19]Report of the Expert Group to review the methodology for measurement of poverty (2014) Government of India, Planning Commission.

Based on the Methodology endorsed by the Tendulkar Committee (2009), Mizoram have 35.43% of rural and 6.36% of urban population below the Poverty Line in 2011-12. The overall poverty ratio under the Committee stood at 20.4%.

1.7 OBJECTIVES OF THE STUDY

1. To analyze the trend in the growth of Public Expenditure and GSDP.
2. To examine whether the Per Capita Consumption Expenditure increases with an increase in total Public Expenditure.
3. To study the effects of Per Capita Consumption expenditure on government revenue.

1.8 HYPOTHESES

1. There is significant relationship between fiscal policy and growth.
2. There is significant relationship between growth and standard of living.

1.9 METHODOLOGY

To analyze the relationship between growth and the standard of living Mizoram, the study first explores various agent of growth and the impact of growth in the state. Firstly, since Mizoram is one of the few backward states in India, the state does not have industries which can generate mass employment. The soundness of the fiscal policies of the State Government is vital to growth. Therefore the study analysesextent to which public expenditure impacts growth. Secondly, to test the relationship between growth and the standard of living in the state, the study considers the GSDP as 'growth' and the Monthly Per Capita Consumption Expenditure (MPCE) of the State as a measurement of 'Living Standard' in the State.

Since there have been multiple divergences of methodology in the estimation of poverty in India by the Planning commission, and also because the study examines long-run effects of growth, the feasibility of using the poverty index is dismissed. Although data on poverty may be a better index to study the trickle-down effects, the unavailability of ready data for Mizoram and the biases involved in generating data on poverty warrants a stray from it. The usage of consumption data, which includes not only the bottom quintile but also the middle classes, as a measurement of living standard is, nevertheless, germane.

The study rely on secondary data collected from the annual reports and publication of Reserve Bank of India, state budget report, reports of the comptroller of Audits and Accounts, periodical reports of Planning Commission of India, various published reports of the National Sample Survey, Reports of the Ministry of Statistics and Programme Implementation, Reports of the Ministry of Rural Development, Census data, annual statements and reports of Finance and Accounts department, Mizoram, Statistical Handbook of Mizoram, published and unpublished papers, internet sources,et cetera.

At first, data on public expenditure, GSDP, Monthly Per Capita Consumption Expenditure (MPCE), and revenue of the state government between 1985 and 2014 is collected. However, it is found that several data were missing from the time series and there were inconsistencies in the data of one source with other observed value. To avoid generating a bias time series, the period between 1994-95 and 2011-12 is chosen. With this, older and inconsistent data is excluded, at the same time the necessity to extrapolate some variables to match the length of other time series is also eliminated. However, interpolation was still necessary to fill in missing data between the observed data points. As such observed values were interpolated to generate missing values. The method used for interpolation is as follows.

If the two known points are given by the coordinates (x_0, y_o) and (x_1, y_1), the linear interpolant is the straight line between these points. For a value x in the interval (x_0, x_1) the value y along the straight line is given from the equation

$$\frac{y - y_0}{x - x_0} = \frac{y_1 - y_0}{x_1 - x_0}$$

Solving this equation for y, which is the unknown value at x, gives

$$Y = y_0 + (y_1 - y_0)\frac{x - x_0}{x_{1-x_0}}$$

To smoothen out the effects of the fluctuations in the series and compare their growth rate with other observed values, Compound Annual Growth Rate (CAGR) of the different components of Public Expenditure, Gross State Domestic Product, Per Capita Consumption Expenditure (PCCE) and State Revenue are calculated using the following method.

$$CAGR = \left(\frac{PV}{FV}\right)^{\left(\frac{1}{n}\right)-1}$$

Where in *FV* denotes the future value of time series and *PV* the present value and *n* denotes the length of the time series.

To test the statistical significance of two observed variables, a linear regression model is used as follow:

$$Y = a + bX$$

Where in Y is the dependent variable and X is the independent variable, and *a*and *b* are constant and coefficient respectively.With the objectives of deciphering the agents of growth and how that growth have improved or worsen the standard of living, and how the gains in consumption have affected the revenues of the government, the above research objectives and hypotheses have been formulated to shed light on the growth poverty nexus.

This chapter attempts to draw relevant literature in support of the present study. Focuses have been given on the phenomena which deal with the research objectives and research questions. The present literature reviews have provided a deep insight into the subject matter relaying the need of the study and its relevance in the present day.

Kuznets (1955) stated that if the long-term share of the lower-income groups is larger in the underdeveloped than in the average countries, income inequality in the former should be narrower, not wider. However, if the lower brackets receive larger shares, and at the same time the very top brackets also receive larger shares - which would mean that the intermediate income classes would not show as great a progression from the bottom-the net effect may well be wider inequality. Reduction of this wider inequality should be accompanied by a rise in the real per capita income. Countries which are classified as developed have enjoyed rising per capita income except during catastrophic periods. Hence, if the shares of groups classified by their annual income position canbe viewed as approximations to shares of groups classified by their secular income levels, a constant percentage share of a given group means that its per capita real income is rising at the same rate as the average for all units in the country; and a reduction in inequality of the shares means that the per capita income of the lower-income groups is rising at a more rapid rate than the per capita income of the upper income groups.

Ahluwalia (1978) provided a systematic time series analysis of trends in the incidence of rural poverty by taking into consideration 14 years of data spanning from 1956-57 to 1973-74, and argued that there is a mild tendency for the trickle-down effect to work.Ahluwalia's study also widened the scope of the study by a introducing the LSMS model which allowed analysis of cross-country data.

Sen (1983) argued that removal of poverty is not only the objective of social policy but inequality removal has a status of its own; the absolute approach of poverty must not be confused with being indifferent to inequality as such. While poverty may be seen as failure to reach absolute level of capabilities, the issue of inequality of capabilities should also be taken in its own account.

Galor and Zeira (1993) argued that increases in inequality lead to lower growth inthe presence of credit constraints.They argue that if credit constraintsprevent poorer individuals from investing in education, then inequality will adverselyaffect growth prospects by reducing the number of individuals who are able to invest inhuman capital.

Alesina and Rodrick (1994) political argument on the detrimental of inequality on growth is basedon the premises that redistributive government expenditure and taxationare negatively related to growth because of their negative effect on capital

accumulationand taxes are proportional to income but the benefits of public expenditure accrue equally to all individuals, which in turn implies that an individual's preferred levels of taxation and expenditure are inversely related to his income. Also, the tax rate selected by thegovernment is the one preferred by the median voter. Taken together, those premises would imply that growth increases as inequality falls.

According to Deninger and Squire (1996), GDP per capita increased by 26% in developing world during 1985-95, while Gini coefficients of the world changed by only 0.28 percentage points per year over the same period. He rejects the possibility of an inverted U hypothesis.

Zhang (1996) in a study of China's economic development found that due to good economic growth during the pre-reform era of the country, human development in terms of life expectancy, infant mortality, income distribution , reduction of poverty, et cetera, had seen significant improvements. However, its achievements were flawed by the serious absence of such essential human choices as political and economic freedom. The economic reform since 1979has tremendously increased the Chinese people's economic choices, but the development of other elements of human development such as basic education and health care has stagnated.

Ravallion (1997) presents a parsimonious empirical model of the relationship between poverty and growth where the rate of poverty reduction associated with a given growth rate depends on a distributional correction (one minus the initial gini index). Ravallionimproved the model (in empirical terms) by using an adjustment for possible nonlinearities in the relationship between the growth elasticity of poverty and the initial inequality. His estimates would suggest that depending on the initial level of inequality a one percent increase in income levels could result in a poverty reduction of as much as 4.3 percent (very low inequality countries) or as little as .6 percent (high inequality countries). Against this background, Ravallion concludes that growth will be quite a blunt instrument against poverty unless that growth comes with falling inequality.

Roemer and Gugerty (1997) studied cross-country data of 58 countries and found that an increase in the rate of GDP growth translates into direct one-for-one increase in the rate of growth of average incomes of the poorest 40%. They found that GDP growth of ten percent per year is associated with income growth of ten percent for the poorest 40% of the population. Their study gives strong support to the proposition that growth in per capita GDP can be and usually is a powerful force in reducing poverty

Gafar (1998) studied the statistical evidences from the 1960s to the 1970s in South America and asserts that growth and the character

of growth are both important in reducing poverty. In the case of Guyana, a South American country, poverty is observed to be high in rural areas where agriculture is the main source of income.

Barro (2000) uses a three-stage leastsquares (3SLS) estimator which treats country specific effects as random errors, arguingthat the differencing in running fixed effects may exacerbate the biases. In contrast toworks reviewed above he finds no relationship between inequality and growth. Barroalso finds that the investment ratio does not depend significantly on inequality.

Dagdeviren et.al (2001) worked out an analytical framework to assess the effectiveness of growth and redistribution for poverty reduction. In their study, the target of poverty reduction might be achieved through faster economic growth alone, through redistribution or through the combination of the two. It concludes that redistribution either of current income or the growth increment of income, is more effective for reducing poverty for a majority of countries rather than growth alone.

Easterly (2001) finds that bank and fund structuraladjustment tends to reduce the growth elasticity of poverty, a result that would beconsistent with a positive relationship between increases in inequality and theimplementation of adjustment programmes. Easterly speculates that this may be due to thepoor being ill placed to

take advantage of the new opportunities created by structuraladjustment reforms. Thus the basic idea of the works that have followed this strand is thatknowledge about the links between policies and growth on the one hand, and betweenthose same policies and inequality on the other hand would help us inferring the likelyimpact on the policies on growth.

It is widely believed that the accumulation of wealth by the rich is good for the poor since some of the wealth trickles down to the poor. Ravallion and Dutt, (2002) stated that one of the main objectives of development economics is to improve the well-being of those people who otherwise would continue to live in poverty. Finding an effective means to alleviate poverty is one of the main driving forces of any policy programme in a developing economy. Broadly speaking there are two strands of thought on the 'means' to alleviate poverty. There are those who believe that growth will take care of poverty, and those who believe that selective intervention will also be required. One of the important sources of poverty is the existence of unemployment and seasonal unemployment in the rural areas of developing countries

Dollar and Kraay (2002) looked into a sample of 92 countries spanning 40 years and found that the average income of the poorest changes at the same rate as the change in average income of the whole population. This relationship existed not only in specific regions or specific economic conditions, but in all areas of the

country, and in all periods including times of economic crisis. According to authors economic growth creates a good environment for poor households and everyone else to increase their production and income.

Datt and Ravallion (2002) looked into the relationship between growth and poverty reduction in India during the 1990s. Results of their study show that although growth reduces poverty in India, the rate of reduction is not accelerating. According to the authors, this is so because of sectoral and geographical imbalances of growth. Furthermore, they argued that there are other factors in addition to economic growth, i.e. rural and human capital development that could effectively reduce poverty.

Ferro et.al (2002) in their study of pro-poor growth in India observed that there has been a divergence in poverty reduction across states in India. Poorer northern states have lagged behind other states in lowering poverty incidence over the past two decades which was mainly because regional economic growth has been slower in that area. Their study reveals that a weaker investment climate may be behind this slower growth in the north.

Lundberg and Squire (2003) estimate a system of simultaneous equations for growth andthe levels of the Gini coefficient and find that higher education, lower inflation, and land distribution would

lead to lower inequality (and lead to faster growth), whereas tradeopenness (as measured by the Sachs-Warner index) and more civil liberties would likelypose a potential conflict between the goals of faster growth and more equitabledistribution.

Calderón and Serven (2003) focus particularly on the influence of infrastructure ongrowth and income distribution. In addition to a number of controls such as human capital, inflation, or financial depth, they assess the impact of several indicators ofinfrastructure. Their findings suggest both the quantity and quality of infrastructure has asignificant impact on inequality with more and better infrastructure leading to lowerinequality. They also find that education reduces inequality and financial debt increasesit. On inflation their results are more mixed; depending on the specification they find thatinflation could affect inequality in either way.

Bourguignon (2003) also focuses on the impact of growth on poverty reduction. However, he adopts a different approach. He explores alternative specifications for the relationship between poverty, inequality and growth and concludes that, at least for headcount poverty, assuming that income follows a log normal distribution may prove satisfactory. This in turn is useful because it allows computing the growth and the changes in inequality elasticities of poverty as a function of per capita income levels (relative to the poverty line) and inequality (as measured by the Gini).

Banerjee and Duflo (2003) draw a conclusion that there is no relationship between growth and inequality and that growth rate is an inverted U-shaped function of net changes in inequality. They also show that changes in inequality (in either direction) would be associated with lower growth in the next period.

Torn (2003) studied the case of Armenia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan which gained independence at the same time. His analysis showed that these countries have all experienced severe declines in output leading to increasing unemployment, poverty and inequality levels and decreasing wages. According to him, there is a clear and direct link between a fall in economic growth and a rise in poverty. However, he concludes that there is no reverse relationship between the two, citing that an increase in economic growth does not 'trickle-down' and benefit the general population through a reduction in poverty for the six countries that he examined.

Lopez and Serven (2004), use a large cross-country dataset on income/expenditure to test the null hypothesis of log-normality for the size distribution of income/expenditure. Their results suggest a rejection of the null hypothesis for per capita expenditure, but they are unable to reject the null for per capita income. With this functional form it follows that, consistently with Ravallion (1997, 2004), inequality is a break for poverty reduction. However, it also

follows that poverty (as measured by low per capita income) is also a barrier to poverty reduction. In particular, both Bourguignon (2003) and Lopez and Serven (2004) illustrates how the impact on poverty of a one percent growth rate declines as the per capita income relatively declines to the poverty line.

Bhunumurthy and Mitra (2004) looked into the sources of changes in poverty in India between two periods—1983 to 1994 and 1994 to 2000. The authors employed two poverty decomposition techniques. First, poverty index was decomposed in terms of inequality effect, growth effect and population shift. Economic growth characterized by improved infrastructure, health and education services, leads to a higher employment rate, which in turn, results to lower poverty. In addition, the effects of the movement of the population to urban areas, where more productive jobs are available, were to reduce poverty as well. Second, the authors furthermore decomposed poverty in terms of changes in income per capita, sectoral composition, labor productivity, and employment. A shift of the production mode away from agriculture to industry and tertiary activities was found to increase employment opportunities and increase labor productivity, which are important in reducing poverty.

Kraay (2004) has explored these issues and identified three potentialsources of pro-poor growth (understood as growth that leads

to a fall in a given povertymeasure). These are: (i) a high growth rate; (ii) a high sensitivity of poverty to growth;and (iii) a poverty reducing pattern of growth. His results suggest that roughly 70 percentof the variation in short-run changes in poverty can be explained by growth in averageincomes. In the medium- to long-run, growth would account for an impressive 97 percentof the changes in (headcount) poverty. Virtually all of the remainder of the variancewould be due to changes in relative incomes, with the cross country sensitivity of povertyto growth accounting for little of the variation. He also finds that the relevanceof growth for poverty reduction declines as one move from headcount poverty to the squared poverty gap. He explains this finding by noting that more bottom sensitive poverty measures place more weight on changes in the distribution of income than ongrowth.

Aryeete and Baah-Boateng(2007) in a study of Ghana found that reasonable economic growth in Ghana has not resulted in structural change and adequate employment. They observed increasing rate of unemployment and underemployment. Growth appears to have emanated from mining which attracted the bulk of Foreign Direct Investment(FDI) but with very low labour absorption rate. Sectors with high labour absorption rate such as manufacturing, tourism, agriculture and exports have not attracted the necessary investment to enhance employment performance.

Basu and Mallick(2008) are of the opinion that the argument that growth alone will take care of poverty appears to rest on the assumption that owing to the existence of a very large surplus of labour, the initial rise in the growth of employment is unlikely to be accompanied by a rise in the wage rate. This assumption eliminates the possibility of the emergence of capital-labour substitution in the foreseeable future. Hence the argument can be made that growth will take care of poverty. Whether this really takes place is not only an empirical issue; it also depends upon the policy that is pursued by the respective governments. Theyanalyzed the trend of rural poverty, GDP and capital formation in agriculture in India taking into consideration 40 years of data spanning from 1951 to 1991. They conclude that there is little or no evidence to claim that the trickle-down effect has taken place in India. They argue that poverty that was declining with the higher growth rate during the late 1970s and throughout the 1980s was largely a result of government measures, including both direct anti-poverty measures and the adoption of a more egalitarian distribution of credit and inputs to smaller and marginal farmers. The authors believe that some form of external intervention is required to reduce poverty.

Kappel.et.al (2011) in their regression analysis and causality test of the largest 16 states in India support and extend Kaldor's first law that manufacturing is the engine of growth. It seems that the

production of modern services exhibits similar opportunities for economies of scale as manufacturing production. Moreover, several causality tests strongly indicate that economic growth is the major determinant for reduction of poverty.

Odhiambo (2013) studied the dynamic causal relationship between financial development and poverty reduction in Tanzania by employing autoregressive distributed lag (ARDL) –bounds testing. His results showed that there is an overwhelming long-run unidirectional causal flow from financial development to poverty reduction.

Kristel (2014) in a study of the Philippines between 2003 and 2006 found that poverty situation has not significantly improved. Although results of thestudy showed that growth has trickled down to some extent to the poor, the rich benefitted significantly more.

Dabla-Norris et.al (2015) in their empirical analysis on the causes and consequences of income and inequality suggested that drivers of inequality and their impact differ across countries among different income groups. As such the nature of policies would necessarily vary across countries and would also need to take into account country-specific policy and institutional settings and implementation constraints. Lowering income inequality does not come at the cost of lowering efficiency. Redistribution through the tax and transfer

system is found to be positively correlated to growth for most countries, and is negatively correlated to growth for the most strongly redistributive countries. This suggests that the effect of redistribution on enhanced opportunities for lower income households and on social and political stability could potentially outweight any negative effects on growth through a damping of incentives.

3.1 INTRODUCTION

Indian economy at the time of its independence was predominantly agrarian. Following the exit of the British colonial regime, the early planners of the Indian economy followed a pattern of mixed economy. Converging soviet style socialism with western capitalism was an attempt to balance the role of the market with that of the state. The economic policies were, however, rather socialistic in nature as it was deemed necessary, at that time, to tackle the deficit in the balance of payments, inequality in income and most importantly widespread poverty. The results were the Five-Year Plans, which gave emphasis on the primary sector in its early years of implementation.

The early planners of the economy realized the importance of poverty alleviation even though the stress was on growth. The planners of the economy wanted poverty alleviation to be the central goal of the policy in India, with growth viewed as a means rather than an end in itself.[20] This can be seen in the documents of the First Five-Year Plan wherein it was clearly stated that a simultaneous advance towards economic growth as well as poverty-reducing measures were sought for to create a condition in which the community can put forth their best efforts for promoting development.

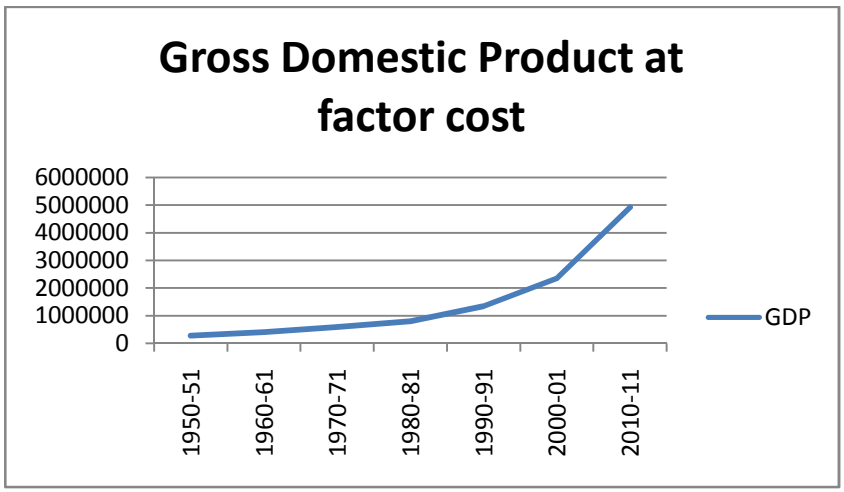
[20]Panagarya, Arvind. (2008) *India: The emerging giant.* Oxford University Press. Oxford New York. IBSN 978-0-19-975156-3

The impact of this policy of poverty alleviation through growth and evidence of growth trickling to the poor in India is probed further in this chapter.

3.2 ECONOMIC GROWTH IN INDIA

The First Five-Year Plan followed the Harrod and Domar model which achieved 3.6 % growth rate of Gross Domestic Product. The Second Five-year Plan followed the Mahalanobis Model and was fairly successful with a growth rate of 4.27%. The Third Five-year Plan continued to stress on increasing production in agriculture as well as education.[21] The Fourth Plan, despite the war with Pakistan, achieved a 3.3% growth rate and resulted in what is now commonly known as the 'Green Revolution' in India.[22]

Graph 3.1 : Gross Domestic Product of India at Factor Cost



[21]Sury, M. (2008) *India's Five Year Plans: 1951-56 to 2007-12*. New Century Publications, New Delhi.
[22]Joshi, Mahesh, V. (1999) *Green-Revolution and its Impacts*. S.B. Nangia, A.P.H. Publishing Corporation, New Delhi. ISBN: 81-7648-100-9

Source: *Economic Survey 2013-14*

Although the Five-Year Plans were successful in some areas of the economy, the overall growth of the economy was still very slow. During the first three decades of planned economic development, the main element of India's development strategy was import substitution which led to industrialization with an explicit focus on the public sector.

Despite the emphasis on growth, the Indian economy could not achieve an average growth rate of 4% nor could the non-agriculture sector achieve an average growth rate of 5% in the first three decades of planned economy.[23] The economic growth during this period was stagnant compared to other developing countries such as South Korea and Taiwan. Although there was growth, it was considered to be very slow. The growth rate during early years of planned economy was called the "the Hindu rate of growth" by economists as the view was that social cultures in India thwarted economic progress.[24]

The slow growth compared to other developing countries such as South Korea, is visible in the savings and investment ratios of both the countries in the same period.

[23] Gupta, K.R. (2005). *Liberalization and Globalization of Indian Economy.*Volume 6.Atlantic Publishers, New Delhi.
[24]Financial express. (2004) *Redefining The Hindu Rate of Growth.*

Table 3.1: Savings and Investment Ratios

YEAR	INDIA			SOUTH KOREA	
	Savings	Investments		Savings	Investments
1960-61	11.6	12.7		0.8	10.9
1965-66	14.0	15.1		7.4	15.0
1970-71	14.6	14.0		16.2	24.6
1975-76	17.2	16.2		16.9	27.5
1980-81	18.9	18.5		20.8	32.1
1985-86	19.5	20.6		28.6	31.1

Source:*Panagarya (2008)*

From Table 3.1, we can see that the progress of savings and Investment in India compared to that of South Korea has deteriorated indicating a slow economic growth. In 1960-61 both India and South Korea have both low savings and investment ratios with Indians saving more and investing more than their South Korean counterparts.

However, as both economies progressed, India's saving and investments grew at a modest pace while South Korea's jumped from 1968-66 onwards. The miraculous high rate of growth in South Korea although is regarded as a result of high investment, it is also regarded as a result of its openness to external markets as compared to a closed economy of India during the same period.[25]

Eventually, by the year 1991, India was faced with series of problems such as balance of payments crisis and depleting foreign reserves. The government had to pledge 20 tonnes of gold to the

[25]Panagarya, Arvind. (2008) *India: The emerging giant.* Oxford University Press. Oxford New York. IBSN 978-0-19-975156-3

Union Bank of Switzerland and 47 tonnes to Bank of England to bail out the economy with the IMF. As a result the rupee was devalued, which however, paved the way for economic reforms in India. To make the economy more market oriented and to expand the role of private and foreign investors, the economic liberalization was initiated. Import tariffs were reduced, the market was opened to investors, taxes were reduced, and foreign direct investments were given priority. The results were phenomenal with India achieving high growth rates between the 1990s and 2000s. The GDP grew to 7.5% in 1992 to 1996. The GDP at Rs 10.8 lakh crore in 1990-91 surged to Rs. 48.8 lakh crore by 2010-11. Between 1991 and 2011 the Indian economy grew at a modest average of 7%, much of which was fueled by the growth in the service sector.[26]

Since liberalization, India has one of the fastest growing service sectors in the world with annual growth rate of above 9% from 2001, which contributed to 57% of GDP in 2012-13. India has capitalized its economy based on its large educated English-speaking population to become a major exporter of IT services, BPO services, and software services with $167.0 billion worth of service exports in 2013-14. It is also the fastest-growing part of the economy. The agricultural sector is the largest employer in India's economy but contributes to a declining share of its GDP (17% in 2013-14).

[26] Central Bureau of Investigation, World fact Book

India ranks second worldwide in farm output. The Industry sector has held a constant share of its economic contribution(26% of GDP in 2013-14). The Indian auto industry is also one of the largest in the world with an annual production of 21.48 million vehicles in Financial Year 2013-14. Today, India has $600 billion worth of retail market and one of world's fastest growing E-Commerce markets.[27]

Gross domestic savings as a percentage of GDP, has grown over the decades to touch a high of 36.8% of GDP in 2008 steadying at an average of about 30% in the last decade. India's food grain production has also doubled compared to the colonial era and has registered 264 million tonnes in the fiscal year 2014. The growth has also undoubtedly translated into construction of new roads from 399.9 thousand kilometers in 1951 to 4865.4 thousand kilometers in 2011-12. Prior to the bail out by the International Monetary Fund in 1991, the Forex reserves of India was limited to only $ 1.4 billion. But by 2013-14, the Forex reserves surged to over $ 300 billion and are likely to keep growing owing to the continuous liberalization of Foreign Direct Investments by the present Government of India.[28]

India's 67 years of Independence has seen many changes in the socio-economic front. Over the past 67 years, India's GDP, in absolute terms, has grown from Rs. 2.7 lakhs crore to Rs 57 lakh

[27] https://en.wikipedia.org/wiki/Economy_of_India#cite_note-35
[28] Economic Survey 2013-14

crore.[29] During the year 2005-06 to 2007-08, India perched on a double digit growth rate which left the disparaged term, 'Hindu rate of growth' a thing of the past. The global economic downturn of 2008, following a recession in the US, however slowed India's economic growth which slashed the growth rate back to 5%. Despite these facts, the Indian economy has shown resilience to external shocks than ever before. According to the Central Statistical Bureau, India registered a growth of 7.4% during the year 2014-15 surpassing China to become the world's fastest growing economy.[30] And in 2012 the poverty dramatically came down as the Indian Government estimated that over 21.9% of Indians lived in poverty.[31]

3.3 POVERTY IN INDIA

According to the United Nations, Poverty is generally considered as the lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to

[29] Economic Survey 2013-14
[30] The Hindu. February 9, 2015
[31] "Number and Percentage of population below Poverty Line" Reserve Bank of India. 2012

violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation.[32]

According to Sachs (2003) there are three different types of poverty: extreme poverty, Moderate poverty and relative poverty. Extreme poverty is a situation where households cannot meet their basic needs for survival. They are chronically hungry, unable to access health care, lack the amenities of safe drinking water and sanitation, cannot afford education for some or all of the children, and perhaps lack rudimentary shelter and basic articles of clothing, such as shoes. Unlike moderate and relative poverty, extreme poverty occurs only in developing countries. Moderatepoverty generally refers to conditions of life in which basic needs are met, but just barely. Relative poverty generally construed as a household income level below a given proportion of average national income. The relative poor, in high income countries, lack access to cultural goods, entertainment, recreation, and to quality health care, education, and other prerequisites for upward social mobility.[33]

Absolute poverty and relative poverty are, however, the widely accepted variations of poverty. Absolute poverty is defined in reference to a poverty line that has a fixed purchasing power, determined so as to cover needs that are physically and socially

[32] Expert Group Meeting on Youth Development Indicators United Nations Headquarters, New York 12th – 14th December 2005

[33]SACHS, J. D. (2005)*The end of poverty, economic possibilities for our time*. The Penguin Press, New York,

essential. The international measurement of absolute poverty known as the poverty line or poverty threshold has been compiled by The World Bank in reference to specific poverty lines of countries around the world on Purchasing Power Parity basis. In 1990, The World Bank anchored absolute poverty line as $1 per day. This was revised in 1993, and through 2005, absolute poverty was $1.08 a day for all countries, after adjusting for inflation to the 1993 U.S. dollar. In 2005, after extensive studies of cost of living across the world, The World Bank raised the measure for global poverty line to $1.25.[34]

The World Bank's measurement of poverty is criticized by many as poverty threshold differs from country to country. For instance the poverty threshold in Australia is $391.85 per week[35] while it is $15.15 per day in the United States of America, $1.0 per day in India and $0.55 per day in China each on PPP basis in 2010[36]

The concept of relative poverty dates back to the times of Adam Smith wherein he argued that poverty is the inability to afford not only the commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be

[34]Ravallion, Chen &Sangraula. (2008) *Dollar a Day Revisited.*Policy Research Working Paper No. 4620,Development Research Group, World Bank 1818 H Street NW, Washington DC, 20433, USA
[35]Tanton, Robert. (2009) *Poverty versus inequality.*Australian Policy Online
[36] https://en.wikipedia.org/wiki/Poverty#cite_note-25

without.[37] And according to AmartyaSen (1983), relative poverty tends to be associated with poverty in advanced countries where people are considered poor relative to the standards of acceptable living in the country.[38] Hence relative poverty differs from absolute poverty in the sense that it is measured in terms of the mean income prevailing in a particular country and is rather an indicator of inequality in that particular country. Therefore, the methodology of identifying relative poverty is irrelevant to address the issue of poverty in developing countries such as India.

In India poverty began to rise rapidly under the colonial administration during the 19th and 20th century.[39] The British administration favoured primary production of raw materials rather than finished products which were readily substituted by the industrial produce of England. As a result, Indian artisans fell out of jobs while a meagre portion of them were sucked into the agriculture sector mainly to grow opium for trade with the East Asian countries.[40]Despite the best efforts of the National Planning Committee of 1936, wherein poverty alleviation targets were set, poverty continued to rise in India. Eventually, in 1943, the policy of

[37] Smith, Adam (1776): *An Enquiry into the Nature and Causes of the Wealth of Nations.*Edited by C. J. Bullock. Vol. X. The Harvard Classics. New York.
[38]Sen, A. (1983) Poor, Relatively speaking. *Oxford Economic Papers*, New Series. Vol. 35, No. 2.
[39]Roy. (2007): *Globalization, Factor Prices and Poverty in Colonial India*, Australian Economic History Review, Vol. 47, No. 1.
[40]Hunt, Richard (1997): *To End Poverty - The Starvation of the Periphery by the Core*. Oxford, UK, ISBN: 978-0952887201

the British colonial government, coupled with cyclones and bad harvest, resulted in the Bengal famine which killed millions of people. In Odisha, Bihar, West Bengal and Bangladesh (erstwhile Bengal Province), lack of food, malnutrition and a wave of diseases killed thousands of farmers and village artisans. According to Sen (1981), the famine was not a result of the scarcity of food but rather from inequalities built into mechanisms for distributing food.[41] The Bengal famine and other famines during the British regime contributed much to the way in which poverty in general is viewed and measures to reduce it are formulated during the Nehru era of economic planning in India.[42]

There are two official agencies who measured poverty in India, the Planning Commission and the Ministry of Rural Development (MoRD). In the periods following Independence, India could not come up with an official measurement of poverty up until 1962 when a working group was formed under the Planning Commission. However, the Working group methodology was a continuation of the British colonial regime which linked poverty as a function of nutrition, clothing and housing. Nevertheless the working group was able to draw separate poverty lines for rural and urban areas wherein people having less than Rs 20 in rural and Rs. 25 in

[41]Sen (1981):*Poverty and Famines: An Essay on Entitlement and Deprivation*. Clarendon Press, Oxford.
[42] http://www.thehindu.com/opinion/lead/from-bengal-famine-to-right-to-food/article4408206.ece

urban in a year were considered to be living below the poverty line (BPL). The first systematic estimation of poverty in India was performed by Dandekar andRath in 1971[43]. Their seminal work on poverty used an average calorie norm of 2,250 calories per capita per day for both rural and urban areas. On the basis of National Sample Survey data on consumer expenditure, their study revealed that, in rural area, the households with an annual per capita expenditure of Rs. 170.80 (or equivalently Rs. 14.20 per capita per month) at the 1960-61 prices consumed on an average food with calorie equivalent of 2250 per capita per day together with such non- food items as they chose. The corresponding figures in the urban area were Rs.271.70 and Rs.22.60 at 1960-61 prices. In view of the recommendations by the working group in 1962, they decided to revise the rural minimum slightly upwards to Rs. 180 per annum or Rs. 15 per month. Similarly, they rounded off the urban minimum to Rs.270 per annum or Rs.22.50 per month, both at 1960-61 prices.[44]

In 1979, the Planning Commission constituted the 'Task Force on Projections of Minimum Needs and Effective Consumption Demand'. The Task Force (1979) defined the poverty line as the per-capita expenditure level at which the average per-capita, per day

[43]Dandekar and Rath (1971) *Poverty in India.*Indian School of Political Economy, Pune.
[44]Report of the Expert Group on estimation of proportion and number of poor (1993)Perspective Planning Division, Planning Commission, Government of India, New Delhi.

calorie intake is 2435 calories in rural areas and 2095 calories for urban areas.Based on the observed consumer behaviour in 1973-74 of the 92 Round of the NSS, it was estimated that, on an average, consumer expenditure of Rs.49.09 per capita per month was associated with a calorie intake of 2400 per capita per day in rural areas and Rs.56.64 per capita per month with a calorie intake of 2100 per day in urban areas. Accordingly the poverty line was placed at Rs. 49.1 for rural and Rs. 56.6 for urban areas.

The Lakdawala committee in 1993 further revised the methodology in the estimation of the poverty line. For the first time in the history of the official estimation of poverty in India, the Expert Group acknowledged the problems faced by hilly states of the country such as Mizoram. The report states:

> It has been pointed out that hill States, with their rough terrain and harsh living conditions and especially for people living in the mid and higher hills, are at a disadvantage at least on two grounds. Owing to the extremes in climate and lack of well developed infrastructure, including transport and communications, hill people perforce have to lead a more strenuous life as compared to people in the plains. Consequently they have to have a higher daily calorific intake even for performing the normal activities related to their work and living. Besides, due to climatic conditions, the average resident has to

incur heavier expenditure on clothing, food and energy for cooking and heating needs, compared to his counterparts in the plains.[45]

However, the practical difficulties involved in identifying a hilly state as there are also some large States with hilly region and also the unavailability of calorie norms for persons residing in hilly region made the Expert Group reluctant to make any recommendation inclusive to hilly areas.

The Expert group also recommendedfor the first time the use of State specific poverty lines. It recommended the use of the recommendation by the 'Task Force on projection of minimum needs and effective consumption demand' of a monthly per capita total expenditure of Rs.49.09 (rural) and Rs.56.64(urban) which were rounded respectively to Rs.49 and Rs.57 at all India level at 1973-74 prices be adopted as the base line for all future references. The State specific poverty lines should be constructed using the deflator adjusted Consumer Price Index of Industrial Workers (CPI-IW) in urban areas and Consumer Price Index of Agricultural Labourers (CPI-AL) in rural areas.

In 2005, another Expert Group also known as the 'Tendulkar Committee' was constituted to review and revise the

[45]Report of the expert group on estimation of proportion and number of poor (1993)Perspective Planning Division, Planning Commission, Government of India, New Delhi.

estimates of previous poverty line estimation. In their November 2009 report, the committee recommended a move away from the calorie-consumption based poverty estimation because consumption patterns have changed over the years and the 1973-74 poverty line baskets (PLBs) were unable to capture this change. A Mixed Reference Period (MRP) based estimates was to be used instead of the Uniform Reference Period (URP) based estimates. The new poverty Line basket recommended by the Expert group was also adopted by the National Sample Survey Organisation (NSSO) for future surveys.[46]

Table 3.2: **Percentage and number of poor estimated by Expert Group by Tendulkar Methodology using Mixed Reference Period**

Year	Poverty Ratio (%)			Number of Poor (million)		
	Rural	Urban	Total	Rural	Urban	Total
I. Expert Group 2009 (Tendulkar Methodology)						
1993-94	50.10	31.80	45.30	328.60	74.50	403.70
2004-05	41.80	25.70	37.20	326.30	80.80	407.10
2009-10	3.80	20.90	29.80	278.21	76.47	354.68
2011-12	25.70	13.70	21.90	216.50	52.80	269.30
I. Expert Group 1993 (Lakdawala Methodology)						
1993-94	37.30	32.40	36.00	244.00	76.30	320.40
2004-05	28.30	25.70	27.50	220.90	80.80	301.70

Source:*Planning Commission*

The differences in the outcomes of poverty estimation can be seen in Table 3.2 using MRP based estimates of both the Lakdawala committee and Tendulkar committee. The Tendulkar methodology drastically increased the poverty ratio which was

[46]Report of the Expert Group to review the methodology for estimation of poverty (2009) Government of India, Planning Commission.

estimated at 27.5% by the Lakdawala committee to 37.2% with an increase of 9.7% in 2004-05. Poverty was declining from 36% in 1993-94 by the Lakdawala methodology. However a closer look at the Tendulkar methodology revealed that poverty was as high as 45% of Indians in the same periods.

Below is a Table showing the incidence of poverty in India from several rounds of surveys from the National Sample Survey on a decennial basis. Poverty in India is declining accept in the case of 1970s where poverty rose from 47.85% in 1962-63 to 53.37% of the population in 1972-73

Table 3.3: Rural, Urban and National Poverty Ratio

NSS Round	Survey Period	Year	Head Count Index		
			Rural	Urban	National
5	Dec 52-Nov 53	1952-53	48.21	40.14	46.8
18	Feb 63-Jan 64	1963-64	48.53	44.83	47.85
27	Oct 72- Sept 73	1972-73	55.36	45.67	53.37
38	Jan 83- Dec 83	1983-84	45.31	35.65	43
48	Jan 92-Dec 92	1992-93	43.37	33.73	40.93
53	Jan 97-Dec 97	1996-97	35.69	29.99	34.4

Sources:Datt (1998) and Datt (1999)

Although the early planning years put emphasis on improving the conditions of poverty and growth, the policies did not

succeed as much as they would like. Growth was slow, as seen in Graph.3.1 and incidence of poverty fluctuate during the first three decades indicating that poverty did not decline on a sustained basis during that period. Nevertheless, poverty did seem to have declined in the ensuing years. And by 1996-97 it was reduced to 34.4% from 53.37% of the population in 1972-73 as seen in Table 3.1.

Poverty is still very much at large in India with over 26% of the population living below theofficial poverty lineof the government in 1999-2000.[47]According to United Nations' Millennium Development Goal (MDG) programme, 270 million or 21.9% people out of 1.2 billion Indians lived below the poverty line of $ 1.25 a day in 2011-2012.

The growth figures and the decline in the official poverty rates in recent past have convinced numerous economists that growth in India had considerably reduced poverty since the time of Independence and that the rate of the decline in the incidence of poverty has been directly linked with the changes in the level of growth. On the forefront of this argument are renowned economistssuch as JagdishBhagwati and ArvindPanagarya amongst others.[48]Panagarya (2004) mentioned that economies that have managed to push the per capita growth rate to 3 % or more on a

[47]Planning Commission. Annual Report 2012-13

[48]Bhagwati, Jagdish.,&Panagarya, Arvind. (2013): *Why Growth Matters: How Economic Growth in India Reduced Poverty and the Lessons for Other Developing Countries*. Public Affairs. New York. IBSN 978-1-610-272-3

sustained basis have almost always managed to lower the proportion of those living below a specified poverty line, implying that India has set an example in reducing poverty.[49]

Despite the remarkable achievements in economic growth, there are also economists who believed that growth in India has not been inclusive and that the poor are being left behind. Notable works of this argument are evident in the works of renowned economists such as Dr. AmartyaSen and Jean Drèze.[50] There has been a series of questions raised on the growth path that India took over the years from different quarters of the academic circle. Has growth been inclusive? Has it brought people out of poverty? Is growth a sufficient condition to alleviate poverty?

Since many questions need to be answered in this regard and with a wide array of research available in this field, it is only apt to retrospect and highlight empirical researches performed over the years on the relationship between poverty and growth in India.

[49]http://www.columbia.edu/~ap2231/Policy%20Papers/miracles%20and%20debacles-panagariya-rev-March_04.pdf
[50]Sen, A., &Dreze, Jean, (2013): *An uncertain glory: India and its contradictions.* Princeton University Press, Princeton, New Jersey. ISBN: 978-0-691-16079-5

3.4. GROWTH AND POVERTY REDUCTION IN INDIA: THE TRICKLE DOWN MECHANISM

Inthe1960sand1970s,therealannualrateofGDPgrowthin Indiawas3.4percent,implyingapercapitaannualgrowthrateofbarel y1percent.Growthratesinnationaloutputsincethemid-1980shavebeenappreciablyhigheronaverage.Inthe1990s,averagec onsumptionpercapita(asmeasuredinthenationalaccounts)hasgro wnatanannualrateof3.0percent,implyingaboutaone-thirdincreaseinconsumptionpercapitaoverthedecade.Itappearspl ausiblethattheeconomicreformscarriedoutbyIndia inthe1990shavehelpedachievethishighergrowth.

Experiencepriortothe1990ssuggeststhateconomicgrowthin Indiahastypicallyreducedpoverty.Usingdatafrom1958to1991,Rav allionandDatt(1996)[51]findthattheelasticityoftheincidenceofpove rtywithrespecttonetdomesticproductpercapitawas−0.75andthatw ithrespecttoprivateconsumptionpercapitaitwas−0.9,asshowninTa ble3.4.ThefirstcolumnofTable3.4measurespovertywithaheadcou ntindex:thepercentageofpeoplebelowthepovertylinesetbyIndia's government.Thenexttwocolumnsshowhowtwoother

[51]Ravallion,MartinandGauravDatt.1996."HowImportanttoIndia'sPooristheSectoralCo mpositionofEconomicGrowth?"*WorldBankEconomicReview.*10:1,pp.1–25.

measuresofpovertyhavehistoricallyrespondedtochangesinconsu
mptionandnetdomesticproduct.Thepovertygapindexisthemeand
istancebelowthepovertylineasaproportionofthepovertyline.Squar
ingtheindividualpovertygapsgivesadditionalweighttoobservations
furtherbelowthepovertyline.Thehigherabsoluteelasticitiesformea
suresofthedepthandseverityofpovertyincolumns2and3ofTable3.4
indicatethatthosewellbelowthepovertylinehavebenefitedfromma
croeconomicgrowth,aswellasthosenearthepovertyline.Noristhere
anyconvincingevidencethateconomicgrowthinIndiapriortothe19
90shastendedtobeassociatedwithrisingoverallinequality(Bruno,R
avallionandSquire,1998).[52]Theseobservationsclearlyrefuteclaims
thatpre-1990sgrowthinIndiatendedtoleavethepoorbehind.

Table: 3.4. Elasticities of National Poverty to Measure Growt in India, 1951-1991

[52]Bruno,Michael,MartinRavallionandLynSquire.1998."EquityandGrowthinDevelopingC
ountries:OldandNewPerspectivesonthePolicyIssues,"in*IncomeDistributionandHigh-
QualityGrowth*.VitoTanziandKe-youngChu,eds.Cambridge,Mass.:MITPress.

Elasticity with Respect to	*Headcount Index*	*Power Gap Index*	*Squared Poverty Gap Index*
Mean Consumption from national sample surveys	2.13	21.88	22.26
	(15.19)	(12.83)	(10.22)
Mean private consumption from national accounts	20.9	21.36	31.67
	(4.23)	(3.98)	(3.45)
Mean net domestic product from the national accounts	20.75	21.15	21.45
	(3.68)	(3.59)	(3.27)

S
s o u rce:Datt&Ravallion(2002)

Notes: Absolute t-ratios in parentheses. The headcount index is the percentage of people below the poverty lines discussed in the text. The poverty gap index is the mean distance below the poverty line as a proportion of the poverty line, counting the non-poor as having zero poverty gap. The squared poverty gap index is the measure proposed by Foster et al. (1984), in which the proportionate poverty gaps are weighted by themselves to reflect the extent of inequality amongst the poor.

Giventheconcernsaboutwhetherpovertyreductionhadbeen stallinginthepostreformperiod,India'sPlanningCommission(200 1)reportedasharpreductioninpovertybasedonNSSdatacovering19 99–2000.

However,uponcloserexamination,onefindsthatthedesignoftheNS Schanged in1999–2000 inwaysthatcastdoubtonthecomparabilityoftheresultingpovertyesti mateswiththosefromearlierrounds.WhentheNSSbeganinthe1950 s,itused30-

dayrecallforconsumption;thatis,itaskedpeoplehowmuchtheyhads pentonvariousitemsintheprevious30days.Thischangedwiththesur veydonein1994–

1995,andforthissurveyandtheonescarriedoutin1995–

1996,1997and1998,theNSSadministeredtwodifferentconsumptio nschedulestotwoindependentsubsamplesofhouseholds:onewitht hetraditional30-dayrecall,theotherwithmultiplerecallperiodsfordifferentitems:7-dayrecallforfood(food,pan,tobaccoandintoxicants),30-dayrecallforhigh-frequencynon-food(fuelandlight,miscellaneousgoodsandservices,non-institutionalmedical)and365-dayrecallforlow-frequencynon-food(educational,institutionalmedical,clothing,footwearanddur ablegoods).Thesechangeswerenotofseriousconcern,sinceonecan stillmakeconsistentcomparisonsovertimeusingthefirstschedule.T he1999–2000datafromtheNSSalsoincludedafarmore worrying change. In that round, food consumption wasobtained by both 7-day and 30-day recall for the same set of households, with the columns appearing side-by-side on the same page of the questionnaire.

Thenumbersformeanoffoodconsumptionfromthetworecallmeth odsinthe1999–2000NSSroundarequitesimilar—farmoresothaninthefourpreviousexperimentalrounds,inwhichdif ferenthouseholdsgotdifferentrecallschedules(Visaria,1999).[53]

Puttingboth7-dayand30-dayrecallquestionsside-by-sideonthesamepageofthequestionnaireprobablypromotesconver

[53]Visaria,Pravin.(1999): PovertyinIndiaDuring1994–98:AlternativeEstimates."MimeoInstituteofEconomicGrowth,Delhi,India.

gence;interviewersandrespondentsnaturallywouldtendtocross-checkorvalidatetheresponsebasedononerecallperiodwiththatbasedontheother.Bycontrast,spendingonlow-frequencynon-foodconsumptionitems—typicallyaccountingforabout20percentofaverageconsumption—wasobtainedonlyusingaone-yearrecallperiod,alsoanimportantchangefromtheearlierroundsoftheNSS.Thischangecouldincreaseordecreasethepovertycount(whilethelongerrecallperiodwilltendtogivealowermean,itwillprobablyalsogivealowervariance).The30-dayrecallperiodwasonlyusedforthehigh-frequencynon-fooditems,accountingfortheother20percentofaggregateconsumption. Itturnsoutthatthewayoneinterpretsthe1999–2000NSSdatadependsheavilyonwhetheroneuses7-dayor30-dayrecallforfoodexpenditures.Ifoneusesthe30-dayrecallestimatesforfoodandignorestheotherdifferencesinthe1999–2000data,thentheconsumptiondistributionsforthatyearimplyasizablereductioninpoverty.

ThePlanningCommission's(2001)estimatesalongtheselinesindicatethatthenationalpovertyratefellbyabout10percentagepointsbetween1993–1994and1999–2000,from36percentin1993–1994toonly26percentin1999–2000.Ifinsteadonecomparesthe7-

dayestimatesfor1999–2000withthe7-dayestimatesfromthepreviousfourexperimentalrounds,thenoneg etsan*increase*inpoverty.Thecomparisonsuggestsanincreaseof2perc entagepointsintheruralpovertyratebetween1994–1995and1999–2000andanincreaseof5percentagepointsintheurbanpovertyrate(Visaria,1999).[54]Isitpossibletoworkwiththedatainthe1999–2000NSSroundsinawaythatproducesestimatesmorecomparableto thosefromearlierrounds?Deaton(2001a)[55]attemptstodosobyexpl oitingthefactthatsomegoodsinthe1999–2000data—accountingforaboutone-fifthofmeanconsumption—usedthesame30-dayrecallperiodasinprevioussurveys.Deatonmakestwokeyassumpti ons.First,heassumesthatthesurveyresultsforthegoodswiththecom mon30-dayrecallperiodwereunaffectedbythechangeinsurveydesign.Seco ndly,heassumesthatthedistributionoftotalconsumption-conditionalonconsumptionofthecommon-recallgoodshasnotchangedovertimeandsocanbeinferredfromthe 1993–1994round(whichwasofcourseuncontaminatedbythechangeinsur veydesign).Theseassumptionsallowhimtogenerateanestimateofth

[54]Visaria,Pravin.(1999): PovertyinIndiaDuring1994–98:AlternativeEstimates."MimeoInstituteofEconomicGrowth,Delhi,India.
[55]Deaton,Angus.2001a."AdjustedIndianPov-ertyEstimatesfor1999–00."Mimeo,ResearchPrograminDevelopmentStudies,PrincetonUniversity

edistributionoftotalconsumptionasiftherehadbeennochangeinsurveydesign.

UsingthePlanningCommission's(2001)official'spovertylines, Deaton(2001a)foundthattheruralpovertyratefellfrom37.2percent in1993–1994to30.2percentin1999–2000,whileurbanpovertyfellfrom32.6percentto24.7percent during the same period.Afterweighingthesereductionsbytheurbanandruralpopulationshares,Deaton'sestimatesimplythatthenationalpovertyratefell from36.2percentin1993–1994to28.8percentin1999–2000—adeclineof1.2percentagepointsperyear.Deaton(2001b)[56]usesanalternativepricedeflatordevelopedbyDeatonandTarozzi(1999)that leadstoalowerestimateofthepovertyrate,butasimilarestimateofthedeclineinthepovertyrateinthe1990sTheassumptionshereimplythat,atagivenleveloftotalconsumption,demandforthegoodswiththecommonrecallperiodmustnotchangeovertimebecauseofchangesintastes,relativepricesorsurveydesign.Itisknownthatthestructureofrelativepriceschangedduringthisperiod(Sen,2001).Therewillbeanunderestimationofthelevelofpovertyin1999–2000iftheunderlyingchangesintastesandpricesentailthatdemandforthegoodswiththecommonrecallperiodincreasedovertimeatanygivenleveloftotalspendingandacorrespondingoverestimationofp

[56]Deaton,Angus.(2001b):*ComputingPricesandPovertyRatesinIndia,1999–00*.Mimeo,Re-searchPrograminDevelopmentStudies,PrincetonUniversity.

overtyiftheunderlyingtastesdecreased.Norisitobviousthatthechan gesinsurveydesignwouldleavetheresultsforthe“30-daygoods”unaffected.Deaton(2001a)foundindirectsupportiveevi dencefortheiridentifyingassumptionsusingtheintermediate“thin” NSSsamplesurveysbetween1993–1994and1999–2000.Ofcourse,ifoneacceptstheseintermediatesurveysforvalidatio npurposes,thenonemustpresumablyaccepttheirimpliedpovertym easures,inwhichcasethepuzzleremainsastowhypovertyfellsosharpl yinjustoneortwoyears.

Thestatesthathavehadtheslowestgrowthinpercapita GDPint he1990sarethestateswiththelowestlevelofpercapitaGDPinthe1980 s*and*thetwostateswiththehighestlevelofpercapitaGDPinthe1980s(PunjabandHaryana).Thehighgrowthratesinthe1990shavebeenint hemiddle-incomestates.Ignoringthetwostateswiththehighest GDPpercapitai nthe1980s,thereisastrongpositiverelationshipbetweenlevelofperc apitaGDPinthemid-1980sandgrowthrateinthe1990s;thatis,thereisdivergenceinpercap itaGDPamongallbutthericheststatesofIndia.Includingthetworich eststates,nosimplelinearrelationshipexists.

Intheoreticalmodels,adecreaseinthecostsoftradecan,insom ecases,firstleadtodivergencebetweentwotradingregionsandthenla

tertoconvergence(Baldwin,MartinandOttaviano,(2001)[57].

Itisalsonotablethatagricultureasawholehaslaggedthenon-agriculturalsectorinthe1990s;whileIndia'saggregateGDPgrewatarateof6.7percentperannumovertheperiod1993–1994to1999–2000,agricultureandalliedservicesgrewatonly3.2percentperannum.Theimportanceofruraleconomicgrowthandagriculturalgrowthinparticular,topovertyreductioninIndiahaslongbeenrecognized.

Growthinlargestateswithhighlevelsofpovertyiswhatmattersmostforaggregatepovertyreduction. During1993/1994–1999/2000, thereisnosignthattheratesofgrowthwerehigherinthestateswheregrowthwouldhavehadgreaterimpactonnationalpoverty.Overthe14majorstates,thecorrelationcoefficientbetweenthegrowthrateinnon-agriculturaloutputperpersonfrom1993–1994to1999–2000andtheweighted(absolute)growthelasticityofpovertyis−0.10, whichisnotstatisticallysignificantatanyreasonablelevel. Itisclearthatthenon-agriculturalgrowthhasnotbeenconcentratedinthestateswhereitwouldhavehadthegreatestimpactonpovertynationally.Amore-pro-poorgeographicpatternofgrowthinIndia'snon-agriculturaleconomywouldhaverequiredhighergrowthinstatessuc

[57]Baldwin,RichardE.,PhilippeMartinandGianmarioI.P.Ottaviano.2001."GlobalIncomeDivergence,TradeandIndustrialization:TheGeographyofGrowthTake-Offs."*JournalofEco-nomicGrowth*.

hasBihar,MadhyaPradesh,OrissaandUttarPradesh.Norhasthegeographicpatternofagriculturalgrowthbeenparticularlypro-poor.Thestateswithhighergrowthinagriculturalyieldswerenotthekeystateswithhighersharesof India'spoverty.Indeed,thereisamildnegativecorrelation,althoughnotstatisticallysignificant.

However,anannualrateofdeclineinthepovertyrateof0.8percentagepointsperyearislowerthanonewouldhaveexpectedgivenIndia'sgrowthrateinthe1990sandthehistoricalelasticityofthenationalpovertyratetoaggregategrowth.Asmentionedearlier,theelasticityofthepovertyratewithrespecttochangesinpercapitanetnationalproduct,basedondatafrom1958to1991,was–0.75(RavallionandDatt,1996)[58].India'sactualgrowthrateinnetnationalproductper capitawas4.8percentperannumbetween1993–1994and1999–2000,implyingthatthepovertyratewouldhavefallenby1.3pointsperyearoverthatperiod.Similarly,ifoneestimatesacounterfactualinwhichfarmandnon-agriculturalsectorsandallstateshavethesamegrowthrate,givenbythenationalrate,withallelseremainingthesame,thenwepredictapovertyratereductionof1.2percentagepointsperyear.Ifnotforthesectoralandgeographicpatternofgrowth,India'smacroeconomicgrowthrateinthe1990swouldhavedeliveredarateofpovertyreductionrough

[58]Ravallion,MartinandGauravDatt.1996."HowImportanttoIndia'sPooristheSectoralCompositionofEconomicGrowth?"*WorldBankEconomicReview.*

lydoublethehistoricaltrend.

Oneofthemoststrikingresultsishowmuchtheelasticityofpoverty
tononagriculturaloutputhasvariedacrossstates.Whydoespovertyrespondsomuchlesstoeconomicgrowthinsomestatesthaninothers?

Aplausibleexplanation,withsomesupportfromcross-countryregressions,isthatcertaintypesofinitialinequalitiescanseverelyimpedetheprospectsforgrowth-mediatedpovertyreduction.Theinitialincomedisparitybetweenurbanandruralsectorscanalsolimitpovertyreductionthroughgrowthinadualisticlabormarketenvironment.Thisargumentechoesalong-standingview(thoughnotadominantoneinrecentdevelopmentthinking)thatruralunderdevelopmentconstrainsprospectsforpovertyreductionthroughindustrialization.However,initialurbanizationcouldhaveapositiveinfluenceonthepovertyimpactofnon-agriculturalgrowthbyenhancingthepoor'saccesstomarketsandinfrastructure.Onecouldalsoarguethathigherinitial farmyieldsandnonfarmproductwill promotetighterlabormarketconditionsandhelptobidupwagesaseconomicgrowthincreasesdemandforlabor.

InRavallionandDatt(2002)[59],weseethatanumberofconditionsaround1960—

[59]Ravallion,MartinandGauravDatt.2002."WhyHasEconomicGrowthBeenMorePro-PoorinSomeStatesofIndiathanOthers?"*Jour-nalofDevelopmentEconomics*.68:2,pp.381–400

theaveragefarmyield,theratioofurbantoruralaverageconsumption ,theshareoftheruralpopulationthatislandlessinthestate,thestate'si nfantmortalityrateandtheliteracyrate— aresignificantpredictorsoftheelasticityofpovertywithrespecttogro wth.Non-agriculturaleconomicgrowthwaslesseffectiveinreducingpovertyin stateswith"poor"initialconditionsintermsofruraldevelopmentand humanresources.Lowfarmproductivity,lowrurallivingstandardsre lativetourbanareasandpoorbasiceducationandhealthallinhibitedt heprospectsofthepoorparticipatingingrowthofthenon-agriculturalsector.

Theneedtocombinehumanresourcedevelopmentwithecon omy-widepoliciesfavourabletogrowthhasbeenwellrecognizedindiscussi onsofpoliciesforfightingpoverty. Therevealedimportanceofhumanresourcedevelopmentasapreco nditionforpro-poorgrowthinIndiareinforcestheconcernsofDrèzeandSen(1995) [60]andothersthatrapidpovertyreductioninIndiawillrequiremoreth aneconomicreform.Thekeymessageemergingfromrecentresearc histhatachievingapolicyenvironmentconducivetogrowthinteracts multiplicativelywithhumanresourcedevelopment.Bydoingjustecon

[60]Drèze,JeanandAmartyaSen.1995.*India: EconomicDevelopmentandSocialOpportunity,* Delhi:OxfordUniversityPress.

omicreformorjusthumanresourcedevelopment,onemayachieveve rylittleintermsofpovertyreduction,butdoingbothcantakeanationa longway.

4.1 INTRODUCTION

This chapter attempts to put into perspective the multi-dimensional relationship between public expenditure, gross state domestic product, per capita consumption expenditure, and revenue of the state. In an attempt to establish the relationship between public expenditure and growth in Mizoram, the various components of public expenditure in the revenue and capital accounts such as development and non-development expenditure are discussed extensively in regards to their quantity and quality and overall impact on the economy.

The analyses further explore the trends in the Gross Domestic Product of the Mizoram with its intricate sectoral transformation during the study period. The per capita gross state domestic product is also examined to highlight the quality of the growth in the State. Revenue of the state, its composition and trend over the study period is also analysed.

To prove the relationship between public expenditure and growth and also to determine the relationship between growth and the standard of living, a regression analysis is used to prove or disprove the hypotheses in this chapter.

4.2 TRENDS IN PUBLIC EXPENDITURE

As illustrated in Table 4.1, public expenditure in Mizoram has increased considerably during the study period 1994-95 to 2011-12. The total public expenditure increased from Rs. 59,235 Lakhs in 1994-95 to Rs. 4,48,631 Lakhs in 2011-12. Although public expenditure has been increasing, the increase is not a constant one, but rather fluctuates throughout the study period.

Table 4.1 : Trends in Public Expenditure as a Percentage of GSDP (Rs in Lakh)

Year	Public Expenditure	YoY %	% of Public Expenditure to GSDP (at Current Prices)
1994-95	59235		80.2
1995-96	71504	20.7	76.3
1996-97	80961	13.2	75.5
1997-98	86994	7.5	77.5
1998-99	89326	2.7	71.7
1999-00	116051	29.9	82.3
2000-01	128794	11.0	72.8
2001-02	133352	3.5	69.3
2002-03	140482	5.3	64.1
2003-04	182554	29.9	78.5
2004-05	181720	-0.5	67.8
2005-06	217197	19.5	73.1
2006-07	229493	5.7	69.8
2007-08	255915	11.5	67.1
2008-09	286854	12.1	62.7
2009-10	352902	23.0	67.1
2010-11	413950	17.3	64.8
2011-12	448631	8.4	65.1

Source: *RBI - Handbook of Statistics on State Government Finances 2004-11 and Annual Financial Statement 2001-13, Government of Mizoram*

From the analysis it is found that the highest year on year growth reached 29.9% in 1999-00 and 2003-04 respectively. The year

2004-05 however shows a negative growth at -0.5%. The fluctuation of the year on year growth is surprisingly cyclical, culminating every 4 to 5 years. The cyclical nature of the growth in public expenditure can be attributed to the political Budget cycle operating in developing states.[61]

Public expenditure as a percentage of Gross State Domestic Product peaked in 1990-00 at 82.3% and is lowest in 2008-09 at 62.7%. Initially, it was at 80.2% in 1994-95 and then settled at 65.1% in 2011-12. Therefore, despite the short run fluctuations, the long run exhibits a decreasing trend in the public expenditure to GSDP ratio. The long run trend is more or less positive in the sense that the government is reducing its expenditure to GSDP ratio and moving towards reducing crowding out effects (Rahn curve) to achieve optimal government expenditure.[62] However, the overall situation still paints a dim picture indicating that the government consumes, on an average, 71% of the economic output of the state.

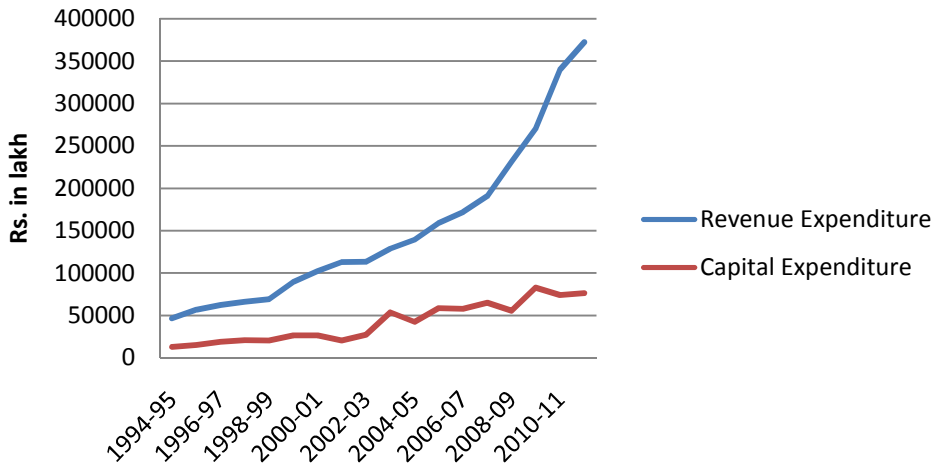
4.2.1 Trends in Revenue and Capital Expenditure

[61]Ebeke and Olcer (2013) *Fiscal Policy over the Election Cycle in Low-Income Countries.* IMF Working Paper No. 13/153

[62]Chobanov and Mladenova (2009) *what is the optimum size of the government.* Bulgaria: Institute for Market Economics

The analysis shows that both the revenue and capital expenditures of the state have increased from 1994-95 to 2011-12. Despite continuous fluctuation in the capital expenditure it has increased considerably from Rs. 12880 lakhs in 1994-95 to Rs. 76245 lakhs in 2011-12. On the other hand the revenue expenditure registered an accelerated growth from Rs. 46355 in the base year to Rs. 372386 in 2011-12. The trend is captured in Graph 4.1 below.

Graph 4.1 Trends of Revenue and Capital Expenditure



Revenue expenditure as a percentage of total expenditure exhibits an upward trend while capital expenditure shows a declining trend. It peaked in 2001-02 at 85% and declined to 70% in 2003-04 and started gaining momentum again after finally settling at 83% of public expenditure in 2011-12. Capital expenditure on the other hand indicates an overall declining trend from 22% in the base year down to 17% of total public expenditure in 2011-12.

In Table 4.2, decomposition of revenue expenditure and capital expenditure of the Government of Mizoram as a percent of GSDP is shown. Revenue expenditure as a percentage of GSDP declined from 62% in 1994-95 to 55% in 1998-99. While capital expenditure slightly declined during the same period from 17.43% to 16.25%. Both have fluctuated as seen below:

Table 4.2: Decomposition of Revenue and Capital Expenditure
(Rs. in lakh)

Year	Revenue Exp		Capital Expenditure		As a Percent of GSDP	
	Actual	% to total Expenditure	Actual	% to total Expenditure	RE	CE
1994-95	46355	78.26	12880	21.74	62.75	17.43
1995-96	56507	79.03	14997	20.97	60.34	16.01
1996-97	62063	76.66	18898	23.34	57.88	17.62
1997-98	66157	76.05	20837	23.95	58.90	18.55
1998-99	69084	77.34	20242	22.66	55.45	16.25
1999-00	89440	77.07	26611	22.93	63.46	18.88
2000-01	102161	79.32	26633	20.68	57.76	15.06
2001-02	112823	84.61	20529	15.39	58.63	10.67
2002-03	113096	80.51	27386	19.49	51.57	12.49
2003-04	128778	70.54	53776	29.46	55.39	23.13
2004-05	139440	76.73	42280	23.27	51.99	15.76
2005-06	158800	73.11	58397	26.89	53.45	19.65
2006-07	171729	74.83	57764	25.17	52.20	17.56
2007-08	190839	74.57	65076	25.43	50.02	17.06
2008-09	231380	80.66	55474	19.34	50.55	12.12
2009-10	270269	76.58	82633	23.42	51.38	15.71
2010-11	340044	82.15	73906	17.85	53.23	11.57
2011-12	372386	83.00	76245	17.00	54.05	11.07

Source**:** *RBI - Handbook of statistics on State Government Finances (2004-2011) and State Finances: A study of Budgets (2004-2014)*

The rising revenue expenditure indicates a rising expenditure on non development expenditure by the Government. Therefore a gradual rise in capital expenditure than revenue expenditure is much

more desirable to create assets and infrastructure in the economy. From this analysis it is evident that the mounting increase in public expenditure can be attributed to the surge in revenue expenditure of the government. It is must be noted that an increase in revenue expenditure per se does not mean fiscal stability.

4.2.2 Trends in Development and non-Development Expenditure

Table 4.3 shows that development expenditure had exhibit a steady year to year growth from 1994-95 to 2011-12. Development expenditure has risen from Rs. 44800 lakhs in 1994-95 to Rs. 301042 lakhs in 2011-12 and non development expenditure shows an increase from Rs. 14435 lakhs in 1994-95 to Rs. 147589 lakhs in 2011-12.

On a closer look, it is visible that the proportion of development expenditure to non-development expenditure has gradually narrowed down over the years. Development expenditure shows a decreasing trend while non-development expenditure shows a steady increase in its share of public expenditure. In 1994-95, Development expenditure occupies a whopping 76% of the total expenditure. However, it began to shrink gradually from there and by 2002-03 it was 66.6% of the total public expenditure. The decline, apparently, increased the non-developmental expenditure. It was 24% of total expenditure in 1994-95 but gradually rose to 32.9% of total expenditure in 2011-12.

Table: 4.3 Decomposition of Public Expenditure into Development and Non development (Rs. in lakh)

Year	Development Expenditure		Non Development Expenditure		As a percent of GSDP	
	Actual	% to Total Expenditure	Actual	% to Total Expenditure	DE	NDE
1994-95	44800	75.63	14435	24.37	60.64	19.54
1995-96	53082	74.24	18422	25.76	56.68	19.67
1996-97	60771	75.06	20190	24.94	56.67	18.83
1997-98	62779	72.16	24215	27.84	55.89	21.56
1998-99	63563	71.16	25763	28.84	51.02	20.68
1999-00	83968	72.35	32083	27.65	59.58	22.76
2000-01	87314	67.79	41480	32.21	49.37	23.45
2001-02	90107	67.57	43245	32.43	46.83	22.47
2002-03	93938	66.87	46544	33.13	42.83	21.22
2003-04	121691	66.66	60863	33.34	52.34	26.18
2004-05	123229	67.81	58491	32.19	45.95	21.81
2005-06	151827	69.90	65370	30.10	51.10	22.00
2006-07	154263	67.22	75230	32.78	46.89	22.87
2007-08	179788	70.25	76127	29.75	47.12	19.95
2008-09	194368	67.76	92486	32.24	42.47	20.21
2009-10	230801	65.40	122101	34.60	43.88	23.21
2010-11	286022	69.10	127928	30.90	44.78	20.03
2011-12	301042	67.10	147589	32.90	43.69	21.42

Source: *RBI - Handbook of statistics on State Government Finances (2004-2011) and State Finances: A study of Budgets (2004-2014)*

The decreasing trend of development expenditure to total expenditure is alarming as it indicates low priority spending for economic and social sector which are vital for development. An increasing trend in the non-development expenditure indicates an expansion in the organs of the government which creates liability than returns for the state.

From the observed values of public expenditure and its components during the study period, the Compound Annual Growth Rate is calculated and is shown in Table 4.4.

Table 4.4 : Compounded Annual Growth rate of Public Expenditure

Indicator	Total Public Expenditure	Development Expenditure	Non development Expenditure	Revenue Expenditure	Capital Expenditure
CAGR (%)	11.63	12.75	11.63	13.04	11.03

** Calculation based on tables 4.1, 4.2 & 4.3*

Total public expenditure grew annually at 11.63% where in revenue expenditure shows the highest growth rate at 13% and capital expenditure grew at 11%. Development expenditure shows a 12.75% growth while Non development expenditure registered a growth of 11.63% during the study period.

The analysis clearly shows that there is positive growth in public expenditure and its components in the long run. In other words, the CAGR, which measures the long run performance, indicates that public expenditure is increasing and there is smoothing out in the periodic fluctuations. Revenue expenditure occupies the bulk of the increase while capital expenditure, although increased, shows a decaying growth trend in proportion to revenue expenditure.

4.3 TRENDS OF GROSS STATE DOMESTIC PRODUCT

Due to the unavailability of deflated GSDP for all the study period, the Gross State Domestic Product of the state was taken at current prices. The nominal GDP has shown considerable growth during the study period. The GSDP was Rs. 73877 lakhs in 1994-95 and surged to Rs. 688975 lakhs by 2011-12. Per capita GSDP at nominal also registered a constant growth in relation to the GSDP at current prices.

Table 4.5 : Trends in Gross State Domestic Product (at current prices)

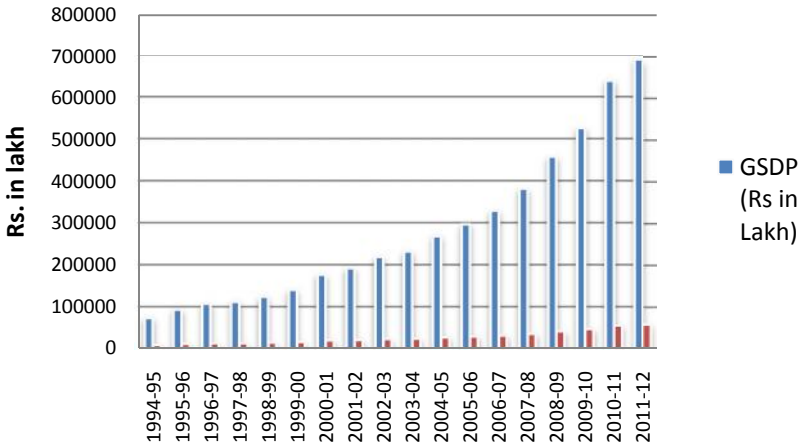
Year	GSDP (Rs in Lakh)	YoY %	Per Capita GSDP (in Rupee)	YoY %
1994-95	73877		9858	
1995-96	93654	26.77	12174	23.49
1996-97	107234	14.50	13588	11.62
1997-98	112319	4.74	13883	2.17
1998-99	124590	10.93	15030	8.26
1999-00	140939	13.12	16604	10.47
2000-01	176872	25.50	20361	22.62
2001-02	192417	8.79	21655	6.35
2002-03	219313	13.98	23924	10.48
2003-04	232500	6.01	24607	2.86
2004-05	268197	15.35	27564	12.02
2005-06	297115	10.78	29773	8.01
2006-07	328998	10.73	32143	7.96
2007-08	381551	15.97	36345	13.07
2008-09	457711	19.96	42510	16.96
2009-10	525985	14.92	47629	12.04
2010-11	638788	21.45	56397	18.41
2011-12	688975	7.86	59307	5.16

Source: *Planning Commission Report, 2014 and Statistical Handbook of Mizoram, 2000,2012 & 2014*

This suggested that growth in nominal GSDP has also resulted in increased Per capita income in Mizoram.The analysis

shows that the Year on Year Growth of GSDP however fluctuates several times during the study period with peak growth as high as 27% in 1995-96 and lowest growth in 1997-98 at 4.7%. The fluctuation is also captured in the per capita GSDP which shows the same peak and low in the same years respectively. The fluctuations seemed to be dependent on other exogenous factor.

Graph 4.2: Trends in GSDP and Per capita GSDP (at current prices)

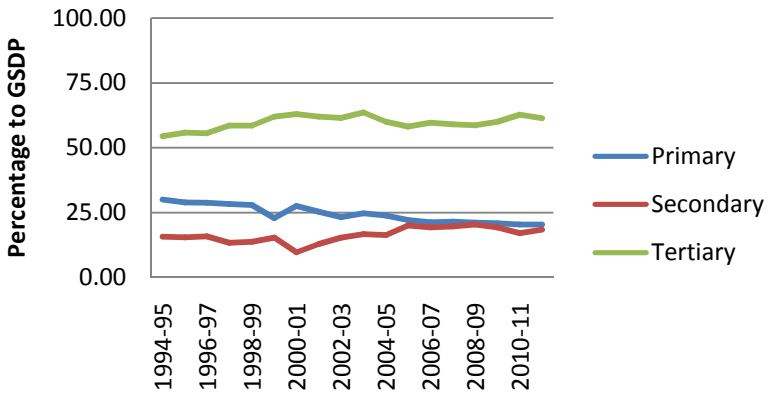


Graph 4.2 captures the growth of the state GSDP as well as the per capita GSDP over the study period. For simplicity of representation, GSDP is shown in lakhs while per capita is shown in rupee. Quality of growth is often indicated by per capita growth, in that sense, growth in Mizoram is positive in securing increased income. It can also be said that GSDP increases with the increase in the per capita GSDP which indicates a responsive economy.

4.3.1 Sectoral Composition of GSDP

The sector-wise decomposition of the Gross State Domestic Product into primary, secondary and tertiary reveals more detailed information about growth pattern of the state. Basically, the primary sector includes agriculture, forestry & logging, fishing, and quarrying & mining. Manufacturing, construction, electricity, gas and water supply constitute the secondary sector and the tertiary sector consists of transport, communication, trade, banking and insurance, real estate and public administration among others.

Graph 4.3: Trend of Primary, Secondary and Tertiary sector as a percentage of GSDP



The interaction of the three sectors in the economy is captured in Graph 4.3 for 18 years. The tertiary sector has shown an upward movement while the secondary and primary sectors have seen

decline over the years. This increase in the tertiary sector is also testament to the growing service sector in India as a whole.

The growth in the service sector is also responsible for urban migration in the state. According to the Census (2011) figures 52.11% of the population in Mizoram resides in urban areas while 47.89% lived in rural areas, which is unusual in India where the 72.2% of the population lived in rural areas while 27.8% lived in urban areas.

Table 4.6: GSDP at factor cost by Industry of origin at current prices (Rs. in lakh)

Year	Primary	Secondary	Tertiary	Percentage share to total GSDP		
				Primary	Secondary	Tertiary
1994-95	22138	11508	40231	29.97	15.58	54.46
1995-96	26963	14446	52245	28.79	15.42	55.79
1996-97	30751	16921	59562	28.68	15.78	55.54
1997-98	31698	14966	65653	28.22	13.32	58.45
1998-99	34705	17009	72876	27.86	13.65	58.49
1999-00	32064	21586	87289	22.75	15.32	61.93
2000-01	48613	16901	111358	27.48	9.56	62.96
2001-02	48699	24578	119140	25.31	12.77	61.92
2002-03	50881	33569	134863	23.20	15.31	61.49
2003-04	57354	38648	147753	24.67	16.62	63.55
2004-05	63827	43727	160643	23.80	16.30	59.90
2005-06	65397	59173	172545	22.01	19.92	58.07
2006-07	69649	63142	196225	21.17	19.19	59.64
2007-08	81792	74662	225097	21.44	19.57	59.00
2008-09	96490	92776	268445	21.08	20.27	58.65
2009-10	109510	101055	315420	20.82	19.21	59.97
2010-11	130002	108635	400151	20.35	17.01	62.64
2011-12	140286	126215	422474	20.36	18.32	61.32

Source: *Planning Commission Report, 2014 and Statistical Handbook of Mizoram, 2000,2012 & 2014*

The sector-wise GSDP indicates that the tertiary sector gains the most growth during the study period. In 1994-95 the tertiary occupies 54.46% of the total GSDP while the Primary sector and secondary sector occupies 30% and 15% respectively. By the year 2000-01, primary sector has decreased to 27% and secondary sector shrunk to 9% while the tertiary sector indicates a constant increase contributing 62% of GSDP in the same year. The analysis indicates a continuous decaying trend in the primary sector from 2001-02 to 2011-12, while secondary sector gradually grew to 20% of GSDP by 2008-09 and decline to 18% of GSDP in 2011-12. The Tertiary sector by 2011-12 contributes 61% of GSDP.

Generally, growth in the secondary and tertiary sector implies generation of employment which is likely to accommodate the surplus labour from rural areas. This is not to say that the share of primary should go down to give room for secondary and tertiary sector, but general growth in the tertiary sector does indicate higher labour absorption rate. This is evident in other developing nations wherein service sector gains prominence. However from the analysis, it is clear that the growth pattern of Mizoram is not a natural one. The small volume of production in the primary sector and the secondary sector is testimony to this. Although 60% of the population of Mizoram are still engaged in Agriculture and allied activities and the state could only meet 20% of its demand for rice. The growth in

industry also needs improvement as there are only 8088 registered small scale industries in the state.[63]

It is clear from the analysis that the dominance of the tertiary sector came as a result of the shrinkage in the primary sector. In other words, the growth trend did not exhibit a natural growth pattern of primary, secondary and to tertiary. Growth has bypassed the secondary sector to tertiary and leaving the primary sector behind.

The highest contributors in the overwhelming growth of the tertiary sector are public administration and business services which indicate an expansion in the organs of the government as well as increasing consumption demands. Surprisingly, manufacturing, tourism, trade hotels and restaurants, communication, and business services, which have high labour absorption rate, are not growing at a desirable rate. It is clear from the above analysis that even though the growth trend exhibit similar growth trends of other developing states, the surplus labour in agriculture and allied activities are not getting absorbed into the secondary and tertiary sector.

The compound annual growth rate of the GSDP and its components highlighted a clear pattern of growth during the study

[63] Economic Survey, 2012-13. Mizoram: Planning and Programme Implementation Department, Government of Mizoram, 2013.

period. The GSDP achieved a growth rate of 13.88% and per capita GSDP also grew by 10.52%. Sector wise, primary sector see the lowest growth at 10.52% followed by tertiary at 13.8% while the secondary sector achieved the highest growth at 16%.

Table 4.7 : Compounded Annual Growth Rate of Gross State Domestic Product (at current prices)

	GSDP	PCGSDP	Primary	Secondary	Tertiary
CAGR %	13.88	10.52	10.52	16.18	13.88

* Calculation is based on tables 4.6 and 4.7

4.4 TRENDS OF PER CAPITA CONSUMPTION EXPENDITURE

As noted earlier, the per capita consumption expenditure is derived from the multiple rounds of the National Sample Survey Organization (NSSO). Since NSSO does not conduct yearly sampling, missing data are generated using linear interpolation. As there are no available data specific to Mizoram for the earlier rounds on NSS, data from 1994-96 to 2001-02 is taken from the Northeast India data.

Table 4.8 shows the monthly consumption expenditure of rural, urban and state population in Mizoram (Mixed Reference Period) during the study period. Rural monthly consumption expenditure was

Rs 378.7 in 1994-95 and Rs. 492.3 for urban in 1994-95 with a difference of only Rs. 113.6. By 2004-05 the gap has widened considerably to Rs. 410.1 while the overall state monthly consumption is still at Rs. 923.3 the same year. The gap between rural and urban consumption continues to widen, and by 2011-12 period, urban MPCE surge to Rs. 2426.5 while rural MPCE achieved only Rs. 1384.4.

Table 4.8: Rural and Urban Monthly Per Capita Consumption Expenditure (MRP) in Mizoram at current prices (in Rupee)

Year	Rural	Urban	State
1994-95	378.7	492.3	435.5
1995-96	411.6	605.5	508.6
1996-97	428.0	595.0	511.5
1997-98	512.0	761.5	636.8
1998-99	477.4	697.6	587.5
1999-00	612.3	917.6	765.0
2000-01	619.9	988.4	804.1
2001-02	603.5	987.8	795.6
2002-03	627.7	1069.0	848.3
2003-04	662.7	1008.4	835.5
2004-05	718.3	1128.4	923.3
2005-06	1081.0	1875.0	1478.0
2006-07	790.0	1564.2	1177.1
2007-08	922.8	1800.2	1361.5
2008-09	1092.5	1873.7	1483.1
2009-10	1262.3	1947.2	1604.7
2010-11	1323.3	2186.9	1755.1
2011-12	1384.4	2426.5	1905.5

Source:Various Rounds of NSSO Sample Survey

The overall state per capita consumption expenditure also jumped from Rs. 5226.12 in 1994-95 to Rs. 22865.82 in 2011-12

with a CAGR of 8.82%. The analysis shows that urban consumption expenditure benefited the most during this period. As stated earlier, the increased growth in the service sector such as public administration seems to benefit urban population more than their rural counter parts. The low level of growth in the primary sector also reflects a low level of consumption pattern for the rural population as agriculture is still the dominant occupation in rural areas of Mizoram. In Table 4.10 Per capita consumption expenditure in rural Mizoram climbed from Rs. 4544.8 in 1994-95 to Rs. 16613.28 in 2011-12 registering a compound annual growth rate of 7.79%. Urban per capita also increased from Rs. 5907.36 in 1994-95 to Rs. 29118.36 in 2011-12 with a CAGR of 9.42%.

The data indicates that urban MPCE grows at a faster rate than rural MPCE in Mizoram and that there is an increasing gap between rural and urban consumption. In other words, the standard of living in urban areas is improving faster than rural areas. This supports the notion that there is rising inequality with growth. The rising gap between urban and rural population in terms of consumption also implies that Public expenditure has varying effects between rural and urban population.

Table 4.9: Yearly per capita Consumption Expenditure

Year	Rural	Urban	State
1994-95	4544.88	5907.36	5226.12
1995-96	4939.68	7265.52	6102.6
1996-97	5136.48	7139.52	6138
1997-98	6143.88	9138.48	7641.18
1998-99	5728.2	8371.68	7049.94
1999-00	7348.08	11011.44	9179.76
2000-01	7438.32	11860.2	9649.26
2001-02	7241.64	11853.48	9547.56
2002-03	7532.76	12827.4	10180.08
2003-04	7951.8	12101.28	10026.54
2004-05	8619.96	13540.2	11080.08
2005-06	12972	22500	17736
2006-07	9479.88	18770.28	14125.08
2007-08	11073.24	21602.76	16338
2008-09	13110.12	22484.52	17797.32
2009-10	15147	23366.28	19256.64
2010-11	15880.08	26242.32	21061.2
2011-12	16613.28	29118.36	22865.82
CAGR (%)	7.79	9.42	8.82

** calculations based on MPCE data by NSSO*

4.4.1 Relationship between Per capita Consumption and Per Capita Public Expenditure

For the purpose of establishing the relationship between fiscal policies and consumption, per capita public expenditure is derived by dividing total public expenditure (at current prices) by population in each year. Data on population is taken from Census and various issues of Mizoram Statistical Handbook.

Table 4.10 indicates per capita consumption expenditure with its year on year growth and per capita public expenditure with its year on year growth as well.

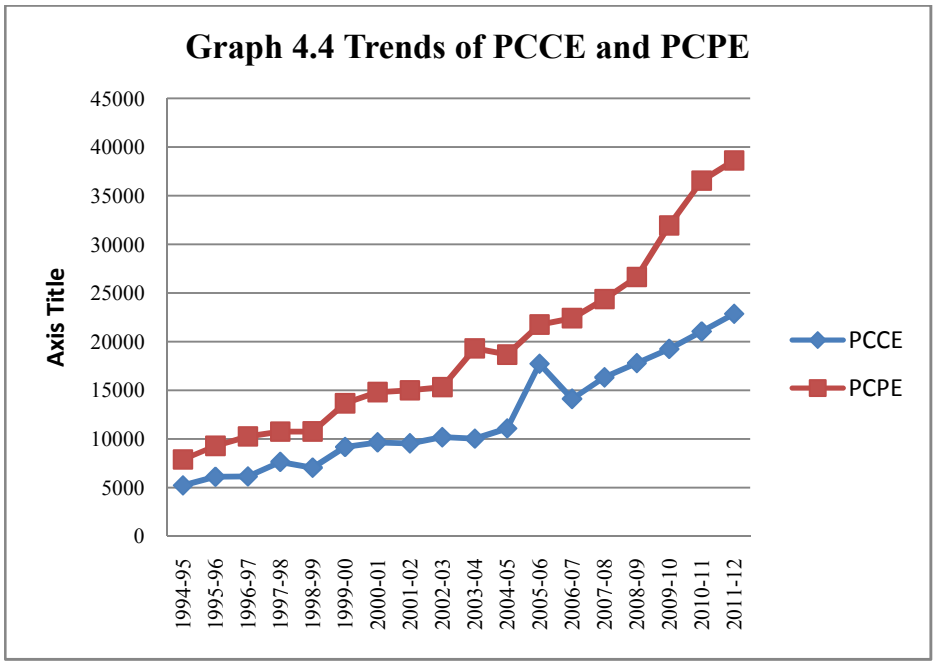
Table: 4.10 Trends of per capita consumption expenditure and per capita Public expenditure at current price (Rs. In Rupee)

Year	PCCE	YoY%	PCPE	YoY%
1994-95	5226.12		7904.31	
1995-96	6102.60	16.77	9294.89	17.59
1996-97	6138.00	0.58	10259.08	10.37
1997-98	7641.18	24.49	10752.66	4.81
1998-99	7049.94	-7.74	10776.09	0.22
1999-00	9179.76	30.21	13672.20	26.88
2000-01	9649.26	5.11	14826.22	8.44
2001-02	9547.56	-1.05	15007.43	1.22
2002-03	10180.08	6.62	15324.57	2.11
2003-04	10026.54	-1.51	19320.99	26.08
2004-05	11080.08	10.51	18676.53	-3.34
2005-06	17736.00	60.07	21764.47	16.53
2006-07	14125.08	-20.36	22421.50	3.02
2007-08	16338.00	15.67	24377.64	8.72
2008-09	17797.32	8.93	26641.44	9.29
2009-10	19256.64	8.20	31955.98	19.95
2010-11	21061.20	9.37	36546.55	14.37
2011-12	22865.82	8.57	38617.93	5.67

Source: Own calculation based on table 4.1, Table 4.9, Census data and Statistical Handbook of Mizoram

Graph 4.4 the trends of PCCE and PCPE during the study period. The Y axis represents consumption and expenditure in rupee while the X axis represent the years of observation. We can see that there is similarity in the movement of the red and blue curve which represents PCCE and PCPE respectively except a sudden surge in the PCCE in the year 2006 but normalized again in 2006-07. This can be

attributed to the way surveys are conducted during the 62nd round of the NSS.



To test the statistical significance of this relationship a simple regression analysis is employed. A preliminary test of the relationship between the PCCE and PCPE shows an R- squared of 0.96, which is positively significant. However to have a broader perspective in the relationship, the population effect is ruled out and we arrive at the total public expenditure without any distortion.

Table 4.11 indicates the regression analysis results wherein per capita consumption expenditure (PCCE) of the state is taken as the dependent variable and total public expenditure (PE) as the independent variable. The estimated coefficient is 0.05 and shows an R-square of 0.94 which is positively significant. Therefore we can say

that the increase or decrease in public expenditure significantly affects the level of consumption expenditure. In other words, the increase in public expenditure also increases consumption expenditure in Mizoram.

Table 4.11 : Regression results of per capita consumption on Public expenditure

	Constant	Coefficient	R-square
Est.	3467.25	0.05	0.94
Sig.	0.000	0.000	

4.5 TRENDS AND COMPOSITION OF STATE REVENUE

The revenue of the State is broadly divided in State Revenue and State's Own Revenue. The table, 4.11 represents the State revenue from 1994-95 to 2011-12 as a ratio to GSDP. It is further decomposed into tax and non-tax revenue. Tax revenue and Non-tax revenue are measured against their percentage share in the Gross State Domestic Product and arriving at the total which is the State Revenue in each year.

The state's revenue as a percentage of GSDP was 72.88% in 1994-95 and gradually decline to 58.23% in 2011-12. This implies that the share of central grants and aid in the economy is decreasing as a percentage of the GSDP. Despite the fact that Mizoram is an un-industrialized State, the figures are rather positive in the sense that the

State is able to channel the assistance from the Central government into productive channels.

Table: 4.12 Decomposition of State Revenue as a percentage of GSDP

Year	State Revenue					
	Tax	% to GSDP	Non Tax	% to GSDP	Total	% to GSDP
1994-95	16439	22.25	37402	50.63	53841	72.88
1995-96	12945	13.82	49792	53.17	62737	66.99
1996-97	18845	17.57	47912	44.68	66757	62.25
1997-98	25579	22.77	46564	41.46	72143	64.23
1998-99	28929	23.22	44569	35.77	73498	58.99
1999-00	33577	23.82	61793	43.84	95370	67.67
2000-01	10188	5.76	72634	41.07	82822	46.83
2001-02	6285	3.27	80494	41.83	86779	45.10
2002-03	12256	5.59	89905	40.99	102161	46.58
2003-04	16418	7.06	120677	51.90	137095	58.97
2004-05	19535	7.28	130652	48.71	150187	56.00
2005-06	28089	9.45	137277	46.20	165366	55.66
2006-07	35567	10.81	161327	49.04	196894	59.85
2007-08	44088	11.55	159887	41.90	203975	53.46
2008-09	47801	10.44	217512	47.52	265313	57.97
2009-10	50212	9.55	246140	46.80	296352	56.34
2010-11	72085	11.28	265385	41.55	337471	52.83
2011-12	100645	14.61	300537	43.62	401182	58.23
CAGR %	11%	-2%	13%	-1%	13%	-1%

Source: *RBI - Handbook of statistics on State Government Finances 2004-11 and Annual Financial Statement 2001-13, Government of Mizoram*

Note: CAGR based on own calculation

The State's Own Revenue is decomposed as a percentage of GSDP in Table 4.12. The two main components of State's Own Tax revenue, i.e. Own Tax revenue and Own Non-Tax revenue, are also decomposed as a percentage of GSDP. The Compound Annual Growth Rate (CAGR) is also calculated at the bottom of the table.

The State's own tax revenue has been increasing over the past as in absolute terms and also as a percentage of GSDP. Own tax revenue have been increasing considerably as a percentage of GSDP and also in absolute term. This is basically in line with the growing consumption expenditure in the State. With rising disposable income, people are consuming more and more goods which is reflected an increased in the revenue of the State in the form of tax.

Table: 4.13 Decomposition of State Own Revenue as a percentage of GSDP

Year	State Own Revenue					
	Own Tax	% to GSDP	Own non-Tax	% to GSDP	Total	% to GSDP
1994-95	458	0.62	3447	4.67	3905	5.29
1995-96	578	0.62	4586	4.90	5164	5.51
1996-97	667	0.62	4642	4.33	5309	4.95
1997-98	787	0.70	4584	4.08	5371	4.78
1998-99	920	0.74	3613	2.90	4533	3.64
1999-00	1073	0.76	4140	2.94	5213	3.70
2000-01	1443	0.82	4037	2.28	5480	3.10
2001-02	1912	0.99	4487	2.33	6399	3.33
2002-03	2797	1.28	5263	2.40	8060	3.68
2003-04	3385	1.46	5801	2.50	9186	3.95
2004-05	3957	1.48	7559	2.82	11516	4.29
2005-06	5506	1.85	12009	4.04	17515	5.90
2006-07	6762	2.06	13338	4.05	20100	6.11
2007-08	7752	2.03	13030	3.42	20782	5.45
2008-09	9462	2.07	15867	3.47	25329	5.53
2009-10	10758	2.05	12650	2.41	23408	4.45
2010-11	13007	2.04	14671	2.30	27678	4.33
2011-12	17867	2.59	16804	2.44	34671	5.03
CAGR %	24%	9%	10%	-4%	14%	0%

Source: *RBI - Handbook of statistics on State Government Finances 2004-11 and Annual Financial Statement 2001-13, Government of Mizoram*

Note: *CAGR is based on own calculated*

To determine whether the consumption expenditure in the State have an impact on the revenue of the State, a linear regression analysis is run (see Table 4.14) by using per capita consumption expenditure(PCCE) as the dependent variable and State revenue as the independent variable. The analysis shows an estimated coefficient of 0.05 and an R-square of 0.91 which is highly significant. Therefore, we conclude that consumption expenditure in the State is positively related to the State revenue.

Table 4.14 : Regression Analysis of PCCE on State Revenue

	Constant	Coefficient	R-square
Est.	4230.02	0.05	0.91
Sig.	0.000	0.000	

4.6 PROOF OF HYPOTHESES

Firstly, to find out the empirical relationship between public expenditure and growth, annual time series data from 1994-19 to 2011-12 is analysed. Regression equation of GSDP on total public expenditure of the state has been estimated using the method explained in Chapter 1, 1.9. It is found that the estimated coefficients turned out to be 1.59 which is highly significant (i.e. significant at all levels) and shows R-square of 0.99 (see Table 4.15)

From the analysis we can conclude that there is significantly positive relationship between growth and public expenditure. In other words, 'Growth' in the State significantly depends on public expenditure.

Table 4.15 : Regression Analysis of GSDP on Public Expenditure

	Constant	Coefficient	R-square
Est.	-25458.32	1.59	0.99
Sig.	0.002	0.000	

Secondly, to test if growth trickles down to the masses in terms of improved standard of living, a time series of 18 year (1994-95 to 2011-12) was analysed. The regression equation of per capita Consumption Expenditure (PCCE) on Gross State Domestic Product (GSDP) was estimated and found to be significant. The regression result shows that an estimated coefficient is 0.05 and an R square of 0.91 which is highly significant (see Table 4.16).

Table 4.16 : Regression Analysis of PCCE on GSDP

	Constant	Coefficient	R-square
Est.	4230.02	0.5	0.91
Sig.	0.000	0.000	

It may be concluded that there is significantly positive relationship between growth and the standard of living. In other words growth in the state had significantly trickled down in the sense that it had improves the standard of living in the State.

Since both the hypotheses are proved, i.e. Public expenditure enhances 'growth' and since 'growth' on the other hand significantly improves the living standard in the state, we can make an inference that the trickle-down effect operates in Mizoram. The mechanism by which it operates is, however, through Public expenditure. In other words re-distribution through public expenditure works in favour of the trickle-down economics.

FINDINGS

1. Public expenditure as a percentage of Gross State Domestic Product peaked in 1990-00 at 82.3% and is lowest in 2008-09 at 62.7%. Initially, it was at 80.2% in 1994-95 and then settled at 65.1% in 2011-12. Therefore, despite the short run fluctuations, the long run exhibits a decreasing trend in the public expenditure to GSDP ratio. The long run trend is more or less positive in the sense that the government is reducing its expenditure to GSDP ratio and moving towards reducing crowding out effects to achieve optimal government expenditure. However, the overall situation still paints a dim picture indicating that the government consumes, on an average, 71% of the economic output of the state.
2. From our analysis it is evident that the mounting increase in public expenditure can be attributed to the surge in revenue expenditure of the government. Rising revenue expenditure indicates an expanding government which accentuates government spending on Non-development expenditure.
3. From the analysis we find that the proportion of development and non development expenditure from the total expenditure has gradually narrowed down over the study period. The decreasing trend of development expenditure to total expenditure is alarming as it indicates low priority spending for economic and social sector which are vital for development.

4. From the observed values of public expenditure and its components during the study period, the analysis clearly shows that there is positive growth in public expenditure and its components in the long run. In other words, the CAGR, which measures the long run performance, indicates that public expenditure is increasing and there is smoothing out in the periodic fluctuations. Revenue expenditure occupies the bulk of the increase while capital expenditure, although increased, shows a decaying growth trend as a proportion to revenue expenditure.
5. The analysis shows that the Year on Year Growth of GSDP however fluctuates several times during the study period with peak growth as high as 27% in 1995-96 and lowest growth in 1997-98 at 4.7%. The fluctuation is also captured in the per capita GSDP which shows the same peak and low in the same years respectively.
6. The highest contributors in the overwhelming growth of the tertiary sector are public administration and business services which indicates an expansion in the organs of the government as well as increasing consumption demands. Surprisingly, manufacturing, tourism, trade hotels and restaurants, communication, and business services, which have high labour absorption rate, are not growing at a desirable rate. It is clear from our analysis that even though the growth trend exhibit similar growth trends of other developing states, the surplus labour in agriculture and allied are not getting absorbed into the secondary and

tertiary sector. Therefore, the dominance of the tertiary sector came as a result of the shrinkage in the primary sector. In other words, the growth trend did not exhibit a natural growth pattern of primary, secondary and to tertiary. Growth has bypassed the secondary sector to tertiary and leaving the primary sector behind.

7. The GSDP achieved a growth rate of 13.88% and per capita GSDP also grew by 10.52%. Sector wise, primary sector see the lowest growth at 10.52% followed by tertiary at 13.8% while the secondary sector achieved the highest growth at 16%.
8. The data indicates that urban MPCE grows at a faster rate than rural MPCE in Mizoram and that there is an increasing gap between rural and urban consumption. In other words, the standard of living in urban areas is improving faster than rural areas. This supports the notion that there is rising inequality with growth. The rising gap between urban and rural population in terms of consumption also implies that Public expenditure has varying effects between rural and urban population.
9. Per capita consumption expenditure in rural Mizoram registered a CAGR of 7.79% while urban registered a CAGR of 9.42%. The analysis shows that urban consumption has consistently surpassed rural consumption. This is to say that urban dwellers have more disposable income than their rural counterparts in Mizoram.

10. The increased growth in the service benefitted urban population more than their rural counter parts. It simply means there are more jobs created in the urban areas than in rural areas.
11. The low level of growth in the primary sector also means a low level of growth in agriculture as agriculture dominates the primary sector.

12. Government's capital expenditure is partly responsible for the growth in the tertiary sector. The contribution made by Public administration and business services indicates expanding organs of the government as well as increasing consumption demands. On a closer look at the components of the tertiary sector, manufacturing, tourism, trade hotels and restaurants, communication, and business services, which have high labour absorption rate, are not growing at a desirable rate.
13. The dominance of the tertiary sector came as a result of the shrinkage in the primary sector. In other words, the growth trend did not exhibit a natural growth pattern of primary, secondary and to tertiary. Growth has bypassed the secondary sector to tertiary and leaving the primary sector behind.
14. The CAGR shows that GSDP achieved a growth rate of 13.88% and per capita GSDP also grew by 10.52%. Sector wise, primary sector see the lowest growth at 10.52% followed by tertiary at 13.8% while the secondary sector achieved the highest growth at 16% during the 18 years of study.

15. The increase or decrease in public expenditure significantly affects the level of consumption expenditure. In other words, the increase in public expenditure also increases consumption expenditure in Mizoram.
16. The state's revenue as a percentage of GSDP was 72.88% in 1994-95 and gradually decline to 58.23% in 2011-12. This implies that the share of central grants and aid in the economy is decreasing as a percentage of the GSDP. This is welcomed because the State is able to channel the assistance from the Central government into productive channels.
17. Own tax revenue has been increasing considerably as a percentage of GSDP and also in absolute term. This is basically in line with the growing consumption expenditure in the State. With rising disposable income, people are consuming more and more goods
18. As per our analysis on per capita consumption expenditure(PCCE) and State revenue, analysis shows an estimated coefficient of 0.05 and an R-square of 0.91 which is highly significant. This suggests that consumption expenditure in the State is positively related to the State revenue.
19. The measurement of poverty in India has changed numerous times which inhibits the creation of accurate data set. The problem is also accentuated by the fact that varying methods to collect data has been adopted by authorities of the Indian Government.

20. The existence of relative poverty has not been addressed in India. Relative poverty and capability deprivation are not considered by policy makers.

SUGGESTIONS

1. The significant relationship between growth and the standard of living indicate that there is trickledown effect in Mizoram largely because growth in the state depends on government spending. Even though the government spends the better portion of its revenue on non development expenditure; the development expenditure should also be raised.
2. Growth is not a sufficient condition for improving the living standard of the poor. There has to be an active government intervention in all dimensions of the economy for the sake of the poor.
3. Government expenditure should be increased continually to raise effective demand. However the expenditures should be of selective nature for development, keeping in mind public debt.
4. The case of research in other countries suggests that inequality thwarts growth; therefore public expenditure should move towards better investment in health, welfare and education that generates as these three factor are most likely to move people out of poverty.
5. Rising growth in the State have also widen inequality in the state. The rising inequality should be tackle through formulation of policy that

is pro-poor, rural and agriculture focused or strengthening of existing programmes so that leakages are corrected.

6. Since growth in Mizoram is dependent on public expenditure, policy makers should consider correcting the unnatural growth pattern of the economy. Policy makers should focus on stimulating the Primary and Secondary sector to ensure a strong foundation for the economy. Even though service sector is pushing growth up ward, our primary and secondary sector have never really took off in the past or present.
7. Policies should be centered in boosting the sectors which have high labour absorption rate, such as manufacturing, communication business services, trade, hotels and restaurant, etc. which will improve living conditions of the people, eventually reducing poverty and improving the living conditions of the poor.
8. There should be a gradual rise in capital expenditure from total public expenditure in the state as it is desirable to create assets and infrastructure for the economy which are pro growth, at the same time pro poor. The rising trend of non development expenditure in the revenue expenditure should also be controlled to improve fiscal deficits. The Government may also consider downsizing so that resources can be allocated into other productive channels.
9. Pro poor growth should not only focus on increasing the income of the poor as income poverty is only one aspect of poverty. Poverty alleviation programmes should also focus on health and man power

planning. Government interventions should be centered on improving the capacities of the poor to enable them to stand on their own.

10. Since Government expenditure is a significant factor in the rise and fall of the living standard of the people in Mizoram, it is self-explanatory that increased government expenditure is necessary to sustain the economy. Consumption level of the state needs to be enhanced. This is only possible through public policy.
11. Public expenditure raises people out of poverty. For a constant increase in public expenditure the government should improve its sources of revenue. Improving the sources of revenue not only meant expanding the tax base into new horizons but also improving upon the existing tax base. The state's own tax and own non tax revenue collected during the study period shows a periodic fluctuation in the volume of revenue collected. Leakages like this should be avoided.

CONCLUSION

The aim of the study is to determine if there is any evidence of the trickledown effect in Mizoram and to identify the mechanism by which it operates. From the analysis of growth and its effect on the standard of living, it was found that the trickledown effect did exist in Mizoram through public expenditure. It should be noted that, the study captures only the effects of growth through public expenditure on the standard of living measured through consumption level,

leaving behind a plethora of variables such as food, health, education, etc. The findings and suggestions is hoped to have some policy implications for the policy makers for the betterment of the economy of the state in general and the poor in particular.

3SLS	Three-Stage Least Squares
BPL	Below Poverty Line
BPO	Business Process Outsourcing
CAGR	Compound Annual Growth Rate
CPI-AL	Consumer Price Index of Agricultural Labourers
CPI-IW	Consumer Price Index of Industrial Workers
CSB	Central Statistical Bureau
CUTS	Consumer Unity and Trust Society
FDI	Foreign Direct Investment
FY	Financial Year
IMF	International Monetary Fund
IMR	Infant Mortality Rate
IT	Information Technology
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
LSMS	Living Standards Measurement Study
MDG	Millenium Development Goal
MoRD	Ministry of Rural Development

MPCE	Monthly Per Capita Consumption Expenditure
MRP	Mixed Reference Period
NLUP	New Land Use Policy
NSS	National Sample Survey
NSSO	National Sample Survey Organization
PCCE	Per Capita Consumption Expenditure
PCPE	Per Capita Public Expenditure
PCI	Per Capita Income
PE	Public Expenditure
PLBs	Poverty Line Baskets
PPP	Purchase Power Parity
RBI	Reserve Bank of India
UN	United Nations
URP	Uniform Reference Period
UT	Union Territory

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