# An Assessment of Fiscal Prudence in Punjab

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**Abstract**—The present empirical investigation (based on the secondary data compiled in the form of regular time series from 1980-81 to 2013-14) aims to assess the fiscal performance of Punjab state by examining the major fiscal policy indicators and in the pre and post reform period and investigating the performance of state on the fiscal front after the implementation of FRBM act. As per the findings, Revenue deficit is found to be the major factor affecting the fiscal situation of Punjab. As far as the quality and impact of FRBM is concerned, it has not fully realized its targets yet. Therefore, the study has suggested various policy measures in order to deal with the problem of fiscal instability.

### 1. INTRODUCTION

Punjab had been the fastest growing state of India with high per capita gross state domestic product, high agricultural produce, high Human Development Index and low poverty. But now the state has lost its economic leadership and one of the major reasons for its lost leadership could be its fiscal stress of the state. The fiscal situation of Punjab started worsening since early 90's and it is still deteriorating. Punjab recorded the highest per capita income in 1993-94 and ranked number 1 in per capita income, among 20 major states during 2001-02 to 2003-04, slipped down to rank 2 in 2004-05 then got the 3<sup>rd</sup> rank in 2005-06; in 2008-09 it slipped to 6<sup>th</sup> position and still at 6<sup>th</sup> position. Haryana, Tamil Nadu, Kerala, Sikkim and Himachal Pradesh overtook Punjab. The reasons for deterioration may be the slowdown or stagnation in agricultural sector, less industrial growth, low revenues and high deficits. Therefore, fiscal policy needs to be examined in the scenario of deteriorating finances not only at national level but also at sub national level. Fiscal policy is one of the critical components of economic stability; as a high deficit has constrained the economy from achieving the objectives of economic growth and development. A sustainable fiscal policy can be defined as a policy such that the ratio of debt to GNP eventually converges back to its initial level. A temporary bulge in the ratio will not declare the policy as unsustainable (Blanchard et al, 1990)<sup>[1]</sup>. Therefore, to keep the deficits in limits, central government has enacted FRBM (Fiscal Responsibility and Budget Management) Act in 2003 and the state governments have also enacted the legislations regarding the fiscal health of the states. But there has not been much decline in the revenue expenditure; but there has been significant decline in social sector spending which is the key

component of the development of any economy. Therefore, the issue that needs concern is not the growing deficit, but its composition is the factor that needs concern, as Punjab has been borrowing to meet the current expenditure, interest payments and servicing of past debt. The stability condition formulated by Domar  $^{[3]}$  (1944) proposes that rate of growth of income should exceed the interest rate of public borrowings, providing primary balance is either positive or zero. But if the interest rate on public debt exceeds GDP growth rate, it would result in the increase of debt-to-GDP ratio. In case of Punjab, the borrowings have been increasing continuously; and also these borrowings are used for revenue expenditure and to meet the current budget requirements. In the light of above discussion, the current study aims to assess the fiscal performance of Punjab state by examining the major fiscal policy indicators in the pre and post reform period and it further investigates the performance of state on the fiscal front after the implementation of FRBM act.

### 2. DATABASE AND METHODOLOGY

The present empirical investigation is based on the secondary data compiled in the form of regular time series of 34 years from (1980-81 to 2013-14) for the state of Punjab. The data on various policy indicators like Outstanding Liabilities of State government (OL), Gross State Domestic Product (GSDP) at factor cost, Interest Payments (IP), Revenue Deficit (RD), Gross Fiscal Deficit (GFD), Primary Deficit (PD), Revenue Receipts (RR), Revenue Expenditure (RE), Capital Expenditure (CE), Plan Expenditure (PE), Non Plan Expenditure (NPE), Development Expenditure (DE) and Non Development Expenditure (NDE) were compiled through the various official publications like Handbook of Statistics on Indian Economy, RBI bulletins, RBI's State Finances- A study of State Budgets and Ministry of Statistics & Programme Implementation (MOSPI). In the present paper, the ratios and trends in various fiscal policy indicators like gross fiscal deficit, revenue deficit, outstanding liabilities, government expenditure, debt servicing indicators have been analyzed in order to address the issue of economic and fiscal instability of Punjab for pre and post FRBM (Fiscal Responsibility and Budget Management) act. For calculating the growth rates of various fiscal policy indicators, following formulae have been applied:

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 $Y = ab^{t} \cdot e^{ut}$ 

Where a and b are the unknown constants,  $U_t$  stands for disturbance term at time t, the compound growth rate was then compute as:

r (%) = (b-1)\*100

### 3. NEED OF THE STUDY

The economic conditions of the state have been worsening since 1980's. The major instrument in the hands of state government is the fiscal policy as the monetary policy is the weapon of the Reserve Bank of India, which is used to correct the macro economic conditions of the economy; and is uniform for the whole country. Unsustainable fiscal policies could harm macroeconomic conditions and could result in excessive debt shocks, inefficient resource allocation & building up of deficits. Therefore, in order to correct the economic instability, it is important to understand the economic situation of Punjab in general and the condition of its deteriorating finances in particular. There is a dire need to study the factors responsible for the worsening state finances and to analyze the trends in the key variables of fiscal policy. Only after analyzing the factors and identifying the reasons, the strategy can be framed and implemented to tackle the problem of deteriorating fiscal situation of Punjab.

# 4. RESULTS AND DISCUSSION

### 4.1 Current Economic and Fiscal Situation of Punjab

The fiscal performance of Punjab has been highly unsatisfactory and poor on all key deficit indicators as per RBI's 'State Finance - A Study of State Budgets 2013-14'. The situation has remained poor even after the implementation of Fiscal Responsibility norms and offering of numerous incentives like debt swap scheme, debt consolidation and relief facility in order to maintain the fiscal stability. The fiscal situation of Punjab is reported to be deteriorating as indicated by higher GFD/GSDP and OL/ GSDP ratio in comparison to all states (The Tribune, 2015)<sup>[9]</sup>. The fiscal and revenue deficit during the period 2001-02 to 2010-11, also reveals the deteriorating financial situation of Punjab. The revenue balance has been consistently in deficit. Fiscal deficit on average has been over 3.73 percent of GSDP during 2001-02 to 2010-11. As per the budget speech; reduction in Revenue Deficit (RD) remains a challenge for the state in the wake of  $5^{\text{th}}$ implementation of Punjab Pav Commission recommendations which saw a significant increase in committed expenditure of the state on salaries and pensions (The Financial Express, 2015)<sup>[8]</sup>. However, in 2013-14, the non achievement of targeted Revenue Deficit was ascribed to "low" revenue growth in the budget report. The targeted revenue deficit was ` 1746.56 crore but it shot up to ` 5259.06 crore (Hindustan Times, 2014)<sup>[5]</sup>. The same reason of relatively low revenue receipt as a percentage of GSDP was put forth as the fundamental reason for high fiscal deficit (Hindustan Times, 2013)<sup>[6</sup>]. As per the target of FRBM (Amendment) Act, 2011 the State was required to bring down its revenue deficit to 1.80 per cent of GSDP by 2011-12 and finally to zero by the year 2014-15. But exactly the reverse pattern has been observed, i.e., instead of bringing down the revenue deficit, it is going up by each passing year.

# 4.2 Efforts Towards Achieving Fiscal Prudence: Fiscal Consolidation and FRBM Act

The Punjab state government brought out a white paper on the state's finances in March, 2002 and budget for the year 2002-03 focused on various fiscal measures for restoration of financial health of the state. Fiscal measures incorporated in the budget 2002 include compression of less productive expenditure, revision of user charges and higher yield from traditional sources such as sales tax, registration and stamp duty and motor vehicles tax through strict enforcement measures. The background for rule-based fiscal policy at sub national level was prepared with the setting up of State Fiscal Reform Facility (2000-01 to 2004-05) by the Centre as per the recommendations of Eleventh Finance Commission (EFC). As per the study of State Budgets, Five State Governments, viz., Karnataka (2002), Punjab (2003), Kerala (2003), Tamil Nadu (2003) and Uttar Pradesh (2004) had enacted fiscal responsibility legislations before the Twelfth Finance Commission award. In order to ensure long-term financial stability by achieving revenue surplus, containing fiscal deficit and prudential debt management, in May 2003, the Government of Punjab enacted the Punjab Fiscal Responsibility and Budget Management (FRBM) Act, 2003; which was subsequently amended vide the Punjab Fiscal Responsibility and Budget Management (Amendment) Act, 2005 to ensure prudence in fiscal management and to maintain fiscal stability in the State. For the improvement of fiscal situation and fiscal instability, the act has proposed the progressive elimination of the revenue deficit, reduction in fiscal deficit and prudent debt management. It also provides for transparency in fiscal operations of the Government.

# 4.3 Trends in Punjab Government Finances

The fiscal deficit of the Punjab Government increased from `5024.7 crores in 1981-82 to `317054.3 crores in 2013-14. GFD/GSDP ratio which was 3.18 in 1980-81 increased to 7.90 in 1987-88. Again it decreased to 6.58 in 1990-91 and then increased to 6.78 in 1998-99. In 2005-06, the ratio was observed to be the lowest (2.44). The ratio increased to 3.84 in 2008-09 and stood at 3.28 in 2012-13 and declined to 3.58 in 2013-14. Similar is the case with revenue deficit. Initially, the RD/GSDP was negative but after 1986-87, the ratio started increasing. In 1987-88, the ratio was 1.87 and increased to 4.72 in 1998-99. Again the ratio declined to 1.14 in 2005-06 and it was lowest in this year. But again it started increasing and stood at 2.60 in 2012-13. However, it declined to 1.66 in 2013-14. But still the target of FRBM act is not achieved. The target was to lower down the ratio to 0.6 percent in 2013-14

and zero in 2014-15. Revenue deficit indicates inability on the part of government to meet its regular expenditure. Thus, it implies the insufficiency of the revenues. In other words, the rising deficit implies that government is using its savings for consumption expenditure. As far as primary deficit to GSDP is concerned, the ratio was observed to be negative in three financial years i.e., -0.32 in 1995-96, -0.38 in 1996-97 and -0.98 in 2005-06. Negative primary deficit implies fall in Debt/GDP ratio whereas positive primary deficit implies the increase in Debt/GDP ratio. As per the stability condition given by Domar(1944), it is possible to stabilize debt with positive primary deficit only if the growth rate of GDP is higher than the growth rate of interest payments. But if the growth rate of interest payments is high then even the zero primary deficits would not be sufficient and that situation will require negative primary deficit.



Fig. 1: Major Deficit Indicators

Primary deficit to GSDP ratio was highest in 1987-88 and then it kept on fluctuating. After the implementation of FRBM act 2003, PD/GSDP declined in 2004-05 but again from 2005-06 it started increasing and stood at 0.88 in 2012-13 and declined to 0.16 in 2013-14. It is very much clear that the rise in fiscal deficit is on account of rise in revenue deficit. However the impact can be better viewed from the analysis of the ratio of revenue deficit to fiscal deficit.

# 4.4 Resource Gap

# 4.4.1 Revenue Deficit/Fiscal Deficit and Revenue Deficit/GSDP

Revenue deficit and Gross fiscal deficit are the major indicators of imbalance in state government finances. These indicators depict the resource gap of the government. Revenue deficit is the difference between total revenue expenditure and total revenue receipts whereas gross fiscal deficit is aggregate disbursement or expenditure (net of debt repayments) less capital receipts, non debt capital receipts & recovery of loans and advances. High Revenue deficit to Gross fiscal deficit ratio implies that maximum proportion of gross fiscal deficit was contributed by revenue deficit.

Table 1: Revenue Deficit to GSDP and Revenue Deficit to GFD

YEAR	RD/GSDP	GFD/GSDP	RD/GFD	
1980	-0.36	3.18	-11.25	
1985	-0.07	5.95	-1.24	
1990	2.88	6.58	43.80	
1995	1.17	3.53	32.97	
2000	3.13	5.23	59.84	
2005	1.14	2.44	46.76	
2010	2.34	3.16	74.09	
2011	2.66	3.31	80.21	
2012	2.60	3.28	79.25	
2013	1.66	2.58	64.22	
Source	e: Author's own	calculations by	using the data	

available from various reports of State government Finances- A study of state budgets.

The perusal of the above table reveals that even though there has been decline in revenue deficit as a percentage of GSDP but still revenue deficit to gross fiscal deficit ratio has remained to be very high and kept on increasing throughout the study period. However in 2013-14, the decline in revenue deficit to gross fiscal deficit is the result of decline in both revenue deficit to GSDP ratio and gross fiscal deficit to GSDP ratio. But still more than 60 percent of the gross fiscal deficit is contributed by revenue deficit.

# 4.4.2 Revenue Receipts v/s Revenue Expenditure

Revenue Receipts comprises of state's tax revenue, non tax revenue and state's share in central taxes. As far as revenue expenditure is concerned, it comprises of development and non development expenditure. From the Fig. 2, it is very much clear that the ratio of revenue receipts to GSDP is less as compare to the ratio of revenue expenditure to GSDP. This resource gap has given rise to revenue deficit and further it reveals that as revenue receipts are not sufficient to cover the revenue expenditure then it gives rise to either borrowings or decline in the asset base of the economy.



Fig. 2: Revenue Receipts v/s Revenue Expenditure

In order to meet the current expenditure, the government will have to curtail its capital expenditure. Use of capital receipts for meeting consumption expenditure will leads to inflation in the economy and increase the burden of loan and interest payments. The trends are almost similar in both the components. During the year 2013-14, there has been rise in both revenue receipts and revenue expenditure as percentage of GSDP but the rise in revenue expenditure might be attributed to the rise in components other than interest payments. As per the budget speech; it is the significant increase in the committed expenditure on salaries and pensions that has kept the revenue deficit as a challenge for the state (The Financial Express, 2015).

#### 4.5 Selected Fiscal Indicators for Punjab: 1980-81 to 2013-14

Revenue deficit, fiscal deficit, tax revenue, revenue expenditure, interest payments are some of the major fiscal indicators depicting the fiscal scenario of Indian states. In case of Punjab, the various indicators have been analyzed to depict the fiscal health of the state.

YEAR	RD/GFD	IP/RE	<b>OTR/RE</b>
1980	-11.25	11.27	63.45
1985	-1.24	12.64	57.61
1990	43.80	13.17	51.23
1995	32.97	26.44	47.05
2000	59.84	20.00	41.79
2005	46.76	20.40	49.37
2010	74.09	16.78	51.16

2011	80.21	19.00	57.02
2012	79.25	17.31	57.24
2013	64.22	16.85	58.53
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*Source*: Author's own calculations by using the data available from various reports of State government Finances- A study of state budgets.

In the year 2013, the ratio of RD to GFD stood at 64.22 which implies that 64.22 gross fiscal deficit is contributed by Revenue Deficit. In 2013, interest payments consumed 16.85 percent of the revenue expenditure. In 2003-04, the ratio was 23.64 percent. But after the enactment of FRBM act, the ratio started declining. However, the percentage decline has been very low. The ratio declined to 16.78 in 2010-11. But again the ratio increased to 19.00 percent in 2011-12. In case of IP/RE; the share in case of Punjab has not declined much which identifies it as risk expenditure as this expenditure is unproductive in nature. State's own tax and non tax revenue are the major components of State's fiscal policy. Economic reforms resulted in various policy changes and one of them was the change in tax structure and due to this change, there was decline in the tax collection of states; and state's share declined in taxes. Tax effort of the government is measured by the ratio of own tax revenue to revenue expenditure. The improvement in this ratio implies that state's tax effort is well and further it reveals that how much revenue expenditure can be met through its own tax revenues. The OTR/RE ratio declined drastically from 51.23 percent in 1990-91 to 36.76 percent in 1991-92. Then after the implementation of FRBM act, the ratio started increasing and it increased to 46.64 in 2006-07. After that again the ratio declined in 2007-08 and 2009-10. After 2010-11, the ratio started increasing. However, the state has not been able to achieve great improvement in the ratio but has been able to maintain the ratio more or less than 50 percent in last 10 years.

#### 4.6 Quality of Expenditure

The Quality of the Expenditure can be judged from the share of plan expenditure, development expenditure, revenue expenditure and capital expenditure in the total government expenditure and also there share in the state domestic product.

#### 4.6.1 Plan Expenditure v/s Non Plan Expenditure

The expenditure that is incurred on financing central plans related to different sectors of the economy is termed as plan expenditure. Expenditure on electricity generation; irrigation and rural development; construction of roads, bridges, canals; science, technology and environment etc are part of plan expenditure. Non plan expenditure is all other expenditure than plan expenditure of the government required for the normal running of government departments and on providing economic and social services. As far as plan expenditure as percentage of GSDP is concerned, its share is comparatively less than the non plan expenditure which corroborates the decline in plan developmental work of the state. However, the relative share of non plan expenditure in gross state domestic product started declining after the implementation of FRBM act.



Fig. 3: Plan Expenditure and Non Plan Expenditure

The share of non plan expenditure was more than 20 percentage points before the implementation of FRBM act, but after FRBM, its share has declined and is less than 15 percentage points. As far as plan expenditure is concerned, the relative share of plan expenditure has increased after 2010-11 but it is less than 3 percent which is very less as compared to the share of non plan expenditure in Punjab. The non plan expenditure to GSDP stood at 12.50 in 2013-14 whereas it was only 2.87 in case of plan expenditure to gross state domestic product.

# 4.6.2 Revenue Expenditure v/s Capital Expenditure

The proportionate share of revenue and capital expenditure depicts the quality of expenditure. There has been deterioration in the quality of expenditure. The share of capital expenditure has declined significantly. The relative increase in revenue expenditure as compared to capital expenditure is a sign of poor quality expenditure as it is not conducive for the asset base and capital formation of the economy and ultimately the growth of an economy. The key issue is that the enactment of FRBM act is based on the presumption that fiscal deficit is the major factor affecting the economic health of the economy and various targets and strategies has been laid down in order to keep the deficits in limits. But to achieve this objective there has been decline in the government expenditure and this may actually worsen the situation particularly in demand constrained developing economies. The fall in public expenditure is believed to crowd out private investment, which will lead to decline in gross state domestic product. Thus, ultimately it will result in rise in Debt to GSDP ratio and problem of unsustainable debt will keep prevailing. The ratio of revenue deficit to GSDP has always remained high as compare to the ratio of capital expenditure to GSDP. The ratio of revenue expenditure to GSDP was highest in the year 1991-92 followed by 2001-02 and 2003-04. After the enactment of FRBM act, 2003, there has been decline in this ratio but the relative decline is very less and from 2011-12, it has again started increasing.



Fig. 4: Revenue Expenditure and Capital Expenditure

As far as capital expenditure as percentage of GSDP is concerned, it kept on declining after 1987-88. However, it increased in the year 2006-07, but after that it was found to be deteriorating. In the year 2013-14, Revenue expenditure to GSDP ratio was 14.23 whereas Capital expenditure to GSDP was only 2.51, which is very less.

# **4.7 Impact of Public Debt on Fiscal Health of the State:** Outstanding Debt and Interest Liability of Punjab State

In order to assess the complete status of total debt in Punjab, it is better to have an overview of total outstanding liabilities of the government. The total interest burden of states is an important indicator of fiscal health and sustainability which particularly depends upon outstanding liabilities of the government. The outstanding liabilities to GSDP ratio started declining after the implementation of FRBM act. But the decline has been very less. However, the ratio increased in 2012-13 by few percentage points and again declined in 2013-14, but the ratio has remained higher than thirty percent of gross state domestic product.

Table 3: Debt Burden and Interest Liability of the state

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YEAR	OL/GSDP	IP/GSDP	IP/RR	IP/RE		
1980	17.39	1.23	10.92	11.27		
1985	26.12	1.55	12.56	12.64		
1990	37.45	1.76	16.80	13.17		
1995	36.36	3.86	28.74	26.44		
2000	41.19	3.14	24.99	20.00		
2005	47.07	3.42	21.90	20.40		
2010	33.06	2.44	19.99	16.78		
2011	32.32	2.45	23.94	19.00		
2012	32.62	2.40	21.31	17.31		
2013	32.33	2.40	19.07	16.85		

*Source:* Author's own calculations by using the data available from various reports of State government Finances- A study of state budgets.

The government has stated that in case of Punjab 90 percent of the borrowings were used for debt servicing, leaving only 10 percent for development. This indicates that Punjab is under debt stress (Hindustan Times, 2013)<sup>[6]</sup>. The debt is said to be tolerable if its servicing does not impose an intolerable burden on fiscal health. Interest payments as one-fifth of revenue receipts are considered a tolerable ratio of interest burden (Dholakia et.al 2004)<sup>[2]</sup>. This ratio is intolerable in case of Punjab as has been higher than the tolerable limits i.e., more than 20 percentage points. The perusal of the Table no. 3 reveals that in the year 2013-14, IP/RR ratio was 19.07. In case of IP/RE; the share has not declined much which identifies it as risk expenditure as this expenditure is unproductive in nature. It is not only the higher interest rate that leads to increase in growth rate of debt but excessive borrowings will also result in higher growth rate of debt (Domar, 1944). The compound annual growth rate of GSDP (13.35), interest payments (15.97), revenue receipts (14.03) and outstanding liabilities (14.91) of Punjab have been calculated. The growth rate of interest payments is higher than the growth rate of income (GSDP) which implies that the debt is unsustainable. Even the growth rate of revenue receipts is very less as compared to the growth rate of interest payments which depicts that the debt servicing liability is growing faster than the revenues. This presents a very dismal picture of Punjab state finances. Outstanding liabilities are growing faster and the even the borrowed resources are used to meet the current expenditure like, committed expenditure on salaries, pensions and interest payments; and are not used for revenue generation. This will result in the accumulation of debt burden.

# 5. CONCLUSIONS AND POLICY IMPLICATIONS

In the present study, an attempt has been made to analyze the specific reasons for the deteriorating economic condition of Punjab. The study has come out with some factors and policy issues that are responsible for fiscal deterioration. Revenue deficit is the major factor affecting the fiscal situation of Punjab. The target of FRBM act was to completely eliminate the revenue deficit as a percentage of GSDP in the year 2014-15. But the target has not been met and the rise in fiscal deficit is on account of rise in revenue deficit. Primary deficit has also remained positive which implies the increase in outstanding liabilities or borrowings, which will further accentuate the debt servicing liability of the government. The government has been using the borrowings for debt servicing and leaving only 10 percent for development purpose. This problem has created a vicious cycle. The revenue deficit is high due to the resource gap between revenue receipts and expenditure. High revenue deficit is giving rise to fiscal deficit as more than 60 percent of fiscal deficit is contributed by revenue deficit. Revenue deficit implies inability of the government to meet its recurring expenses. Therefore, revenue deficit leads to increase in liability in the form of borrowings and as the borrowings are used only to meet the current expenditure and very small proportion is used for developmental purpose.

As far as expenditure is concerned, uncontrolled revenue expenditure on salaries, pensions and interest payments has further deteriorated the situation as the revenue receipts fall short of revenue expenditure. Government's own tax revenues are also not growing well. Plan expenditure as a percentage of GSDP has not grown well whereas the share of non plan expenditure has kept on increasing and it is higher than the plan expenditure. The quality of expenditure is also deteriorating because the share of capital expenditure is very less as compared to the share of revenue expenditure. The lower percentage share of capital expenditure has affected the asset and income generation. Low GSDP growth, low revenue growth and high deficits impact has been compounded by large unproductive government expenditure. Even though the interest payments as a percentage of GSDP has declined in 2013-14, but the share of revenue expenditure has increased. As far as the quality and impact of FRBM is concerned, it has not fully realized its targets yet. There is declining trend in the indicators but for this, capital spending has suffered. One of the major shortcomings of FRBM is that it is uniform for all states in respect of improvement in ratios. Therefore, it is biased and unfair too. Even for meeting up of requirements of the act, there has not been much decline in the debt servicing liability or revenue expenditure but there is decline in capital spending.

In order to deal with the problem of fiscal instability, the strategy needs to ensure that resources are used for productive investment. Resource base needs to be augmented and for this productive investment is required to be made where returns are high or social rate of returns is higher than the cost of borrowings. Tax evasion must to be controlled because this will lead to increase in government's own tax revenues. Curtailment of expenditure on unnecessary and vote-catching programmes is the need of hour. The problem of indebtedness and deep rooted economic crises can be solved by capacity building packages and investment for capital formation. The state needs to consider alternatives to boost income and employment. As far as fiscal consolidation process is concerned, priority should be given to increase in capital expenditure and social sector expenditure as these are the main indicators of growth.

# REFERENCES

- [1] Blanchard, O., Jean- Claude Chouraqui, Robert P. Hagemann and Nichole Sartor (1990), The Sustainability of Fiscal Policy: New answers to old questions, OECD Economic studies, No.15, Autumn.
- [2] Dholakia, Ravindra H., T.T. Ram Mohan and N. Karan (2004), Fiscal Sustainability of Debt of States, Report submitted to Twelfth Finance Commission, New Delhi, Indian Institute of Management, Ahmedabad, May.

- [3] Domar, E.D. (1944), The burden of debt and the National Income, American Economic Review, 34(4), December.
- [4] Government of Punjab (1995-96, 1998-99, 2001-02, 2005-06, 2012-13), Statistical Abstract of Punjab, Chandigarh: Economic and Statistical Organisation.
- [5] Hindustan times (2014), Punjab Budget 2014-15: Rehabilitation Centers, Skill Development for Youth, Hindustan times, Chandigarh, July 16, 2014.
- [6] Hindustan Times (2013), State in vicious debt hold, Finance Commission told, Hindustan times, Chandigarh, Sep 09, 2013.
- [7] RBI (2014), "State Finances: A Study of Budgets of 2013-14", Reserve Bank of India, Mumbai.
- [8] The Financial Express (2015), No New Taxes proposed in Punjab Budget for FY 16, The Financial Express, March 18, 2015.
- [9] The Tribune (2015), Reviving Punjab's Economy- A number of alternative strategies available, The Tribune, April 7, 2015.