# VISION FOR ECONOMIC DEVELOPMENT IN PUNJAB

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**Abstract**

Punjab economy remained a symbol of economic prosperity and a role model of economic development among the Indian states for more than three decades since the ushering in of the green revolution. The dismal performance of Punjab economy during the period of economic reforms relegated the state's economy from a leading to a laggard one. Punjab is now ranked at number seven among the major Indian states in terms of per capita income. Why has Punjab economy slipped to 7th position and turned from a leader to a laggard? This question is intriguing and demands answer from well wishers, policy makers, political leadership and the scholars working on Punjab economy. Despite the recognition of the problem and attempts made so far, the reversal in the trend has not yet occurred. In this paper an attempt has been made to analyze the factors that are responsible for the slow progress of the Punjab economy. An alternative pathway in the light of this analysis has been outlined to rebuild and resurrect the economic development dynamism in Punjab state.

**Keywords**: Economic development, Punjab economy, economic reforms, and future pathways

## Introduction

Punjab economy during the last two decades (1991-92 to 2011-12) has shown dismal economic performance. The rate of economic progress of Punjab economy, in relation to the nation's average economic growth as well as with other fast growing Indian states, has remained quite slow. Two decades experience of slow growth in Punjab has relegated the state's economy from number one position to number seventh in terms of per capita income. Contrary to the expectation, the post reform economic performance of Punjab economy turned it from a leading state of Indian economy to laggard one. In fact, the pre reform economic growth experience was considered to be marred with high degree of regulatory framework that has been

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constraining to realize the full potentials of Punjab economy. However, Punjab economy under the regulatory development strategy has shown development dynamism and remained a symbol of economic prosperity. The rural economy of Punjab witnessed agricultural modernization, reduction of incidence of rural poverty and food surpluses that had provided the direly needed food security to the national economy. This remarkable economic success has been essentially attributed to the role played by the state in terms of laying down of conducive institutional and physical infrastructural arrangements (Chadha, 1986). These facilities generated essential incentive for inducement to private investment. Private investment flourished in rural economy of Punjab and generated enough surpluses for the economic transformation of the state economy from agrarian to industrialized one. However, there are several economic and non economic historical factors that have not allowed the otherwise legitimate structural economic transformation to happen. This failed economic transformation was expected to slow down the pace and level of economic growth of Punjab economy. But liberalization, privatization and globalization strategy adopted by the Indian government since 1991 was expected to revive the high hopes of acceleration of pace of economic development of Punjab economy along with ensuring much desired and long awaited economic transformation of the economy of the state.

Economic reform period has allowed political leadership at helm of affairs to eschew the structural problems of Punjab economy to be attended and resolved by the market forces themselves. However, the increasing dose of the market economy to already highly market oriented economy has deepened agrarian crisis, which was reflected through the unprecedented suicides reportedly committed by the farmers and agricultural labourers. The deepening crisis of agrarian economy has also been recognized in the approach paper to the Twelfth Five Year Plan while stating that the crisis engulfed the agriculture sector because terms of trade went against agriculture sector during the economic reform period (Planning Commission, 2011). It is pertinent to note that the political leadership in Punjab during this period remained intensely involved in rent thick sectors to reap dividends from liberalization and privatization strategy. Instead of attending the structural problems faced by the Punjab economy, the political leadership indulged in profligacy, which resulted into manifold rise in indebtedness of the state and thus jeopardized the fiscal policy and other economic governance matters. The self interest seeking behavior of the political leadership reflected into the ‘policy paralysis’ virtually dried up investment in the state and consequently intensified the economic crisis that has turned the state’s economy from a leader to a laggard one. Therefore, the process of turning from a relatively successful economic development experience to derailment of economic development needs to be unraveled. This paper is an attempt in that direction. An attempt has also been made in this paper to suggest alternative pathways for rebuilding and rejuvenation of Punjab economy in a foreseeable future.

**Economic Performance of Punjab Economy in Comparative Perspective**:

The recently made available comparable per capita income estimates of major states of India Union presented in Table 1 shows that Punjab state is ranked number seventh. First, second and third rank goes to Haryana, Maharashtra and Tamil Nadu states. The per capita income of Punjab for the year 2011-12 was of the order of Rs 74,606. The gap in per capita income between first rank state (Haryana) and Punjab is Rs. 34, 253. During the last two decades, Punjab economy has drifted from first rank to seventh and the gap between fast growing states and Punjab has been widened continuously. Two fast growing states, that is, Gujarat and Himachal Pradesh has also crossed the level of per capita income of Punjab state. As per the per capita income growth rate ranks, Punjab has reached to the bottom ranking states. It is surprising to note that Punjab state’s per capita income has grown at 4.24 per cent during 2010-11 and 2011-12 and accordingly growth rate rank is $13^{th}$. This evidence clearly brings out the fact that the status of Punjab economy in the national reckoning has been eroded and going down at a fast pace. The falling behind of Punjab state compared with other states has happened due to achieving slow rate of economic growth of Punjab economy especially in post-reform period.

The plan wise SDP growth rates from eighth five year plan to eleventh five year plan and target growth rates of twelfth five year plan across Indian states are presented in Table 2. Punjab economy, during the eight five year plan period recorded growth rate of state domestic product of the order of 4.7 per cent per annum against the national average growth rate of 6.5 per cent per annum. Among the fifteen states, the SDP growth rate rank of Punjab economy was $13^{th}$. The growth performance further deteriorated marginally during the ninth Five Year Plan (1997-2002) period and the rate of economic growth was 4.4 per cent in the state of Punjab. However, there were general slow economic progress during the ninth five year plan and all India average growth rate was also slowed down to 5.5 per cent per annum. The growth rates, during the period 1997-2002, across the board decelerated except Bihar, Karnataka, Odisha and West Bengal where the growth rates have actually increased.

Table 1: Per Capita Income across Major Indian States (2011-12)

| State | 2011-12 Per capita income in Rs. | Rank | Growth rate 2010-11 to 2011-12 (at 2004-05 prices) | Rank |
|---|---|---|---|---|
| Andhra Pradesh | 71480 | 8 | 5.75 | 10 |
| Bihar | 23435 | 15 | 15.44 | 1 |
| Gujarat | 75115* | 5 | 8.65* | 4 |
| Haryana | 108859 | 1 | 6.18 | 8 |
| Himachal Pradesh | 74899 | 6 | 5.76 | 9 |
| Karnataka | 68374 | 9 | 6.69 | 7 |
| Kerala | 83725 | 4 | 7.13 | 5 |
| Madhya Pradesh | 38669 | 13 | 10.48 | 2 |
| Maharashtra | 101314 | 2 | 8.73 | 3 |
| Orissa | 46150 | 12 | 4.64 | 12 |
| Punjab | 74606 | 7 | 4.24 | 13 |
| Rajasthan | 47506 | 11 | 3.72 | 15 |
| Tamil Nadu | 84496 | 3 | 6.72 | 6 |
| Uttar Pradesh | 30052 | 14 | 4.17 | 14 |
| West Bengal | 54830 | 10 | 5.67 | 11 |
| All India | 60603 | - | 5.16 | - |

Note: * stands for the figures of the previous year.
Source: Government of India (2013).

Furthermore, when Punjab economy grown at a rate of 4.5 per cent per annum during the tenth Five Year Plan (2002-07) against its own targeted rate of economic growth, that is, 6.4 per cent per annum. It is worth mentioning that Indian economy, during the same period, entered into high growth trajectory. Indian economy has grown at rate of 7.7 per cent per annum during the tenth five year plan period. The acceleration of Indian economic growth has further occurred during the eleventh five year plan period. India economy recorded 7.9 per cent growth rate which can be considered as the ‘golden period’ growth rate of the national economy. However, Punjab state has recorded growth rate much below the national average, that is, 6.87 per cent per annum. Although the Punjab economy registered acceleration in the growth rate during the eleventh five year plan period but rank of the growth rate among fifteen states was 14th. Punjab economy consistently recorded relatively low growth rates as well as its rank remained second from below. Historical experience of the record of low economic growth of Punjab economy, the growth target fixed in the Twelfth Five Year Plan period is just 6.4 whereas Planning Commission has set the target rate of growth of Indian economy at 8.2 per cent per annum for the same period. When Punjab economy is ranked in terms of target growth rate, its rank turns out be 15th, that is, bottom of all the fifteen states of India (Table 2). The comparative analysis of Punjab state with all India average in post reform period shows that Punjab state not only performed below the national average but it has lagged far behind the progressive states of India such as Haryana, Maharashtra, Gujarat, Kerala, Tamil Nadu and Himachal Pradesh. The cause of worry is that it is expected to continue to perform much below the all India average and also below the progressive states in the foreseeable future.

To disentangle the slow pace of growth of per capita income and state domestic product during the post-reform period, the sectoral NSDP growth rates have been estimated and presented in Table 3. The perusal of the table 3 reveals that the performance of Punjab state is deteriorating when we compare with its own past performance and achievements. There is a strong evidence of deceleration in economic growth of Punjab state’s economy in terms of NSDP growth rates recorded during the period 1993-94 to 1999-2000. However, the growth rate has accelerated to 6 per cent during the period 2001-02 to 2011-12. The agriculture sector occupies prime place in the economy of Punjab. The relative share of agriculture sector in the NSDP product was 31.25 percent in 2010-11. It has declined from 44 percent in 1990-91 to 39 percent in 1999-2000 and further to 31.25 percent in 2010-11 (Government of Punjab, 2012). This clearly brings out the fact that agriculture sector of the state of Punjab still constitutes the major contributing sector in the health of the state economy. The growth of agriculture sector as indicated from the post-reform period not only remained quite slow (1.99 percent), but decelerated in the second sub-period, that is, 2001-02 to 2011-12. During the decade of 1990s, the agriculture sector of the state has grown at a rate 2.4 per cent and it was 1.6 per cent during the period 2001-02 to 2011-12. However, the agriculture sector has grown at a rate of 5.15 per cent per annum during the 1980s (Singh and Singh, 2002). The foregoing discussion brings out the fact that the deceleration of rate of growth of agriculture sector has contributed substantially to the slow-down in the growth of per capita income of the economy of Punjab state.

Table 2: Growth Rates in State Domestic Product across States and Over Time

| Sr. No. | State/UT | Eighth Plan (1992-97) | Ninth Plan (1997-02) | Tenth Plan (2002-07) | Eleventh Plan (2007-12) | Twelfth Plan (2012-17) Target growth rate |
|---|---|---|---|---|---|---|
| 1. | Andhra Pradesh | 5.4 (10) | 4.6 (8) | 6.7 (8) | 8.33 (6) | 8.4 (4) |
| 2. | Bihar | 2.2 (14) | 4.0 (11) | 4.7 (12) | 12.11 (1) | 9.1 (1) |
| 3. | Gujarat | 12.4 (1) | 4.0 (11) | 10.6 (1) | 9.59 (2) | 8.4 (4) |
| 4. | Haryana | 5.2 (11) | 4.1 (10) | 7.6 (4) | 9.10 (4) | 8.1 (8) |
| 5. | Karnataka | 6.2 (9) | 7.2 (1) | 7.0 (7) | 8.04 (9) | 7.6 (11) |
| 6. | Kerala | 6.5 (5) | 5.7 (5) | 7.2 (6) | 8.04 (9) | 8.2 (6) |
| 7. | Madhya Pradesh | 6.3 (7) | 4.0 (11) | 4.3 (15) | 8.93 (5) | 8.8 (3) |
| 8. | Maharashtra | 8.9 (2) | 4.7 (7) | 7.9 (3) | 9.48 (3) | 8.9 (2) |
| 9. | Odisha | 2.1 (15) | 5.1 (6) | 9.1 (2) | 8.23 (8) | 8.2 (6) |
| 10. | Punjab | 4.47 (13) | 4.4 (9) | 4.5 (14) | 6.87 (14) | 6.4 (15) |
| 11. | Rajasthan | 7.5 (3) | 3.5 (15) | 5.0 (11) | 7.68 (11) | 7.4 (14) |
| 12. | Tamil Nadu | 7.0 (4) | 6.3 (3) | 6.6 (9) | 8.32 (7) | 7.9 (9) |
| 13. | Uttar Pradesh | 4.9 (12) | 4.0 (11) | 4.6 (13) | 6.90 (13) | 7.6 (11) |
| 14. | West Bengal | 6.3 (7) | 6.9 (2) | 6.1 (10) | 7.32 (12) | 7.6 (11) |
| 15. | Himachal Pradesh | 6.5 (5) | 5.9 (4) | 7.3 (5) | 5.50 (15) | 7.9 (9) |
| | All India | 6.5 | 5.5 | 7.7 | 7.9 | 8.2 |

Note: Figures in parentheses are ranks. Source: Planning Commission (2013)

Industrial sector has been regarded as the most dynamic sector of an economy and provides desired economic transformation from low wage-low productivity economic activities to high wage-high productivity economic activities. However, in the case of Punjab, the industrial sector of Punjab economy in terms of its relative contribution to the NSDP remained quite small. The manufacturing sector of Punjab state contributed 15.1 per cent of NSDP in 1990-91 and remained almost stagnant to 15.4 per cent in 2010-11. The relative share of the registered manufacturing sector in NSDP was 8.8 per cent in 1990-91, which has declined to 8.5 per cent in 2010-11. The manufacturing sector as a whole has recorded 7.2 per cent per annum growth in the post reform period. The manufacturing sector growth rate during 1993-94 to 2000-01 was 5.3 per cent per annum much below the overall average. During the period 2001-02 to 2011-12, the manufacturing growth rate accelerated and recorded 8.4 per cent growth rate. The sectors, which have recorded deceleration of economic growth during the 2000s compared with 1990s, are agriculture, trade and transport. The two sectors, electricity and other services, has shown faster rate of growth during the period 2001-02 to 2011-12, but other sectors such as construction, banking, real estate and public administration have recorded marginal acceleration in the growth rates in the second sub period. The agriculture sector has remained the single largest sector of the state economy and slow growth in this sector impinges the overall growth performance of the Punjab economy.

Table 3: Sectoral Growth Rates of Net State Domestic Product (Average Annual) 1993-94 to 2011-12 ( at 2004-05 prices)

| Sector/Year | 1993-94 to 2011-12 | 1993-94 to 2000-2001 | 2001-02 to 2011-12 |
|---|---|---|---|
| Agriculture | 1.9 | 2.4 | 1.6 |
| Manufacturing | 7.2 | 5.3 | 8.4 |
| Electricity | 5.6 | 1.9 | 8.0 |
| Construction | 10 | 8.9 | 10.7 |
| Trade | 4.5 | 5.4 | 3.9 |
| Transport | 13.2 | 13.3 | 13.1 |
| Banking | 13.9 | 13.7 | 14.0 |
| Real Estate | 2.1 | 1.2 | 2.7 |
| Public Administration | 7.6 | 7.2 | 7.8 |
| Other services | 4.7 | 3.1 | 5.8 |
| NSDP | 5.4 | 4.4 | 6 |
| PCI | 3.5 | 2.5 | 4.2 |

Source: Authors Estimates based on data available in CSO (2012).

The agriculture sector of Punjab economy directly absorbs more than 39 per cent of the total work force. The cultivators constitute 22.96 per cent of the total work force of Punjab state and agricultural workers were of the order of 16.40 per cent (Gill and Singh 2006). It is significant to note that agriculture sector generates more than 31 per cent of the state income but employs more than 39 per cent of the work force.

This empirical evidence brings out clearly that the structure of Punjab economy is not only imbalanced but highly agriculture sector dependent both for livelihood and employment. Therefore, the growth performance of this sector heavily impinges on the well being of the population living in the rural areas of Punjab. The performance of agriculture sector also affects the growth prospects of the other sectors of the Punjab economy directly and indirectly due to the interconnections between sectors.

**Constraints on Economic Development in Punjab**:

Punjab economy has been growing but growing at a slow pace. The post reform growth experience neither fulfills the aspirations of the people of Punjab nor has a capacity to address the fundamental challenges faced by the economy. Therefore, there is an urgent need to identify factors that have been contributing to the relatively slow growth performance of the Punjab economy. The functioning of macroeconomic policies has a capacity to provide vital clues to identify the major factors that limits the growth performance of Punjab economy.

Among the macroeconomic policies, fiscal policy has been widely recognized and acclaimed for its impact on economic development process. The impact of fiscal policy on economic growth is mainly dependent on the efficiency with which resource mobilization and expenditures are incurred. However, the fiscal policy of the Punjab state remained continuously in disarray since the mid eighties (Rajmal, 2009 and Ahluwalia, 2009). The fiscal deficit of the Punjab state remained 5.3 per cent during the period 1985-1990, which was highest among the 14 major states of India. Whereas the overall fiscal deficit of the 14 major state of India was 3.3 per cent and the fiscal deficit of Haryana and Maharashtra states were 2.7 and 3.1 per cent of gross state domestic product respectively (Rajmal, 2009). One fundamental reason for running a high fiscal deficit of Punjab state was due to relatively low revenue receipts as a percentage of gross state domestic product and was bracketed with the state of West Bengal, Bihar and Uttar Pradesh. State tax to gross state domestic product (tax effort) was 8.7 per cent in 2010-11 (Government of Punjab, 2011). Therefore, the fiscal deficit over the years has been financed through borrowings from the Union government and increasingly during the post-reform period through commercial borrowings. This has generated huge amount of debt stock over the years and consequently, the substantial proportion of the tax revenue goes as interest payments.

The total amount of interest payments and services of debt was of the order of Rs. 4526.92 crore in 2007-08, which increased to Rs. 5348.64 crore in 2009-10. This comes out to be nearly 44 per cent of the state taxes in 2009-10. This has led to further deterioration of fiscal situation of the state and has crippled the capacity of the state government to involve itself in developmental economic activities. It is indicative from the fact that the developmental expenditure in gross state domestic product has declined from 10.8 per cent during 1990-95 to 8.4 per cent during 2000-2007 (Table 4). It is perturbing to note that Punjab state in terms of development expenditure is ranked number 13 among the major states of India. However, the proportion of non-developmental expenditure in gross state domestic product has increased from 5.9 per cent during 1990-95 to 9.8 per cent during 2000-2007 and occupies first rank among the major Indian states (Table 4). Similarly, the capital expenditure in the total expenditure of the state has been very low but marginally improved from 1990-95 to 2000-07 period. For the year 2009-10, the capital expenditure in SDP declined to 3.09 per cent shows the misplaced priorities of the state government (Gill and Gupta, 2011). As compared with other major states, the capital expenditure has been one of the low priorities of the state government. The rising non-developmental expenditure and falling developmental expenditure has a capacity of crowding out investment that adversely affects economic growth. Obviously, the fiscal policy pursued by the state government during the post-reform period seems to have impacted in slowing down the process of economic growth of the economy of the state.

Table 4: Development, Non-Development and Capital Expenditure across Major States

| State | Development Expenditure as % of GSDP | | Non-Development Expenditure as % of GSDP | | Capital Expenditure as % of Total Expenditure | |
|---|---|---|---|---|---|---|
| | 1990-1995 | 2000-2007 | 1990-1995 | 2000-2007 | 1990-1995 | 2000-2005 |
| Andhra Pradesh | 12.8 | 12.4 | 4.3 | 6.1 | 19.8 | 24.8 |
| Bihar | 11.8 | 14.9 | 5.9 | 8.7 | 13.0 | 21.3 |
| Gujarat | 12.8 | 11.9 | 4.0 | 5.5 | 18.5 | 22.9 |
| Haryana | 10.7 | 9.4 | 6.4 | 5.1 | 15.3 | 21.3 |
| Karnataka | 13.0 | 12.6 | 4.5 | 5.9 | 15.6 | 21.3 |
| Kerala | 10.9 | 9.1 | 5.5 | 7.4 | 14.0 | 14.2 |
| Madhya Pradesh | 11.5 | 13.8 | 3.9 | 6.1 | 13.0 | 21.4 |
| Maharashtra | 10.7 | 9.6 | 3.9 | 5.6 | 18.3 | 19.1 |
| Orissa | 14.8 | 11.7 | 5.8 | 9.2 | 18.2 | 23.0 |
| Punjab | 10.8 | 8.4 | 5.9 | 9.8 | 16.7 | 18.3 |
| Rajasthan | 13.6 | 12.8 | 5.4 | 7.7 | 22.5 | 21.9 |
| Tamil Nadu | 13.3 | 9.9 | 4.0 | 6.0 | 12.2 | 18.9 |
| Uttar Pradesh | 11.6 | 12.2 | 5.9 | 8.2 | 16.6 | 21.2 |
| West Bengal | 8.9 | 8.2 | 4.0 | 7.2 | 17.2 | 19.9 |
| All India | 11.8 | 11.1 | 4.7 | 6.8 | 16.7 | 20.9 |

Source: Derived from Rajmal (2009) **State Finances and Growth: A Study of Major States of India,** Unpublished Ph. D Thesis, Indian Institute of Technology Bombay, Mumbai.

The operation of monetary policy, although is not under the control of the state government, has substantial role in acceleration or derailment of the economic growth process. One of the most important indicators of the functioning of the monetary policy is the credit-deposit ratio, which shows the investment pattern of the state. The analysis of the credit-deposit ratio across states during the post-reform period presented in Table 5 shows that the credit-deposit ratio remained below the national average. This ratio was 48.04 in 1990 and accordingly Punjab among major 14 states was ranked number 14$^{th}$. This ratio was much below the minimum level prescribed by the Reserve Bank of India. However, the credit-deposit ratios declined to 38.95 in 2000, but improved substantially in 2009 and its state rank. It is significant to note that the southern states, that is, Tamil Nadu, Andhra Pradesh, Karnataka, and Maharashtra observed throughout the period of analysis high credit-deposit ratios (Table 5). In comparison to above mentioned states, the credit-deposit ratio of Punjab remained quite low. This clearly brings out the fact that resources of the state due to operation of the banking sector transferred Punjab state's precious savings to other states of India, which otherwise could have been invested in the Punjab state.

Table 5: Investment Deficiency in Punjab in Comparison to All India

| Year | GSDP of Punjab (Rs. Crores) | Investment GDP Ratio (%) | | Gap (%) (India-Punjab) | Investment Deficiency Based on Gap (Rs. Crores) in Investment- GDP Ratio |
|---|---|---|---|---|---|
| | | India | Punjab | | |
| 1995-96 | 34218 | 26.6 | 24.06 | 2.54 | 869.14 |
| 1996-97 | 39112 | 24.0 | 22.50 | 1.50 | 586.68 |
| 1997-98 | 43099 | 25.3 | 24.17 | 1.13 | 487.02 |
| 1998-99 | 49612 | 23.3 | 20.98 | 2.32 | 1151.00 |
| 1999-00 | 61139 | 25.9 | 13.40 | 12.50 | 7642.38 |
| 2000-01 | 67779 | 24.3 | 12.41 | 11.89 | 8058.92 |
| 2001-02 | 71260 | 22.8 | 14.05 | 8.75 | 6235.25 |
| 2002-03 | 73494 | 25.2 | 16.44 | 8.76 | 6438.07 |
| 2003-04 | 79840 | 27.6 | 16.24 | 11.36 | 9069.82 |
| 2004-05 | 85761 | 32.7 | 19.65 | 13.22 | 11341.03 |
| 2005-06 | 96108 | 34.3 | 19.34 | 16.03 | 15406.11 |
| 2006-07 | 107591 | 35.5 | 20.24 | 15.45 | 16622.81 |
| 2007-08 | 128303 | 37.7 | 18.30 | 17.07 | 21901.32 |
| 2008-09 | 148008 | 34.9 | 16.72 | 14.90 | 22053.19 |
| 2009-10 | 224975 | 36.5 | 16.77 | 19.73 | 44387.57 |

Source: (i) Government of India, Economic Survey (various issues).
(ii) Government of Punjab, Statistical Abstract of Punjab (various issues).

The studies conducted to examine the relationship between monetary policy and the economic growth of Indian states show that some of the states in India are being adversely affected due to structure of the state economy (Nachane, Ray and Ghosh, 2001). Punjab is one such state which has been adversely affected by the monetary policy of the country.

The investment-GSDP ratio of Punjab state has declined from 24 percent in 1995-96 to 16.7 percent in 2009-10, which is contrary to rise of this ratio for the Indian economy from 26.6 percent to 35 per cent during the same period. The comparative analysis proportion of the income invested in India and Punjab clearly brings out the fact that the gap between investment-GDP ratio has increased substantially between 1998-99 to 2000-01. Thereafter, it started reducing marginally during the period 2001-02 to 2004-05 and slightly declined in 2005-6 but remained almost stagnant since 2006-07. If we measure the deficiency of investment with the all India average, it comes out to be nearly Rs. 10,000 crore per annum (Table 6). It needs to be noted here that in the developing economies apart from other factors investment drives economic growth of an economy. The role of the state is to correct this kind of deficiency of investment, which has a capacity to arrest the deceleration trends.

Due to this deficiency of investment, the growth process of the Punjab deteriorated over the years (Ahluwalia, 2002). Therefore, centralized monetary and fiscal policies have initiated the process of crowding out investment from Punjab, which has adversely affected the economic growth process of the economy of the Punjab state.

Apart from macroeconomic policies, the process of modern economic growth is highly constrained by the availability of superior human capital and institutional arrangements. The development process according to Sen (1999) enhances human capabilities, expands economic opportunities, freedom to make choices and change in institutional arrangements. He has also established a positive relationship between indicators of human capital and instruments of freedom. The indicators of human capital across states in comparison to per capita income are presented in Table 6. According to literacy and infant mortality rates, Punjab state is ranked 7$^{th}$ and 4$^{th}$ respectively which is much behind other dynamic states such as Kerala, Maharashtra and Tamil Nadu. If we look at the functional aspect of literacy, that is, which provide threshold level to participate in labour markets, the current estimates of literacy are deceptive. However, the functioning of the educational institutions and imparting real literacy that matter for the participation in the organized sector economic activities begins from matric (that is 10$^{th}$ class) level education. A recent survey of 36 villages of Punjab revealed that the 68.85 per cent of the rural households do not have any member in the household possessing education up to matric level. The situation is worse when we consider non-landed rural households. Nearly 90 per cent of the rural non-landed households do have any member educated up to matric level (Ghuman, Singh and Singh, 2007).

Table 6: Indicators of Human Capital across States

| State | Literacy Rate 2011 | Life Expectancy 2006-2010 | Infant Mortality Rate 2011 |
|---|---|---|---|
| Andhra Pradesh | 67.66 (13) | 65.8 (10) | 43 (9) |
| Bihar | 63.82 (15) | 65.8 (10) | 44 (10) |
| Gujarat | 79.31 (5) | 66.8 (8) | 41 (8) |
| Haryana | 76.64 (8) | 67.0 (7) | 44 (10) |
| Himachal Pradesh | 83.78 (2) | NA | 38 (7) |
| Karnataka | 75.6 (9) | 67.2 (6) | 35 (6) |
| Kerala | 93.91 (1) | 74.2 (1) | 12 (1) |
| Madhya Pradesh | 70.63 (11) | 62.4 (14) | 59 (15) |
| Maharashtra | 82.91 (3) | 69.9 (2) | 25 (3) |
| Odisha | 73.45 (10) | 63.0 (12) | 57 (13) |
| Punjab | 76.68 (7) | 69.3 (3) | 30 (4) |
| Rajasthan | 67.06 (14) | 66.5 (9) | 52 (12) |
| Tamil Nadu | 80.33 (4) | 68.9 (5) | 22 (2) |
| Uttar Pradesh | 69.72 (12) | 62.7 (13) | 57 (13) |
| West Bengal | 77.08 (6) | 69.0 (4) | 32 (5) |
| All India | 64.84 | 66.1 | 44 |

Source: Government of India (2013) **Economic Survey 2012-13**, New Delhi: Oxford University Press.

Note: Figures in parentheses are ranks.

This situation of Punjab state may be a reflection of poor state of the functioning of the educational institutions despite achieving higher level of per capita income.

The matter of fact is that Punjab state has created primary school facilities almost in every village of the state. However, there are as many as 22.6 per cent of the primary schools of Punjab state, which are being run by a single teacher

(Chakraborty, 2009). There are even instances of a single teacher running two schools along with numerous data collection survey conducting type activities assigned by the state government from time to time and consequently primary school remains closed for many days. This impinges on the performance of students studying in such schools in terms of achieving educational capabilities. Somewhat similar is the situation in the health care system of Punjab (Singh and Aggarwal, 2010). The public sector institutions have deteriorated over the years in terms of delivery of education and health related services, which has been acting as a constraint on the supply of high quality human capital and hence in the long run reduces chances of achieving high rate of economic growth.

Agriculture sector has remained the engine of economic growth in Punjab. The sustainability of growth of the agriculture sector of the economy of Punjab is under question mark. On the one side, the agriculture sector is turning less remunerative compared with early green revolution period and on the other, natural resource constraint such as degradation of soil health and dramatically falling underground water table is increasingly becoming more severe. The green revolution in Punjab dramatically altered the cropping pattern. During the seventies and eighties, the diversified rural economy of Punjab turned towards predominantly wheat-paddy rotation. The number of crops sown in Punjab was 21 in the year 1960-61 and declined to 9 in 1990-91 and remained so thereafter. The area sown under crops other than wheat declined from 62.74 in 1960-61 to 17.12 per cent in 2004-05. The area under rice increased from merely 6.05 per cent in 1960-61 to 63.02 per cent in 2004-05. Crop diversification index for the winter season declined from 0.79 in 1960-61 to 0.303 in 2004-05 and this index for summer crop season declined from 0.98 in 1960-61 to 0.58 in 2004-05 (Toor, Bhullar and Kaur, 2007). This indicates that there has occurred a clear “reversal” of diversification of the rural economy of Punjab. The rising cropping intensity has dramatically increased the input intensity especially water, fertilizers, pesticides, tractors and other various kinds of agricultural machinery (Singh and Aggarwal, 2010). The biological and mechanical intensity of agriculture has substantially increased pressure on natural resources, which has lead to degradation of soil health and underground water table.

During the period of 1990s, the green revolution technology has shown signs of fatigue. Productivity growth stagnated along with near freeze of prices, which resulted into the decline of agriculture sector's contribution to the state income. Growth rate of income generated in the agriculture proper (income from crops) was less than 1 per cent during the nineties and early years of twenty first century. This has created imbalance in the structure of Punjab state's economy, whereas share of agriculture sector's (crops and dairying) income has sharply declined in the state domestic product from 54.27 per cent in 1970-71 to 33.70 per cent in 2005-06. But the proportion of workforce engaged in agriculture sector of Punjab continue to be very high, that is, 48 per cent in the year 2004-05. This comes out to 66.9 per cent of the total rural workforce of Punjab in the year 2004-05. It needs to be noted here that agricultural workforce was as high as 82.5 per cent of the total rural workforce of Punjab in the year 1983. The workforce engaged in the agricultural sector of Punjab has declined to 74.6 per cent of the total rural workforce in the year 1993-94 compared with 1983. It further declined to 66.9 per cent in the year 2004-05 (NCEUS, 2007). Furthermore, the 90.9 per cent of workforce in Punjab is engaged in the unorganized sector where the wage rate is very low. The workforce working in the agriculture sector, especially agriculture labour, small and marginal farmers, are earning below Rs 20.3 per capita per day(Ghuman and Romana, 2010), which is called vulnerable by the National Commission on Enterprises in the Unorganised Sector. The slow growth of agriculture sector and high dependence of workforce are expected to further worsen the working and living conditions of the rural workforce. This has led to rise in the burden of debt among the farming and non-farming households in Punjab (Shergill, 2010). The interlinked agrarian markets have further perpetuated the debt cycle and generated circumstances, which have forced farmers and agricultural labourers to commit suicides (Gill, 2005).

The most dynamic sector in modern economic growth process considered is the industrial sector of an economy. The pertinent question that begs for an explanation here is why Punjab economy could not undergo transformation from agrarian to industrialized one in the post-reform period. Apart from investment constraint, the industrial economy of Punjab has been suffering from the constraint on the demand side as well. The collapse of Soviet Union on the one side and changing preference patterns of the western consumers from woolen to cotton hosiery on the other have dampened the demand of Punjab industry. The changes in the freight equalization policy of the Union government and environmental regulation on woodcutting have severely affected the input supply and cost of inputs especially of light engineering and sports goods industries. Lack of industry-agriculture linkage in Punjab has adversely affected the sustainability of the growth process of the economy of the state. The information and communication technology (ICT) revolution have bypassed the economy of Punjab due to lack of matching scientific institutional arrangements and non-availability of the scientific manpower desired for such economic activities to take firm roots.

On the top of it, Punjab state is politically very sensitive and inflammable on social and political matters. This kind of societal culture has high costs in terms of crowding out investment and putting a permanent constraint on the economic growth process of her economy. Along with this, the Punjab state shares international border with Pakistan and Indian relations with Pakistan usually does not remain cordial. Therefore, Indian Pakistan fragile political relations generate high risks for investors and therefore, Punjab state cannot realize its full potential of economic development. It is pertinent to point out here that the constraints on economic growth faced by the Punjab economy are partly under the purview and control of the state government and partly comes under the purview and control of Union government of India and thus needs joint efforts of both the governments for the removal of constraints in realizing the potential.

**Pathways for Building Punjab Economy**

Punjab economy has been passing through a phase of relative retrogression. Its continuous downward ranking across dynamic Indian states is a cause worry. The constraints that impinge economic development have been deepened over time. Keeping in view the constraints on Punjab economy, the governance pattern of state of Punjab requires sweeping changes for rejuvenating the economy and reversal in the deceleration of its economic status. The government of Punjab has to seek cooperation of the Union government in dealing with the problems posed by the functioning of the macroeconomic policies, that is, monetary and fiscal policies. The government of Punjab needs to set its own house also in order specifically realizing the potential of tax revenue, while making suitable reforms in the tax collection machinery of the state. The existing tax structure has potentialities to raise the proportion of tax in GSDP to the level of dynamic states, while wiping out the current level of tax evasion taking place in Punjab. It is significant to note here that Punjab state has bifurcated the ministry of finance into revenue ministry and expenditure ministry (present ministry of Finance is doing the work of expenditure ministry only). Therefore, it is suggested that governance reform must begin with integrating the functions of the finance ministry for achieving the efficiency in conducting fiscal policy of the state government on the pattern of Union government. Monetary and fiscal policies should work in harmony to raise the level of investment-GSDP ratio at least to the national average. In this direction Union government and state government needs to work in tandem and close cooperation in realizing the objective of achieving investment-GSDP level equivalent to national average for making suitable amendments in revenue proceeds transfer system to the state government and operations of banking system. This can be achieved if governance pattern, both at the Union government and the state government, is decentralized to achieve the desired objective of reversal of deceleration in economic growth. Once the disarrayed macroeconomic policies along with institutional reforms at the state level put in place, there is some possibility in reversing the pattern of deceleration of economic growth in Punjab.

While altering the course of macroeconomic policies has a capacity to change the direction of economic growth, it does not have the capacity to resolve all the constraints on economic growth of the economy of Punjab. Therefore, long term measures also need to be initiated simultaneously for structural transformation of the economy unleashing the process of economic development that will improve the general well being of the people as outlined by Sen (1999). It is worth mentioning here that the ongoing reforms process both of the Union government and state government has failed to stimulate the economic growth of Punjab economy. This is precisely because of the reason that the economy of the state is already predominantly governed by the private sector and rules based on the market economy. Therefore, a further higher dose of market to the state economy will not give the desired outcomes in terms of stimulating economic growth process. An alternative course of economic transformation is desired to trigger the economic growth process against the TINA (there is no alternative) syndrome.

Agriculture sector of the state assumes central importance given the current level of global and national food shortage, which have spiraled the inflationary pressure on the Indian economy. The rejuvenation of the agriculture sector of the state is urgently required both in meeting the requirements of national food security as well as the population dependent on agriculture. The slowing down of agricultural rate of growth has been caused by rising input costs and stagnating productivity on the one hand and deterioration of soil health and exhaustion of natural resources on the other. This is a clear case of technological constraint resulting into diminishing returns to scale. On the technological plane solutions exist which have a capacity to raise productivity multiple times and reduce per unit costs of agricultural produce through harnessing the biotechnological revolution. This requires massive public investment in frontline technologies and strengthening institutional infrastructure, which can interact closely with the individual farmers because the small sized farmers do not have a capacity to spend resources on R&D and essential training of the manpower. However, the liberalization regime has left the farmers to fend for themselves or depend on the profit oriented agribusiness firms.

Keeping in view the evidently growing agricultural crisis, government of Punjab had shown early awareness and appointed an expert committee under the chairmanship of S. S. Johl in 1985 to diagnose the problem and suggest suitable remedial policy measures. Johl committee put forward the idea of diversification of agriculture from the existing wheat-paddy cropping pattern (Johl, 1986). Diversification aims at to transfer area from cereal production to remunerative crops such as fruits, vegetables and pulses not only to increase income of the farmers but also to reduce environmental degradation for long-term sustainability of Punjab agriculture. Agriculture diversification based rural industrialization growth strategy has been prodded from its successful experience in the early eighties in many Southeast Asian countries. Thus, emulating the success story of the diversification through rural industrialization and increasing rural income in several Southeast Asian countries seemed to be a fascinating policy option for the state of Punjab. However, the proposed agriculture diversification strategy of agriculture completely ignored the fundamental ingredients of the strategy which were the corner stone of success in Southeast Asia. Diversification strategy was based on the widely spread misinformation of the multilateral financial institutions and independent experts, those who have tied their knot with market, and success of diversification in Southeast Asia was essentially attributed to use of market forces (Jomo 2001, Wade 1990). Therefore, diversification strategy, which relied upon market responses and expected cold response from the Government of Punjab, however, received enthusiastic response from the individual farmers. The cruel response of the market soon dampened the enthusiastic response of the farmers and they had no other option left but to fall back on the well-known wheat-paddy cropping pattern. In a recent attempt, government of Punjab has taken the lead to promote diversification of agriculture while adopting the path of contract farming. Government of Punjab has been playing the role of an intermediary between the farmers and the agribusiness firms. However, the very design and implementation of contract farming scheme leaves small sized farmers at the mercy of the private firms, which have secured monopoly position in the market. Farmers who have opted contract farming with the private agribusiness firms, have filed complaints with the Punjab governments' agriculture department regarding the way agribusiness firms exploited them in terms of providing lower prices and charged for services without rendering any service. These complaints of the farmers were investigated by the governments' agriculture department and found correct. Contract based on purely private profit considerations and market orientation in the absence of enforcement agency acted against the farmers. Thus, farmers have no choice but for perpetuating the wheat-paddy cropping pattern (Gill, 2004).

Diversification of agriculture of Punjab is a desired goal for transformation of agrarian economy to industrialized one. Transformation experience of the developed countries has shown that agriculture sector of the economy in the process of transformation provides surplus resources to the industrial sector and consequently, the agriculture sector marginalized in the economy. Thus, decline in the share of real incomes in the agriculture sector was a universal phenomenon and was experienced by the OECD countries and middle-income countries. As long as the processing activities of agriculture production is taking place away from the farm gates, agriculture sector will have the potential of exploitation and continue to face decline in the rural incomes (Timmer, 1988). Contrary to this, the experience of diversification of agriculture and rural industrialization in the Southeast Asian countries in general and Taiwan in particular has not only integrated the agriculture with the industry but also generated substantial rise in rural income. Agricultural produce was processed on the farm gates and surplus was ploughed back to expand rural industrial activities as well as raising the level of living of the people living in the countryside. The fundamental factor of success of Taiwan's agricultural diversification experience was the farmers' associations. The farmers' association of Taiwan was nothing but the farmers' cooperatives which were responsible for controlling all the economic activities; from credit to production, processing and marketing (Moore, 1993). Therefore, the value addition was done through processing activities and was realized through marketing activities and redeployed the surpluses for the welfare of the association/cooperatives. This process very successfully eliminated the intermediary agency, which is the major source of exploitation and absorbing surpluses without looking after the interest of the fundamental producers. However, it is important to note here that state in the Southeast Asian countries played a crucial role to provide essential institutional infrastructure and investment in rapid technical change to raise agricultural output and rural incomes. Elimination of the high rents charged by the middleman and endogenous technological progress has the power to transform agriculture into an industry along with raising the rural income. This is possible if organization of production is changed from individual to cooperative. The cooperatives suggested here are not the bureaucratic-state controlled cooperatives, but modern cooperatives strictly based on membership and which adhere to market rules with accountability as an endogenous tool of organizational behaviour. There are many such examples of the cooperatives, which have succeeded in our own country. Amul is a remarkable success story of small rural milk producers' cooperative, which has now highly diversified into consumer products. The creative organization of Amul contributed to the generation of surpluses after the elimination of intermediary agency and these surpluses have been utilized for developing local infrastructure and investment in the technology to raise the productivity of the farmers' output (Patibandla and Sastry, 2004). Another important example of farmer's cooperative is in Narayangao area in Junnar taluka in Maharashtra state for industrialization of grape cultivation, which was established in 1991. There are 45 members and they pooled 130 acres of vineyards to export table fresh grapes to the European markets. This cooperative has diversified both marketing and product related activities. It has succeeded in raising the level of rural income both of the farmers and the rural labour. Reduction of risk through collective action, elimination of middlemen and investment in technological progress were the central factors which contributed to the success story of the transformation of farmers as business enterprise (Rath, 2003).

Punjab government and farmers organization, which are striving to transform farming through diversification of agriculture, have a strong need to learn lessons from the success story of the Southeast Asian countries as well as from well-known Indian examples. Farmers' organizations so far have successfully organized agitations to secure some concessions for survival but completely ignored their collective role in generating economic enterprises to reduce the role of middleman. Post-reform deceleration of industrial growth and shying away of both foreign and Indian private corporate investors to invest in Punjab's industrial economy are the other hard lessons which clearly point out that local investment efforts are direly needed to transform the economy. Local investment efforts have a capacity to crowd in investment, both foreign and Indian. Therefore, the strategy that needs to be adopted by the government of Punjab is not to offer purely private and market based solutions, but to lead farmers' organization to organize production, processing and marketing activities. This requires essential suitable institutional and infrastructural arrangements, which should encourage farmers to process their produce at the farm gates and eliminate mark up of the middleman. It needs to be suggested here that government of Punjab should enact suitable policy and provide exclusive industrial parks as agro-processing zones for farmers' cooperatives on similar pattern as have been provided and offered to foreign and domestic private industry.

**Conclusions**:

Punjab economy has experienced relative retrogression of its economic status in the post-reform period contrary to acceleration of economic growth of the national economy as well as majority of the major states of the country. The process of divergence of economic growth performance of Punjab state vis a vis of national economy as well as of dynamic states has been examined with a view to identify the growth reducing sectors and constraints. The first decade of the post-reform economic growth pattern of Punjab economy clearly brings out that the dominant sectors of Punjab economy like agriculture, registered manufacturing, electricity, real estate, public administration and others services, which contributed 68.52 per cent of the net state domestic product at beginning of reform period, have experienced deceleration in economic growth. The major constraints that have impinged upon the development process of the Punjab economy are structural rigidities, macroeconomic policies, human capital development, low investment-GSDP ratio, demand and supply factors and non economic factors such as social, political and an active international border. Keeping in view the grass root realities, alternative policy measures are suggested to rejuvenate the economy of Punjab. The reforms related to governance pattern of both state and union government have been suggested with regard to the purview of both the stakeholders. To harness long term sustained and inclusive growth, an alternative structural transformation pattern of economic growth has been outlined. The alternative policy options devised keeping in view the specificities of the economy of Punjab state, if implemented have a capacity to restructure and rebuild the economy of the state along with involving people as a partners of economic growth.

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