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16. November 2010

Online at https://mpra.ub.uni-muenchen.de/26741/
MPRA Paper No. 26741, posted 16. November 2010 19:11 UTC

Post-Reform Economic Development in Punjab: Constraints and Remedies

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Abstract: Punjab economy has experienced a down turn in its economic development in the post-reform period compared with acceleration of economic growth of the Indian economy as well as other dynamic states. Therefore, a legitimate question arises why Punjab economy could not develop at a rate that has experienced by the Indian economy. An attempt has been made in this paper to explore economic development experience of Punjab economy in a comparative perspective to arrive at the factors that have contributed to the down turn in economic growth during the post-reform period. Alternative path of structural transformation has been worked out to rejuvenate and rebuild the economy of Punjab in the long run. Policy suggestions that can reverse the down turn in economic growth in short to medium term have also been identified.
Key words: Punjab economy, economic development, deceleration of economic growth, Structural transformation, alternative path of development.

Introduction

The economic development experience of the economy of Punjab state since the advent of green revolution remained quite dynamic. The prosperity ushered in Punjab in the late sixties allowed its economy to occupy first rank in terms of per capita income among the major states of the Indian Union. The dynamic economy of Punjab not only continued its leading position in terms of per capita income for more than three decades, but dramatically reduced population living below the poverty line[1] along with ensuring food security of the country as a whole. Legitimately, the development experience of the Punjab economy has been presented as a successful capitalist model of economic development worth emulating in other states of India in particular and the less developed countries in general. The serious scholars, working on the economy of Punjab state, had recognized the contribution of agrarian capitalist development in terms of generating the required surpluses for economic transformation of its economy but cautioned in the late nineteen eighties about the limits of such a model of economic growth (Johl 1986 and Gill 1988) to continue to provide sustained economic development. The suggested corrective measures by them could not receive the desired attention of the policy makers precisely because of the reason that the country was swayed in the early nineteen nineties by the policies of liberalization, privatization and globalization on the one hand and Punjab state was trapped in a political turmoil on the other hand. However, the policies of liberalization, privatization and globalization became quite handy to the state political leadership to pursue their self-interest and also allowed them to ignore the structural problems faced by the Punjab model of economic development, which were persisted over the decades. Consequently, the economic development process slowed down and turned the Punjab economy from the most dynamic and leading economy to a laggard one as compared with the overall economic performance of the Indian economy as well as with the fast growing states. Therefore, the process of turning a successful experience of economic development that went kaput needs thorough investigation. An attempt has been made in this paper to investigate the derailment of development process with a view to provide plausible alternative policy suggestions for rejuvenation of the economy of the Punjab state. The rest of the paper is organized into four sections. The empirical evidence on the Post-reform deceleration of economic growth in Punjab is presented in section two. The section three contains discussion on identification of the constraints related to economic growth process of Punjab economy. The relevant policy options for reforming the governance pattern of Punjab economy have been outlined in the section four. The concluding remarks are presented in the last section.

Post-Reform Deceleration of Economic Growth in Punjab: Evidence

In the post reform period, Punjab economy grew at a rate much slower than the overall rate of economic growth of the Indian economy[2]. However, according to per capita income estimates, the rank of Punjab state was number one towards the end of the 20th century, that is, 1999-2000. The per capita income of Punjab state in 1999-2000 was of the order of Rs. 25,631, which was higher than per capita income of the India's economy (Rs. 15881) of the order of Rs. 9750. This gap of Punjab state's per capita income declined substantially, during the early years of 21st century, which was just Rs. 7367 in the year 2007-08.

When we compare the ranking of per capita income across Indian states between the period 1999-2000 and 2007-08, it is important to note that fast growing major states of India over took Punjab state and reduced it from a leading state to number five in terms of per capita income level (Table 1). Haryana state has emerged number one with per capita income of the order of Rs. 39, 462, followed by Maharashtra, Kerala and Gujarat. The per capita income growth rates of major 15 states shown in Table 1 reveals that four states (Haryana, Andhra Pradesh, Kerala and Gujarat) have grown at a rate 6 per cent or higher. The per capita income of seven states, that is, Orissa, Tamil Nadu, Karnataka, Bihar, Himachal Pradesh, West Bengal and Maharashtra, was increased between 4 and 5 per cent per annum. It is pertinent to point out here that the per capita income of Punjab has grown at a rate 2.37 per cent per annum, which is just half the all India average and can be ranked number 13th among the major states of India according to compound growth rate of per capita income per annum during the period 1999-2000 to 2007-08. The four states (Haryana, Maharashtra, Kerala and Gujarat), which are having higher per capita income than Punjab state, have shown dynamism in economic development and have substantially increased the gap in per capita income over Punjab state. Himachal Pradesh is another state, which has reduced gap in per capita income at a fast rate and soon will over take Punjab. This is evidence enough to show that Punjab state has turned from 'a leading to a laggard state' during the post-reform period of economic growth.

To disentangle the slow pace of growth of per capita income during the post-reform period, the sectoral NSDP growth rates have been estimated and presented in Table 2. The perusal of the table 2 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 2000-01 to 2007-08 compared with 1990-1991 to 1999-2000. The agriculture sector occupies prime place in the economy of Punjab. The relative share of agriculture sector in the NSDP product was 32.45 percent in 2007-08. It has declined from 44 percent in 1990-91 to 39 percent in

1999-2000 and further to 32 percent in 2007-08 (Government of Punjab 2009). 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 (3.33 percent), but decelerated in the second sub-period, that is, 2000-01 to 2007-08. During the decade of 1990s, the agriculture sector of the state has grown at a rate 4.45 per cent and it was 2.21 per cent during the period 2000-01 to 2007-08. 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.

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 declined to 13.6 per cent in 2007-08. The relative share of the registered manufacturing sector in NSDP was 8.8 per cent in 1990-91, which has declined to 7.4 per cent in 2007-08. The rate of growth of the registered manufacturing sector has decelerated during the period 2000-01 to 2007-08 compared with the 1990-91 to 1999-2000. The registered manufacturing sector has grown at rate of 5.35 per cent during 1990-91 to 1999-2000, which was much below the 1980s level. However, the growth rate for the period 2000-01 to 2007-08 was 3.84 per cent per annum. Contrary to this, unorganized manufacturing sector has recorded higher growth rate during the 2000-01 to 2007-08 compared with the growth experience of the 1990s (Table 2). That was precisely the reason that the manufacturing sector as a whole has shown marginal acceleration of rate of growth in the later period compared with the 1990s. The other sectors, which have recorded deceleration of economic growth during the 2000s compared with 1990s, are electricity, real estate, public administration and other services. It is worth mentioning here that the combined share of all the sectors of the Punjab economy, which have observed deceleration in growth during the 2000s, was 68.52 per cent in 1990-91. This share has declined to 57.74 per cent in 2007-08. Obviously, the slow growing sectors have contributed to the slow growth of per capita income and net state domestic product of the Punjab economy. Although, the fast growing sector failed to arrest the deceleration of economic growth in Punjab because of their relative share in the NSDP was less than 32 per cent in 1990-91, but have triggered the process of structural transformation in terms of changing the relative contribution of the sectors to the state's economy. From the foregoing analysis, it can be safely said that the engine of growth of Punjab economy still continued to be the 'agriculture sector'.

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 32 per cent of the state income but employs more that 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:

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 6.86 per cent in 2007-08 (Government of Punjab 2010). 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 45 per cent of the state taxes in 2007-08. 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 3). 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 3). 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. But 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 economic growth of the economy of the state.

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 4 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 14th. 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 through out the period of analysis high credit-deposit ratios (Table 4). 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. Punjab State recorded investment-gross state domestic product ratio 18.7 per cent, which was the lowest among 14 major states as against 35 per cent of the national average as measured in 1995-96 (Ahluwalia 2002). Due to this deficiency of investment, the growth process of the Punjab deteriorated over the years. 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[3].

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 5. Punjab state has been ranked number two so far as the human development index is concerned. However, according to literacy and infant mortality rates, Punjab state is ranked 5th and 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 10th 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). 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 Aggarawal 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.

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[4], 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 deceleration in industrial growth has occurred in the post-reform period. The comparative analysis of prerequisites across Indian states reveals that Punjab was the most suitable state for new industrial investment opportunities (Table 6). Punjab was ranked number one among the Indian states in terms of its competitive index at the beginning of new economic policy. This competitive index was computed on the basis of eleven socio-economic variables. The noteworthy feature of industrial growth here is that the high and low ranking states, in terms of competitive index, performed sluggishly in the post-reform period compared to some of the middle ranking states such as Maharashtra. Human development index is now considered in economic thinking as a more appropriate indicator of development compared to purely income based measures; here too Punjab state has shown quite higher level of human resource development. It was ranked number two just next to Kerala among the Indian states which clearly indicates that Punjab can legitimately expect to be a highly attractive place for new investment, both domestic and foreign, in the absence of 'license-quota raj'. Contrary to expectations, the investment, both domestic and foreign, tended to concentrate in few states in the post-reform period as it was during the license-quota raj. The perusal of the Table 6 clearly shows that Punjab was among the low priority states to attract direct foreign investment proposals as well as industrial investment of the private corporate sector of India. It was ranked number twelfth in the priority accorded by the foreign investors and eighth by the Indian private corporate sector during the post reform period. It is clear from the analysis of Table 6 that Maharashtra, Tamil Nadu, Karnataka, Gujarat and Andhra Pradesh accounted for substantial amount of investment, both Indian private corporate and foreign direct investment. This has propelled industrial growth in these five states leaving the others as permanent laggards (Babu 2002). The rigorous scrutiny of the determinants that have accelerated growth in some of the states and retarded growth in majority of the states in general and Punjab state in particular are investment-GSDP ratio, plan expenditure, human resources and quality of infrastructure. Punjab continues to show highest index of infrastructure both in the pre and post-reform period, but the index declined from 193.4 in 1991-92 to 185.6 in 1996-97. However, quality of infrastructure and human resources are difficult to judge from the indicators, which are based on physical characteristics. Low level of investment, decline in the planned expenditure and lack of strategic human skills as well as infrastructure are the major factors, which do have a bearing on the slow down in the industrial growth in Punjab (Ahluwalia 2002, Singh and Singh 2002).

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 woollen 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 place 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.

Policy Options and Alternatives:

Keeping in view the constraints on Punjab economy the governance pattern of state of Punjab needs sweeping changes for rejuvenating the economy and reversal in the deceleration of economic growth. 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 (Johl1986). 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 deceleration of economic growth 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 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 grassroot 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 state along with involving people as a partner of economic growth.

Footnotes:

1. Punjab state has dramatically reduced population below the poverty line. The population living below the poverty line in Punjab, according to consumer expenditure survey conducted by the NSSO during 2004-05 was 8.4 per cent against the 27.5 per cent of all India (Chaudhuri and Gupta 2009). It is important to notice here that during peak period of green revolution (1973-74 to 1977-78), the population below poverty line declined at a rate over 2 percentage points per annum. However, the poverty reduction rate has slowed down during the period

1993-94 to 2004-05 and the rate of decline was just 0.3 percentage points per annum (Ahluwalia 2010).

2. Economic development experience, during the last two decades, in Punjab suffered a setback due partly to the impact of militant moment in the 1980s. But the end of militancy in the early period of 1990s and continued deterioration in the growth process thereafter has pointed out the failure of the government policies to stimulate economic growth in Punjab (Ahluwalia 2009).
3. To attract industrial investment in the states of Himachal Pradesh, Jammu and Kashmir and Uttaranchal-all neighbouring states of Punjab has been given package of fiscal concessions by the Union government in 2003 is one such example of the centralized fiscal policy. This has resulted into investment flight from Punjab (Ahluwalia 2009).
4. The wheat-paddy predominant cropping pattern gives on an average returns to a farmer owning one hectare of land over and above the variable costs is Rs. 35, 621 per annum. This turns out to be Rs. 19.52 per person per day in a five member farm household in Punjab (Ghuman and Romana 2010).

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Table 1: Per Capita Income across Major Indian States (1999-2000 and 2007-08) (Figures at 1999-2000 prices).

State	1999-2000	Rank	2007-2008	Rank	Compound Growth rate 1999-2000 to 2007-08
Andhra Pradesh	15427	10	26195	9	6.06
Bihar	5786	15	8703	15	4.64
Gujarat	18864	7	31780	4	6.00
Haryana	23222	2	39462	1	6.07
Himachal Pradesh	20806	4	30856	6	4.48
Karnataka	17502	8	26418	8	4.68
Kerala	19461	5	32968	3	6.03
Madhya Pradesh	12384	12	13299	13	0.79
Maharashtra	23011	3	33302	2	4.19
Orissa	10567	13	16149	12	4.82
Punjab	25631	1	31662	5	2.37
Rajasthan	13619	11	18095	11	3.21
Tamil Nadu	19432	6	29445	7	4.72
Uttar Pradesh	9749	14	11939	14	2.28
West Bengal	15888	9	23229	10	4.31
All India	15881	-	24295	-	4.84

Table 2: Sectoral Net State Domestic Product Average Annual Growth Rates (1999-2000 to 2007-08) at 1999-2000 prices.

Sector/Year	1990-91 to 2007-08	1990-91 to 1999-2000	2000-01 to 2007-08
Agriculture	3.33	4.45	2.21
Manufacturing	4.73	4.43	5.03
Registered Manufacturing	4.59	5.35	3.84
Unregistered Manufacturing	5.68	4.71	6.66
Electricity	11.84	12.46	11.23
Construction	7.61	4.42	10.80
Trade	4.60	4.24	4.96
Transport	11.92	11.14	12.7
Banking	10.33	9.99	10.68
Real Estate	2.42	4.66	1.79
Public Administration	6.74	9.16	4.32
Other services	7.80	13.06	2.54
NSDP	5.26	5.73	4.79
PCI	3.32	3.7	2.9

Table 3: 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.

Table 4: Credit-Deposit Ratio Across Indian States (1990-2009).

State	1990	Rank	2000	Rank	2009	Rank
Andhra Pradesh	88.28	3	67.27	3	102.39	2
Bihar	38.61	14	23.35	14	26.38	14
Gujarat	59.58	9	47.56	6	59.75	9
Haryana	57.49	10	39.44	11	72.13	6
Karnataka	89.15	2	62.03	4	77.39	5
Kerala	63.35	7	40.66	9	61.15	8
Madhya Pradesh	66.66	6	49.31	5	59.00	10
Maharashtra	79.40	4	88.72	1	89.67	3
Orissa	76.55	5	39.60	10	51.96	12
Punjab	44.08	13	38.95	12	67.43	7
Rajasthan	61.24	8	46.39	7	84.05	4
Tamil Nadu	101.24	1	83.56	2	108.41	1
Uttar Pradesh	46.96	12	28.41	13	41.23	13
West Bengal	50.05	11	44.55	8	58.59	11
All India	64.35	-	56.37	-	70.24	-

Source: Government of India (1991, 2001 and 2010) **Economic Survey,** New Delhi: Ministry of Finance.

Table 5: Indicators of Human Capital across States.

State	Literacy Rate 2001	Life Expectancy 2002-2006	Per Capita Income 2007-2008	Infant Mortality Rate 2007
Andhra Pradesh	60.47 (13)	64.4 (7)	26195 (9)	54 (8)
Bihar	47.0 (16)	61.6 (10)	8703 (15)	58 (10)
Gujarat	69.1 (6)	64.1 (8)	31780 (4)	52 (7)
Haryana	67.91 (9)	66.2 (4)	39462 (1)	55 (9)
Himachal Pradesh	76.48 (3)	NA	30856 (6)	NA
Karnataka	66.64 (10)	65.3 (5)	26418 (8)	47 (6)
Kerala	90.86 (1)	74 (1)	32968 (3)	13 (1)
Madhya Pradesh	63.74 (11)	58 (13)	13299 (13)	72 (14)
Maharashtra	76.88 (2)	67.2 (3)	33302 (2)	34 (2)
Orissa	63.08 (12)	59.6 (12)	16149 (12)	71 (13)
Punjab	69.65 (5)	69.4 (2)	31662 (5)	43 (5)
Rajasthan	60.41 (14)	62 (9)	18095 (11)	65 (11)
Tamil Nadu	73.4 (4)	66.2 (4)	29445 (7)	35 (3)
Uttar Pradesh	56.27 (15)	60 (11)	11939 (14)	69 (12)
West Bengal	68.64 (7)	64.9 (6)	23229 (10)	37 (4)
All India	64.84	63.5	24295	55

Source: Government of India (2010) **Economic Survey 2009-10**, New Delhi: Oxford University Press.
Note: Figures in parentheses are ranks.

Table 6: State Wise indicators of competitiveness and investment Proposals.

States	State Competitive Index	Human Development Index	FDI Approvals (Numbers) 1991-2007	FDI Approvals Amount Rs. Crore 1991-2007	IIP nos. Aug. 1991-March 2004	IIP proposed investment Rs.crore.
Punjab	82.80 (1)	0.58 (2)	225 (12)	5740.50 (9)	183 (7)	4887 (8)
Kerala	67.71 (2)	0.65 (1)	350 (10)	1859.00 (13)	67 (11)	2782 (12)
Haryana	63.25 (3)	0.54 (3)	940 (6)	4094.13 (11)	233 (6)	4318 (9)
Gujarat	60.63 (4)	0.50 (5)	1304 (5)	13033.45 (5)	438 (3)	14567 (2)
Karnatka	56.19 (5)	0.48 (6)	2741 (3)	24934 (3)	233 (6)	9598 (6)
Tamil Nadu	49.10 (6)	0.52 (4)	2826 (2)	25214.03 (2)	736 (1)	11273 (3)
Maharashtra	48.77 (7)	0.48 (6)	5388 (1)	58152.85 (1)	558 (2)	21028 (1)
Andhra Pradesh	46.69 (8)	0.43 (7)	1360 (4)	16067.74 (4)	434 (4)	10715 (4)
Orissa	46.61 (9)	0.34 (10)	161 (13)	8428.30 (7)	37 (12)	5444 (7)
Assam	46.41 (10)	0.43 (7)	28 (15)	37.40 (15)	12 (14)	2433 (13)
Rajasthan	38.90 (11)	0.29 (12)	357 (9)	3129.78 (12)	97 (9)	1626 (14)
Madhya Pradesh	36.80 (12)	0.31 (11)	252 (11)	9277.40 (6)	141 (8)	3160 (11)
West Bengal	34.18 (13)	0.48 (6)	723 (8)	8154.67 (8)	90 (10)	4047 (10)
Uttar Pradesh	25.27 (14)	0.36 (8)	842 (7)	4935.32 (10)	353 (5)	9752 (5)
Bihar	22.36 (15)	0.35 (9)	50 (14)	739.70 (14)	33 (13)	1462 (15)

Source: 1. Government of India (2010), and Singh (2005).
Note: 1. Figures in parentheses indicate the rank.