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Deceleration of Industrial Growth and Rural Industrialization Strategy for Indian Punjab

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Abstract

Sustained industrial growth has been widely acknowledged as an engine of economic transformation. Less developed countries, however, remained predominantly agrarian due to lack of dynamism in the industrial economy and the low level of industrialization. Economic policy reform programme was initiated since July 1991 to generate essential dynamism in the industrial sector for successful transformation of the agrarian economy of India. In this paper an attempt is made to examine the industrial growth experience of Punjab economy during the period 1980-81 to 2001-2002, that is a decade before and a decade after the initiation of economic reforms. The empirical evidence clearly show a downturn in industrial growth in the post-reform period compared to that of the pre-reform period. Factors that have contributed to the deceleration of industrial growth in Punjab were lower investment-GSDP ratio, lower plan expenditure and lower quality of human capital and infrastructure. Identified factors that have led to the deceleration of industrial growth in Punjab were making the state scarce in economic activities and lack of private corporate investment in Punjab both of domestic and foreign. Alternative strategy has been suggested which not only has the capacity to arrest the process of deceleration of industrial growth in the state but also has a capacity to transform agrarian economy to industrialized one along with raising the level of rural income and welfare.

Introduction

Industrialization is the central dynamic force in the process of economic growth of an economy. The development experience of advanced countries and the newly industrializing economies has shown that industrialization is the only way through which general level of living standards can be continuously improved upon. Their success story reveals the fact that the governments of the advanced and newly industrializing economies continuously developed and implemented appropriate policies that created a conducive and congenial environment for industrial progress. However, the development experience of the less developed countries, the backwardness and low-level of living in such countries, is a clear pointer to the lack of dynamism in the industrial economy in

particular and low level of industrialization in general. This led to the realization in less developed countries to change their industrial policies from inward-looking to outward-looking so that required dynamism in the industrial economy can be generated. Within less developed countries, the growth experience in some of the regions after initiating economic reforms, however, has shown dynamism in their growth structure albeit to a limited extent. Indian Punjab is one such state/region which has shown an above average rate of growth in general and industrial growth in particular. However, this fast rate of economic growth could not be sustained due to limited progress of its industrial sector. Economic policy reforms initiated by the Indian government have differential impact across industrial economy of different states/regions. Some of the states/region registered high rates of growth comparable to the newly industrializing countries (NICs) and others lagged behind. Punjab's industrial economy could not respond to economic policy reforms which is a cause of concern for both the academicians and policy makers. The purpose of this paper is to explore, identify and analyze the factors behind the slow industrial growth that have not allowed Punjab economy to realize its full potentials. Alternative industrial development strategy is worked out to transform the rural economy of the state. The paper is developed and presented in five sections. Apart from introductory section, economic policy reforms and limitations in the application of the reform programme are presented in section two. Industrial growth performance of Punjab in the pre- and post- reform period is presented in section three. Alternative policy for revival of industrial growth through rural industrialization for enhancing rural income is spelled out in fourth section. Summary and conclusions are presented in the final section.

II

Economic Policy Reforms and Expected Impact on Punjab's Industrial Economy

After the demise of the centrally planned economy of USSR in 1991, the global economic management of the bi-polar world economy has shifted to uni-polar. Since then economic reforms, pushed by international donor agencies (Fund-Bank), aims at reducing the role of state and increasing the role of market in economic decisions. Numerous national governments of various countries of the globe now have an option only between

'Big Bang' and 'Gradualism' (Hoff and Stiglitz 2004). Indian government had chosen a path of economic reform in July 1991 to gradually reduce the role of the state to provide greater and dominant role to the market in the process of economic decision making. Indian government dismantled controls and regulations related to the location of private economic activities to establish production units in industrial sector of the economy (Srinivasan and Tendulkar 2003). Industrial licensing policy, which had been enacted to regulate and control location of industrial activities, has been the bone of contention for quite some time due to misuse of this policy both by the Indian private capital as well as the bureaucratic-political lobbies. So was the location of public sector enterprises which was purely under the state control. Therefore, the allocation of the licenses and public sector enterprises has determined the level and speed of economic development of the different states. It has been argued that Punjab state has suffered due to policy induced barriers and constrained private sector initiatives through allocation of licenses and public sector investments in the industrial sector of her economy. The reforms initiated by the Union government have been welcomed purely on the basis of expected removal of barriers and constraints by the political leadership. Thus, it was expected to unleash the constrained productive forces and flooding of investment in the state to automatically take care of deceleration of economic growth and the related problems. In addition to that scaling down of tariff barriers for external interaction and removal of restrictions on the participation of foreign capital in the industrial sector have been assumed to fill the gap of investible resources if it exists, and in case Indian capital remains scarce, foreign direct investment will do the job. It is a generally held view that foreign direct investment brings in new technology and management practices which usually help the local private sector to emulate and therefore is a sure way to enhance competitive capacity of the industrial economic activities, both domestic and international. Small scale industry, which is an important segment of the Indian economy in general and Punjab economy in particular, had received substantial protection and concessions during the import substitution regime (Mohan 2002). Reforms progressively reduced protection in terms of reservation of items exclusively manufactured by the small scale industries as well as allowing large sector to produce and compete with the small scale industry, if large sector exports 50 per cent of its production (GOI 2004). The liberalization of imports and

reduction of tariff barriers further increased stiff competition and challenge to the small scale industry. Since Punjab's industrial economy is a grooming ground for small scale industries, therefore, external and domestic liberalization was expected to put substantive constraint on this sector. An important change in paradigm of policy making under which universal applicability of market in economic decision making for alleviating all the ills of the capitalist economic system during the 1980s and 1990s (popularly known as Washington Consensus) was questioned in the late 90s when financial crisis triggered in South East Asia. Around this time economists in academic arena realized the complementary role of the state and the market as well as of the public sector. Harberger (1998) cautioned fellow economists not to recommend dismantling of the public sector for privatization until the efficiency gains of such acts are substantial. During the 1980s and 1990s growth experience of world economy in general and economies under reform programme in particular recorded substantial instability. Therefore, realization dawned on the experts to recognize the differences in the stage of economic development and institutional arrangements across countries. In fact the profit-seeking private agents, misguided by market imperfection, were mainly responsible for creating instability in economic growth and creating unprecedented economic crisis in high performing East Asian countries (Stiglitz 2002). Thus, standard recipes and sole reliance on the market for efficient allocation of resources and economic development can do more damage than good to the economy. Turnaround in the thinking of economic policy making, where state and market has been regarded as complementary rather than competitive, was reflected not only in the discussions in the academic circles but also from the documents and programmes enacted by the international financial institutions. This paradigm shift in recognizing and providing due respect to the role of state in policy making has been characterized as Post-Washington Consensus (Hayami 2003). Contrary to this, the process of policy making in most of the developing economies still reflect the Washington Consensus approach. Punjab state is one such example. An attempt in the following section is made to examine the impact of liberalized economic policy on the industrial economy of Punjab.

III

Pre- and Post-Reform Period Industrial Growth in Punjab

Industrial economy of Punjab has expanded its base during the early green revolution period at a faster rate and contributed Rs.1546.12 crore in 1980-81 at 1993-94 prices which comes out to be 11.66 per cent of the Gross State Domestic Product (GSDP). The contribution of the industrial sector of Punjab increased to Rs. 7075.26 crore in the year 2001-02 and the share of the industrial sector in the GSDP comes out to be 16.64 per cent. The noteworthy feature of industrial development during the eighties and nineties is the rising share in the GSDP by nearly 5 percentage points. During the period 1980-81 to 2001-02, industrial economy of Punjab has grown at a steady trend rate of growth 7.34 per cent per annum (Table 1.). The organized (registered) industrial sector of the economy has grown at a higher rate, that is 8.4 per cent per annum during 1980-81 to 2001-02, than that of the overall rate of growth of the industrial sector. However, unorganized (unregistered) industrial sector has grown steadily at 5.6 per cent per annum during the same period which is substantially lower compared to that of the overall manufacturing sector as well as the organized manufacturing sector growth rates. To examine the impact of economic reforms initiated by the union government of India in July 1991, we have estimated the trend growth rates while splitting the whole period into two sub-periods, that is, pre-reform period from 1980-81 to 1990-91 and post- reform period 1991-92 to 2001-02 and are presented in Table 1.

Table 1: Industrial growth in Punjab 1980-81 to 2000-01

(1993-94 prices)

Sectors→ Years	Manufacturing Sector	Registered Manufacturing	Unregistered Manufacturing
1980-2001	7.34	8.39	5.61
1980-1990	9.32	9.29	9.33
1991-2001	5.74	6.94	3.78

Note: Trend growth rates are estimated while using the semi-logarithmic regression equation. Data used for estimates of growth rates is collected from Government of Punjab, **Statistical Abstract of Punjab**, Various issues.

Punjab's manufacturing sector has grown at a rate of 9.32 per cent per annum during the 1980-90 which is substantially higher compared to the whole period rate of growth. Pre-reform rate of unorganized industrial sector recorded slightly higher growth (9.33 per cent per annum) compared to the organized industrial sector (9.29 per cent per annum). Such high rate of growth was really appreciable in the back drop of highly volatile political situation in Punjab that prevailed during the eighties. Contrary to the belief of liberal policy makers, industrial growth has decelerated during the nineties. The rate of growth of manufacturing sector was recorded 5.74 per cent per annum which was below the overall rate of growth and was substantially lower compared with that of the pre-reform period. The organized manufacturing sector recorded a rate of growth of nearly seven per cent per annum during the reform period. However, this is also quite lower compared to the pre-reform period rate of growth recorded in the organized manufacturing sector which is a clear sign of deceleration in the rate of growth.

The advocates of the economic policy reforms have advanced the argument that there will be temporary set backs and that too will be in the organized industrial sector because of the stiff competition from foreign companies as well as from the shift of demand in favour of multinational companies, but the stimulus of industrial growth will come from the domestic unorganized sector. It seems that the first part of the argument holds true and is visibly justified from the deceleration that has occurred in the growth rate of Punjab's industrial sector. An utter surprise is that Punjab's unorganized industrial sector recorded annual rate of growth of 3.8 per cent during 1991-2001 which is much lower than that has been recorded in the pre-reform period (9.33 per cent per annum). Informal industrial sector thrived during the period of political turmoil in Punjab and lost substantially during the period of peace, although the policy process was expected to unleash the constraints on private productive forces. This is a cause of concern because this sector is the main source of industrial employment, keeping in view the limited capacity of the organized sector which is labour displacing in nature. The comparative analysis of rate of growth of organized and unorganized industrial sector showed differential performance which has a severe impact on the changing character of industrial sector of the economy. The changes in the character of industrial sector of Punjab can be examined from the relative importance of the organized and unorganized

sectors as inferred from the changing composition in terms of their contribution in the overall manufacturing sector presented in Table 2.

Table 2: Sectoral composition of Value of Output of industrial sector of Punjab

(1993-94 prices)

Sectors→ Years	Share of registered manufacturing sector	Share of unregistered manufacturing sector
1980-81	57.44	42.56
1985-86	59.81	40.19
1990-91	59.62	40.38
1995-96	66.10	33.90
2000-01	67.41	32.59

Source: As in Table 1.

It is a generally held view that when the organized industrial sector gains in terms of its growth and relative share in the GSDP, it is considered as a healthy sign of economic development. From the perusal of table 2, it can be clearly inferred that the share of the organized manufacturing sector has increased from 57.44 to 67.41 per cent, that is, nearly a ten percentage point gain. However, unorganized industrial sector recorded decrease in the relative share from 42.56 to 32.59 per cent, which clearly showed the declining importance of the unorganized sector in the industrials sector of Punjab economy. This could have been considered a healthy sign of development if rate of growth of the organized manufacturing had accelerated during the nineties. Since the rate of growth of the industrial sector as a whole as well as those of organized and unorganized industrial sector had decelerated during the nineties, yet the rate of growth of the unorganized industrial sector of Punjab decelerated at a faster rate than the organized sector which is the root cause of the reduction of the relative importance of the unorganized industrial sector of Punjab. It is important to note here that the shrinkage in the relative share of the unorganized sector was faster during the post-reform period compared to the pre-reform period.

Punjab's industrial growth experience, during the pre and post-reform periods, is in contrast to the overall rate of growth of the national economy. During the pre-reform period, manufacturing sector has grown at a higher rate compared to the all India manufacturing growth rate and in the post-reform period the trends were reversed. Consequently, the relative position of the organized industrial sector of Punjab has

decreased in the national average which can be inferred from a number of indicators presented in Table 3.

Table 3: Punjab's share in Indian industry

(Per cent)

Category→ Year	Number of registered factories	Fixed capital	Number of employees	Emoluments	Value of output	Net value added
1980-81	5.89	4.52	3.05	2.49	4.08	3.24
1985-86	5.65	4.58	4.18	3.11	4.29	3.21
1990-91	5.67	4.24	4.91	4.06	4.61	3.6
1995-96	5.10	3.90	4.70	3.60	4.00	2.90
2000-01	5.40	2.06	4.50	3.20	3.80	3.40

Note: Calculations are based on the **Annual Survey of Industries**, Various Issues, CSO, Govt. of India.

The perusal of the table 3 shows that the share of registered number of factories in the organized industrial sector of Punjab in the all India declined sharply in the post-reform period compared to the pre-reform period. Accumulation of capital which is the major source of increase in the capacity to produce more output in the economy has shown reduction in the relative share of Punjab in the national average. Share of fixed capital decreased from 4.24 per cent in 1990-91 to 2.06 per cent in 2000-01 which clearly indicates dwindling of the relative productive capacity of Punjab's industrial economy in the post-reform period. Somewhat similar trends can be observed from the share of other indicators such as emoluments, value of output and net value added except the number of employees which showed higher labour intensity of the organized industrial sector of Punjab.

When economic reforms were initiated, it had been contemplated that informal sector of the economy will fundamentally bear the burden of generating more employment and will boost economic progress. The estimated rates of growth of both employment and enterprises are presented in Table 4. The perusal of the table clearly shows that post-reform employment and enterprises growth in the unorganized sector of the Punjab economy recorded deceleration.

Table 4: Compound growth rate of employment and enterprises in the unorganized manufacturing sector of Punjab, 1980-1998.

Year	1980-1990	1990-1998
Sector		
Rural enterprises	2.14	1.94
Urban enterprises	2.55	2.06
Total enterprises	2.37	2.01
Rural employment	3.08	2.80
Urban employment	2.36	1.46
Total employment	2.59	1.92

Note: Compound growth rate estimates are based on the data
 Compiled from **Economic Census**, 1980, 1990 and 1998.
 Govt. of Punjab

Rural enterprises which have grown at 2.14 per cent per annum between the period 1980 and 1990 and rate of growth declined to 1.94 per cent per annum between the period 1990 and 1998. Similar trends in the growth rate of enterprises located in the urban informal sector of Punjab have been observed. However, urban enterprises registered higher growth compared with the increase in the rural informal sector enterprises. So far as employment is concerned, rural enterprises recorded higher growth during pre and post-reform period compared to the urban informal sector of Punjab. Overall rate of growth of employment in the informal industrial sector of the Punjab was 2.6 per cent per annum before the economic reform period which recorded a dramatically lower growth rate that is 1.9 per cent in the post-reform period. Empirical evidence and analysis clearly indicates that industrial economy of Punjab has shown retrogression in the growth performance in the post-reform period, contrary to what was expected.

The pertinent question that begs for an explanation here is why has deceleration in industrial growth occurred in the post-reform period. Despite the existing prerequisites required for higher industrial growth, existed which were also recognized by the well known experts and national organizations, industrial growth experience belied the high hopes of the supporters of the liberalization policies. A comparative analysis of

prerequisites across Indian states reveals that Punjab was the most suitable state for new industrial investment opportunities (Table 5). 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 bases 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 5 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 the table 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). Differential growth performance in the post-reform period across states has attracted the attention of several scholars (Ahluwalia 2002, Bhattacharya and Sakthivel 2004). 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 in terms of investment-GSDP ratio, plan expenditure, human resources and quality of infrastructure. Among the fourteen major states, investment-GSDP ratio of the state was 18.70 in 1995-96 which was the lowest and was nearly half of the average of fourteen states. However, Plan expenditure as a percentage of GSDP was 5.69 during 1980-81 to 1990-91 which declined to 3.94 during

Table 5: State Wise indicators of competitiveness and investment Proposals.

States	State Competitive Index	Human Development Index	FDI Approvals (Numbers) 1991-2004	FDI Approvals Amount Rs. Crore	IIP nos. Aug. 1991-March 2004	IIP proposed investment Rs.crore.
Punjab	82.80 (1)	0.58 (2)	199 (12)	2434 (12)	183 (7)	4887 (8)
Kerala	67.71 (2)	0.65 (1)	325 (10)	1552 (13)	67 (11)	2782 (12)
Haryana	63.25 (3)	0.54 (3)	858 (6)	3870 (10)	233 (6)	4318 (9)
Gujarat	60.63 (4)	0.50 (5)	1204 (5)	18837 (4)	438 (3)	14567 (2)
Karnatka	56.19 (5)	0.48 (6)	2467 (3)	24138 (3)	233 (6)	9598 (6)
Tamil Nadu	49.10 (6)	0.52 (4)	2607 (2)	25072 (2)	736 (1)	11273 (3)
Maharashtra	48.77 (7)	0.48 (6)	4816 (1)	51115 (1)	558 (2)	21028 (1)
Andhra Pradesh	46.69 (8)	0.43 (7)	1226 (4)	13745 (5)	434 (4)	10715 (4)
Orissa	46.61 (9)	0.34 (10)	140 (13)	8229 (8)	37 (12)	5444 (7)
Assam	46.41 (10)	0.43 (7)	NA	NA	12 (14)	2433 (13)
Rajasthan	38.90 (11)	0.29 (12)	341 (9)	3033 (11)	97 (9)	1626 (14)
Madhya Pradesh	36.80 (12)	0.31 (11)	242 (11)	9271 (7)	141 (8)	3160 (11)
West Bengal	34.18 (13)	0.48 (6)	670 (8)	9317 (6)	90 (10)	4047 (10)
Uttar Pradesh	25.27 (14)	0.36 (8)	798 (7)	4917 (9)	353 (5)	9752 (5)
Bihar	22.36 (15)	0.35 (9)	49 (14)	740 (14)	33 (13)	1462 (15)

Source: 1. National Productivity Council research division as quoted in Burange, P.G. (1999), 2. Rani, P. Geetha (1999), and 3. Government of India (2004).

Note: 1. NA implies not available. 2. Figures in parentheses indicate the rank.

the period of 1991-92 to 1997-98. So far as human resources, in terms of literacy rate, are concerned, it has slowed down in the post reform period. 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).

IV

Rural Industrialization Strategy

Punjab is known as food the bowl of India. Agriculture sector of the state was developed to solve the food shortage of the country as well as to reduce foreign dependence on food in the early sixties. Green revolution was ushered in Punjab due to the adoption of high yielding varieties of seeds, chemical fertilizers, irrigation and supportive institutional infrastructure. During the early green revolution period, farm income received a big boost irrespective of farm size. Remunerative prices and assured market were the two fundamental factors that perpetuated wheat and paddy rotation over a period of 40 years. Not only wheat and paddy are the two predominant crops of Punjab, but the state has contributed 21.78 per cent of wheat and 12.22 per cent of paddy in all India production in 2002-03. Punjab state produced surplus food grains and contributed to the national pool nearly 70 per cent of the wheat and 42 per cent of the paddy in 1992-93 which has substantially decreased in the late nineties (Ghuman 2001). This clearly indicates the declining importance of Punjab's food grains in the national economy. The content of research and development and use of family labour declined due to rise in the intensity of farm machinery, hired labour and fertilizer/pesticides which resulted into high cost agriculture production and decline in the agricultural household income since the early eighties (Sidhu and Singh 2004). 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. Rising costs along with stagnant technology and nearly freezing of the minimum support price of wheat and paddy, which turned the already adverse terms of trade from bad to worse, surely reduced returns on food grain production. The reduction of differentials between returns and cost of production, increasing uncertainty of weather as well as dependence to borrow credit at a higher rate of interest from informal lenders were the reasons responsible for increasing indebtedness among the farmers of Punjab (Shergill 1998, Ghuman 2001, Gill 2004). This has compounded problems to the extent that farmers of Punjab have resorted to commit suicides (Gill et al 2000).

Keeping in view the evidently growing agricultural crisis, government of Punjab has 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 (Government of Punjab 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 seems 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 farmers had no other option left to but to back to 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 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 had shown that agriculture sector of the economy in the process of transformation provides surplus resources to the industrial sector and marginalize the agriculture sector of 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 the 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. Agriculture 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. Fundamental factor of success of Taiwan's agriculture diversification experience was the farmers' associations. The farmers' association of Taiwan was nothing but the farmers' cooperatives 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 organisation 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 is 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 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, strategy needs to be adopted by the government of Punjab not to offer purely private and market based solutions, but must 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.

V

Concluding Remarks

Punjab economy is passing through a phase of unprecedented economic crisis. Industrial sector of the Punjab economy clearly recorded deceleration in the post-reform period. This is contrary to what was expected at the time of adopting the market oriented reforms in the country. Despite the fulfillment of the required prerequisites for industrial investments, Punjab economy could not receive expected investment-foreign and

domestic. The diversification of agriculture through purely market oriented and contract farming with the private agribusiness firms has miserably failed. Only alternative option left for self sustained economic growth is to change the organization structure and involve local people to organize economic activities and eliminate the rent seeking middleman. Involvement of the farmers in agribusiness activities through cooperatives as production, manufacturing and marketing organization on the pattern of Southeast Asian countries such as Taiwan could be the best strategy for self sustaining growth. This also has the capacity to crowd in private investment. However, the role of the government is crucial in terms of providing essential institutional and infrastructural arrangements. Technological progress for agricultural production and manufacturing industries is the crucial link for any strategy to succeed and this must be the responsibility of the state on the pattern of Southeast Asian countries. The state should reinvent itself to provide the role of a leader in terms of governing the markets as has been suggested in Post-Washington Consensus, and harness for growth the complementariness of the state and the market. The will and capacity of the government does matter to transform rural economy and increase in the rural income through rural industrialization based on diversified agriculture.

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