



FALLOUTS OF PUNJAB MODEL OF DEVELOPMENT: AN ANALYSIS

Mr.Dharmpal Singh

Assistant Professor, Dept. of Economics, Multan Mal Modi College, Patiala, India.

Abstract

Indian economy has undergone a significant structural change since Independence. This is highlighted by the change in the sector-wise composition of income and workforce over the years. The decade of 1990s witnessed major policy changes in the Indian economy and its State/Union territory economies. Each state of the Indian union is different in terms of its natural, social, political and economic features. Therefore, the pattern of growth of each sub-national unit is unique. Punjab is predominantly an agricultural economy. Keeping in view the national food requirement, in the late sixties, Punjab followed a specific development model characterized by agriculture. It provided the much needed food security but derailed the economy that had to culminate in to a tertiary sector driven economy. The problem has further been compounded by the social turmoil of 1980s and 1990s which affected all the sub-systems of Punjab economy.

Introduction

Punjab economy, better known as grain basket of India is a prosperous agricultural economy. Per capita income in the state is among the highest and the poverty ratio is among the lowest. In case of Human Development indicators, it is also far ahead many states. It is being invariably placed at second rank (next to Kerala) in the Human Development Reports of India (Planning Commission, 2002). Besides, though the magnitude of absolute poverty is relatively less than in many other states. Punjab has been one of the most prosperous states of India, but it is losing its prosperity due to various economic and non-economic causes. The decade of 1970s has been an onset of green revolution and setting on of vibrancy in the system. Period of late 1980s and early 1990s, a period of social turmoil, led to an uncertain future for the State. Punjab faced a dual problem in the new policy regime: first being the recovery from dark past and the second being reorienting the system to compete, liberalize and privatize.

After the '*onset of Green Revolution*', years 1970-71 to 1979-80, in the State, the dominant share of agriculture in the NSDP lead the economy (Table 1). In year 1970-71 share of primary sector in NSDP that stood at 58.36. This share started sliding down and came down to 51.61 percent in year 1979-80. The space generated was shared by the secondary and tertiary sector. During the seventies share of secondary sector improved from 15.31 percent in the year 1970-71 to 17.10 percent in 1979-80. During the same period the share of tertiary improved from 26.32 percent to 31.29 percent. On the basis of overall trend based growth rate, total NSDP has grown at the rate of 5.66 per annum. The primary sector has grown at the rate of 4.3 percent per annum, the secondary sector has grown at 8.18 percent per annum and tertiary sector has grown at 7.52 percent. On the basis of whole table we can say that during the period 1970's the secondary sector has grown at almost double of the compound annual growth rate of agriculture, and tertiary sector has been just following the secondary sector, neck to neck. The take off stage of Green Revolution Punjab generated conditions for growth of secondary and tertiary sectors. Both industry and services sector were picking up high growth profile, when the state was at the verge of being hijacked by the social turmoil. The end of 1970s decade was a period when economy was preparing to transform from basically agrarian economy to industrial and service economy. This has been the time when long term vision and social normalcy was required to develop the human resources and create an environment for this much needed transformation; as the economy was fully ripe for this transformation at that time.



Table No. 1, Sectoral Share of Primary, Secondary, and Territory Sector in Net State Domestic Product of Punjab (Constant Prices,1970-71=100)

Year	Sectors			Total NSDP
	Primary	Secondary	Tertiary	
1970-71	58.36	15.31	26.32	100.00
1974-75	59.27	13.42	27.31	100.00
1979-80	51.61	17.10	31.29	100.00
CAGR (in percent for 1970-72 to 1979-80)	4.03	8.18	7.52	5.66

Source: Various Statistical Abstracts of Punjab, Govt. of Punjab.

During the 'social turmoil period' (Table No. 2), years 1980-81 to 1992-93, the share of primary sector was nearly 50 percent, share of secondary sector was 18.30 percent and that of tertiary sector was 31.86 percent. The share of primary sector, with minor variations, hovered around 48 to 50 percent; no major visible change has been there. Share of secondary sector that was 18.30 percent in the year 1980-81, became 20.52 percent in 1986-87 and touched the level of 23.23 percent in 1992-93. During the social turmoil period of Punjab, the CAGR for primary sector has been 4.88 percent per annum and it was 7.38 percent per annum for secondary sector and 4.30 percent for tertiary sector. So during the period 1980's the secondary sector has grown nearly at double the CAGR of agriculture and tertiary sector. One important inference that emerges from the analysis of social turmoil period is that in terms of growth, secondary sector started losing the pace and tertiary sector growth also slowed down drastically. However, there was no impact on the growth rate of agriculture. The decade of 1980s was very crucial for the future of the State. This was the period when the state had to develop the industry and create pre-conditions for the development of tertiary sector. The state economy got derailed and during this period both capital and labour flew outside the State and much needed investment climate suffered adversely.

Table No. 2, Sectoral Share of Primary, Secondary, and Territory Sector in Net State Domestic Product of Punjab (Constant Prices,1980-81=100)

Year	Sectors			Total NSDP
	Primary	Secondary	Tertiary	
1980-81	49.84	18.30	31.86	100.00
1986-87	49.44	20.52	30.04	100.00
1992-93	48.60	23.23	28.16	100.00
CAGR (in percent for 1980-81 to 1992-93)	4.88	7.39	4.31	5.22

Source: Various Statistical Abstracts of Punjab, Govt. of Punjab.

On the eve of launching of 'new policy regime', Punjab economy (Table No. 3) was fully devastated because of the social turmoil. Industry was either shattered or out-migrated to neighboring states. There was out-flight of capital and labour. Suppliers of other states stopped supplying goods and services to Punjab on credit. Even buyers for Punjab-made goods and services from other states stayed away because of risky environment. For industry and trade Institutional setup needed, for transformation of the economy to become a vibrant economy to develop the industry and catch up the tertiary revolution, had gone out of order. Investment environment in the State had deteriorated. Process of human resource development suffered a lot. In this kind of circumstances in 1993-94 share of primary sector in NSDP was 48.23 percent followed by tertiary sector (31.93 percent) and secondary sector (19.82 percent). Over the years the share of primary sector has come down to 31.94 percent in 2008-09 as compared to 48.23 percent in 1993-94. Share of secondary sector has improved from 19.82 percent in 1993-94 to 28.68 percent in 2009-10. The tertiary sector share in NSDP improved from 31.95 percent in the year



1993-94 to 41.29 percent in 2009-10. So tertiary sector share is picking up but the pace is too small as compared to national level and some other states.

Total NSDP up to the year 2000-01 has grown at the rate of 4.70 per annum and thereafter it has grown at the rate of 6.76 per annum. Overall growth rate total NSDP comes out to be 5.09 per annum. The lagged effect of social turmoil in the state and adjustment process of the production system to the new policy regime is quite clear in the lower growth rate of total NSDP in the decade of 1990s. Its worst effect is visible in agriculture because institutional set up for supply of inputs and investments to agriculture went out of order in the previous decade. Industrial growth rate came down to 5.79 percent, because of unhealthy business environment. Service sector picked up and achieved the growth rate of 7.38 percent per annum; the disaggregate sub-sector analysis is needed to go into the dynamics of this growth.

In the post 2000 period primary and tertiary sectors just showed a marginal improvement but the secondary sector has depicted a double digit growth rate. So the sub-systems of the Punjab economy which got derailed due to social turmoil are gradually limping back to normalcy; the positive impact is visible in secondary sector but the much needed tertiary sector has not registered a marked change.

Table No. 3, Sectoral Share of Primary, Secondary, and Tertiary Sector in Net State Domestic Product of Punjab (Constant Prices, 1993-94=100)

Year	Sectors			Total NSDP
	Primary	Secondary	Tertiary	
1993-94	48.23	19.82	31.95	100.00
2000-01	41.82	20.93	37.26	100.00
2009-10	30.03	28.68	41.29	100.00
CAGR (in percent)				
Up to 2000	2.19	5.79	7.38	4.70
Post 2000	2.59	12.00	7.48	6.76
Overall	2.29	7.11	7.42	5.09

Source: Calculated.

Changed Consumption Pattern

Due to economic richness, the consumption pattern in the state has gone under change as expected. There has been a shift in expenditure from food to non-food segment (Table No.4). In the rural area of the state, Share of food items in the total expenditure has decreased from 57.56 in year 1987-88 to 44.23 percent in 2005-06. On the other hand, during the same period the share of non-food items in the total expenditure has improved by 13.33 percentage points. As against it, at all India for rural area, the share of food items decreased by nearly 10 percentage points. Much of the decrease in the food items has been in cereals, milk & milk product, edible oils, sugar and beverages. Much of the fall in parentage share of non-food items has been due decreased share of fuel & lights expenditure.

The table clearly gives the picture that in 1987-88 people in rural India did more expenditure (63.77 per cent) on food items than on non-food items than in rural Punjab where proportion of food items and non-food items was 57.56 percent and 42.44 percent respectively. Within food items group, approximately one fourth of the total expenditure was made on cereals in rural india.as compared to only 10.99 percent in rural Punjab. Secondly a major proportion was spent on milk and milk products (mainly considered as luxury) in rural Punjab as compared to rural in India. Sugar was another major component of food group in Punjab as compared to India. Expenditure on rest of the food-items was more or less same in rural Punjab as well as rural India. In non-food items, expenditure on miscellaneous goods and services, durable goods and foot wear gained more share in rural Punjab



whereas share of pan, tobacco, intoxicants was more in India as compared to Punjab. It is clear from the above comparison that share of non-food items in total expenditure increased as compared to food items in rural Punjab.

In urban areas of Punjab, the share of food items that was 55.18 percent in 1987-88 went down to 35.53 in year 2005-06 and the non-food items' increased by the same percentage (table 4.5). In case of urban area at all India level the decrease has not been that pronounced as in Punjab. Thus, exactly in consonance with rural area, for the period under consideration, the share of expenditure on food items has gone down and that on non-food items has improved, but here the fall and rise is bigger respectively in food and non-food share as compared to the rural counter part of the economy.

Table No. 4, Percentage Expenditure on Various items in Rural Punjab and Rural India

Sr. No.	Commodity	1987-88		2005-06	
		Punjab	India	Punjab	India
1.	Cereals	10.99	26.14	8.19	18.10
2.	Grams	0.24	0.24	0.32	0.12
3.	Cereal substitutes	0.01	0.13	0.00	0.07
4.	Pulses & products	2.96	3.96	2.45	2.98
5.	Milk & milk products	18.36	8.62	14.62	8.43
6.	Edible oils	4.79	5.61	3.22	4.60
7.	Meat, egg & fish	0.62	3.23	0.44	3.29
8.	Vegetables	4.39	5.20	4.33	5.82
9.	Fruits fresh/ dry	1.57	1.62	1.29	1.74
10.	Sugar	5.85	2.85	3.74	2.15
11.	Salt	0.14	0.18	0.14	0.19
12.	Spices	2.12	2.68	1.20	2.13
13.	Beverages	5.46	3.90	4.24	4.31
14.	Food total	57.56	63.77	44.23	53.93
15.	Pan, tobacco, intoxicants	1.94	3.18	1.95	2.41
16.	Fuel & lights	7.24	7.06	11.55	9.59
17.	Clothing	6.69	6.65	6.41	7.05



18.	Footwear	2.35	0.98	1.45	0.99
19.	Misc. goods & services	19.02	14.40	5.30	5.66
20.	Durable goods	5.18	3.56	3.61	3.41
21.	Non food total	42.44	36.23	55.77	46.07
22.	Total	100	100	100	100

Source: Various NSSO Surveys, Ministry of Statistics, Govt. of India.

Table No. 5, Percentage Expenditure on various items in Urban Punjab and Urban India

Sr. No.	Commodity	1987-88		2005-06	
		Punjab	India	Punjab	India
1.	Cereals	9.67	14.79	5.79	9.96
2.	Grams	0.27	0.16	0.20	0.09
3.	Cereal substitutes	0.01	0.06	0.00	0.05
4.	Pulses & products	2.88	3.37	1.75	2.10
5.	Milk & milk products	15.68	9.53	11.24	7.83
6.	Edible oils	5.70	5.29	2.54	3.54
7.	Meat, egg & fish	1.02	3.54	0.43	2.63
8.	Vegetables	5.37	5.24	3.42	4.18
9.	Fruits fresh/ dry	12.47	2.50	1.96	2.21
10.	Sugar	4.00	2.34	1.98	1.33
11.	Salt	0.15	0.12	0.11	0.13
12.	Spices	2.14	2.19	0.91	1.46
13.	Beverages	5.77	6.75	5.17	6.13
14.	Food total	55.18	55.92	35.53	46.4
15.	Pan, tobacco,	2.50	2.61	1.10	1.55



	intoxicants				
16.	Fuel & lights	7.60	6.68	10.44	9.02
17.	Clothing	5.43	6.00	6.15	5.96
18.	Footwear	2.01	1.07	1.43	1.06
19.	Misc. goods & services	23.77	23.46	21.63	6.65
20.	Durable goods	3.48	4.24	5.16	3.56
21.	Non food total	44.82	44.08	64.46	58.36
22.	Total	100	100	100	100

Source: Various NSSO Surveys, Ministry of Statistics, Govt. of India.

Conclusion

The take off stage of Green Revolution Punjab generated conditions for growth of secondary and tertiary sectors. Both industry and services sector were picking up high growth profile, when the state was at the verge of being hijacked by the social turmoil. The end of 1970s decade was a period when economy was preparing to transform from basically agrarian economy to industrial and service economy.

One important inference that emerges from the analysis of social turmoil period is that in terms of growth, secondary sector started losing the pace and tertiary sector growth also slowed down drastically. However, there was no impact on the growth rate of agriculture. The decade of 1980s was very crucial for the future of the State. This was the period when the state had to develop the industry and create pre-conditions for the development of tertiary sector. The state economy got derailed and during this period both capital and labour flew outside the State and much needed investment climate suffered adversely.

The lagged effect of social turmoil in the state and adjustment process of the production system to the new policy regime is quite clear in the lower growth rate of total NSDP in the decade of 1990s. Its worst effect is visible in agriculture because institutional set up for supply of inputs and investments to agriculture went out of order in the previous decade.

So the sub-systems of the Punjab economy which got derailed due to social turmoil are gradually limping back to normalcy; the positive impact is visible in secondary sector but the much needed tertiary sector has not registered a marked change.

Acknowledgement

The author is highly thankful to Mr. Yawar Hamid (Doctoral Fellow, ICSSR, Research Scholar, Dpt. of Economics, Punjabi University, Patiala) for his suggestions and encouragement in writing this research paper.

References

1. Brown, Martin L. Brown, Sue J. Goldie, Gerrit Draisma, Joe Harford, and Joseph Lipscomb (2006), "Health Service Interventions for Cancer Control in Developing Countries", in Jamison et al. (eds), *Disease Control Priorities in Developing Countries*, Oxford University Press, New York, pp 569-90.



2. Byerlee Derek, 2006. "Technical Change, Productivity, and Sustainability in Irrigated Cropping Systems of South Asia: Emerging issues in the Post Green Revolution Era", *Journal of International Development*, Volume 4, Issue 5, p.477 – 496.
3. Chand Ramesh, (1999), "Emerging Crises in Punjab Agriculture, Severity and Options for Future", *Economic and Political Weekly*, Vol. 34, No. 13.
4. Chang , S., Long, S. R., and others (2000), "Estimating the Cost of Cancer: Results on the Basis of Claims Data Analyses for Cancer Patients Diagnosed with Seven Types of Cancer During 1999 to 2000", *Journal of Clinical Oncology*, Vol, 22, pp 3524-3530.
5. Cornell University, "Pesticides in the Environment", *Pesticide Fact Sheets and Tutorial*, module 6. Pesticide Safety Education Program.
6. Conway G.R. and Pretty J. N.1991. *Unwelcome Harvest: Agriculture and Pollution*. London: Earthscan Publisher.
7. Corsi, Marco. 2006. Communalism and the Green Revolution in Punjab, *Journal of Developing Societies*, Vol. 22, No. 2, 85-109 (2006)
8. CSE, 2005. *Analysis of Pesticide Residues in Blood Samples from Villages of Punjab*, Centre for Science and Environment, 2005, New Delhi.
9. CSE (2005):"Analysis of Pesticide Residues in Blood Samples from Villages of Punjab", Report, Centre for Science and Environment, New Delhi, Website: http://cseindia.org/userfiles/Punjab_blood_report.pdf
10. Damalas, Christos A. and Ilias G. Eleftherohorinos (2011)," Pesticide Exposure, Safety Issues, and Risk Assessment Indicators", *International Journal of Environmental Research and Public Health*, 6 May.
11. Department of Pesticide Regulation (2008), "What are the Potential Health Effects of Pesticides?", Community Guide to Recognizing and Reporting Pesticide Problems. Sacramento, CA. Pages 27-29.
12. Dhaliwal, N.S, Bawa, R.S. and Grover, D.K., "Economics and Inputs Use Productivity of Paddy Crop in Different Agro-climatic Zones of Punjab", *Indian Journal of Economics*, Vol. 87, No. 344, pp 77-92.
13. Dikshit, R., Gupta, P.C. and Others (2012), "Cancer Mortality in India: A Nationally Representative Survey in India", *Lancet*, Vol. 379 (9828), pp 1807-1816.
14. Duggal, R. (2007), "Health Care in India: Changing Finance Strategy", *Social Policy and Administration*, Vol. 41(4), pp 386-394.
15. Dung, N.H. and T.T.T. Dung (1999). "Economic and Health Consequences of Pesticide Use in Paddy Production in the Mekong Delta, Vietnam", *EEPSEA Research Report Series*. Available at: <http://www.eepsa.org>
16. Dung, N.H., Tran Chi Thien, and others (1999). "Impact of Agro-Chemical Use on Productivity and Health in Vietnam", *EEPSEA Research Report Series*. Available at: <http://www.eepsa.org>
17. Environment Justice Foundation (2007), "The Deadly Chemicals in Cotton", Report in collaboration with Pesticide Action Network UK, London, U.K..
18. Ferlay, J., Shin, H. and Others (2010), "Estimates of Worldwide Burden of Cancer in 2008: GLOBOCAN 2008", *International Journal of Cancer*, Vol. 127, pp 2893-2917.
19. Ghuman, R.S. (2005), "Rural Non-Farm Employment Scenario Reflection from Recent Data in Punjab", *Economic and Political Weekly*, Vol. 40, No. 41, pp- 4473 to 4480.
20. Gill, Karam Singh (2003). *Punjab Agricultural Policy Review*. Report for the World Bank. New Delhi.
21. Gilliom, R.J., Barbash, J.E., and others (2007), "The Quality of Our Nation's Waters: Pesticides in the Nation's Streams and Groundwater, 1992–2001", *US Geological Survey*.