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Service Sector and Economic Growth in Punjab

by

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Abstract

As an economy moves from lower to higher stages of development, there occurs a shift from simpler to more modern and complicated techniques of production on the one hand and from primary to secondary and/or to tertiary sectors on the other. The status, and pattern and growth of tertiary sector coupled with state-of-the-art technology have got its own implications for the future development patterns of a system. World over, in majority of the countries, the service sector share in GDP has crossed the sixty percent mark and is appearing as an engine of economic growth. The long run sustainability of the system driven by excessive growth of service sector is a matter under debate.

Punjab, the state of northern India, has been a leader in Green Revolution for the last four decades. Punjab followed an agro-centric model of development that provided the higher income levels to the people of the State and the much required food security to the whole country. Now the negative externalities of the model of development have started appearing. As one of the fallouts of this model of development, as compared to some other states of the country, the service sector has not been able to catch up due to some inherent impediments in the system. The emerging service sector in the economy is an outcome of new policy regime and legacy of the development model followed. To transform the economy from stagnant to a vibrant one and making the service sector as engine of growth, analysis of growth and tertiarization is need of the time. *In this context, the paper is an attempt to analyze the structure, pattern and growth of Punjab economy with special reference to service sector.*

Keywords: Structural transformation, service sector, Punjab economy, model of development, economic growth.

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Introduction

As an economy moves from lower to higher stages of development, there occurs a shift from simpler to more modern and complicated techniques of production on the one hand and from primary to secondary and/or to tertiary sectors on the other. The status, and pattern and growth of tertiary sector coupled with state-of-the-art technology have got its own implications for the future development patterns of a system. World over, in majority of the countries, the service sector share in GDP has crossed the sixty percent mark and is appearing as an engine of economic growth.

Punjab, a state of northern India, has been a leader in Green Revolution for the last four decades. Punjab followed an agro-centric model of development that provided the higher income levels to the people of the State and the much required food security to the whole country. Now the negative externalities of the model of development have started appearing. As one of the fallouts of this model of development, as compared to some other states of the country, the service sector has not been able to catch up due to some inherent impediments in the system. The emerging service sector in the economy is an outcome of new policy regime and legacy of the development model followed. To transform the economy from stagnant to a vibrant one and making the service sector as engine of growth, analysis of growth and tertiarization is need of the time. *In this context, the paper is an attempt to analyze the structure, pattern and growth of Punjab economy with special reference to service sector.*

Coverage and Methodology

Keeping in view the broad objectives of the study, the secondary data have been used. Data have been obtained from various published and unpublished sources. Most of the published data has been drawn from various issues of Statistical Abstracts of Punjab. The data used in the empirical exercise, carried out in this study, relates to estimates of State Domestic Product at constant prices of 2004-05. The data pertains to the three broad sectors, that is, primary, secondary and tertiary; and for the sub-sectors of the tertiary sector. Analysis covers period from 1970-71 to 2011-12. The total period has been divided into three sub-periods. First being the launching of green revolution in the state, second, being the period of social and political turmoil and the third, being the recovery period. Wherever needed, appropriate price adjustment has been done.

A Synoptic Review of Theory and Empirics

Empirics on sectoral growth and performance analysis draw their origin from the dual economy model of Lewis (1954) and Hirschman (1958) which attempt to explain economic growth by examining the role and relationship between the traditional agricultural sector and modern manufacturing sector. There exist two opposing schools of thought on the relationship between the service producing sector and economic growth (Glasmeier and Howland, 1993). *First,* is of the view that the service producing sector can aid economic growth; and *second* is of the view that the service producing sector should not be seen as independent of, nor is it a replacement for, the traditional goods producing sector such as agriculture, mining, and manufacturing.

The available evidence indicates that the service producing sector has dominated the goods producing sector in most of the developed economies; it accounts for about two-thirds of employment and output in many advanced economies such as Canada and Australia (Economic Council of Canada, 1991). The relationship between the service producing sector and economic growth must be viewed in terms of both the size of the sector in economic activity and to productivity gains. Increasingly, the service sector is seen as the key to economic growth in a post-industrial economy. As per S&P report, the East Asian region will have trouble in maintaining the growth momentum over the long term, if it continues to rely primarily on traded goods due to stiff competition from China and India (Standard and Poor, 2007). As compared to the goods producing sector, the service sector is less likely to be export oriented and hence less likely to be affected by slowdown in growth of a major trading partner (Mansell, 1985).

There are large number of studies on the Indian economy that have explored the service sector and economic growth nexus [Pradhan et al. (2006); Nagaraj (2010); and Rashmi Banga (2005)]. There are very few studies on analysis of tertiary sector in a predominantly agrarian economy (Sawhney, 2007). The paper is an attempt to fill this gap.

Analysis

In contrast to overall Indian economy and other states of the Indian union, Punjab has been one of the most prosperous states of India in the past; 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 that led to an uncertain future for the State. Punjab faced a dual problem in the new policy regime: first being the recovery from the dark past and the second being reorienting the system to compete, liberalize and privatize.

Structural Change in terms of Sectoral Shares

The growth pattern of different sectors of the economy is a best indicator of structural change in an economy. Sector-wise gross state domestic product for Punjab is presented in following table 1. The table is indicative of the fact that the contribution of the tertiary sector in gross state domestic product has been on the rise in the recent past. The gross state domestic product that used to be mere Rs. 19.52 thousand crores in the year 1970-71, became Rs. 51.98 thousand crores in 1990-91 and touched the level of near Rs. 164.53 thousand crores in the year 2012-13. Over the last four decades, the gross state domestic product has grown by almost 8 times. At disaggregate level, the GSDP from primary sector that was Rs. 9.09 thousand crores in the year 1970-71, touched the level of 35.90 thousand crore in 2012-13, i.e., rose to an almost 4 times level. Secondary sector has grown, from Rs 3.13 thousand crores in 1981-82 registered the level of Rs. 48.51 thousand crores in 2012.13; a rise of almost 15 times. Tertiary sector that stood at Rs. 7.31 thousand crore has reached the level of 80.12 crore in the same period, which is 11 times of initial period. *Structural change is indicative of the fact that, the secondary and tertiary sectors are fast growing sectors of the economy as compared to the primary sector.*

Temporal and spatial variation in the sector-wise shares is the simplest possible way to represent the structural change in an economy. Sector-wise percentage shares in gross state domestic product at factor cost for Punjab is also presented in table 1. Temporal data covering the last four decades is indicative of the fact that in the beginning of decade of 1970s, share of primary sector was 46.55 percent, followed by tertiary sector share as 37.44 percent and secondary sector share as 16.01 percent, in order. At the onset of decade of 1990s, the share of primary sector came down to 41.28 percent and this fall was shared by the secondary sector and tertiary sector; secondary sector share rose to 19.88 percent and tertiary sector share to 38.84 percent. In the year 2012-13, the tertiary sector has touched the level of 48.69 percent share in the gross state domestic product and the share of primary sector is 21.82 and that of secondary sector is 29.49 percent. *Hence, in terms of contribution to gross state domestic product, the primary sector is losing the share and both secondary and tertiary are gaining the ground. The tertiary sector has become a dominant sector but still in* *terms of national/other state comparisons, Punjab is far behind. Hence, the nature and composition of this tertiary sector needs to be explored in detail.*

Table 3: Sector-wise Gross State Domestic Product for Punjab at Constant Prices (2004-05) in Rs. Crores

Year	Sector						Total GSDP	
	Primary		Secondary		Tertiary			
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1970-71	9088	46.55	3125	16.01	7311	37.44	19524	100
1975-76	10626	44.06	4038	16.74	9455	39.20	24119	100
1980-81	13015	41.30	5149	16.34	13351	42.36	31515	100
1985-86	18035	43.56	7339	17.73	16032	38.72	41406	100
1990-91	21459	41.28	10332	19.88	20191	38.84	51981	100
1995-96	25183	39.23	14839	23.12	24166	37.65	64187	100
2000-01	29396	35.46	19912	24.02	33581	40.51	82888	100
2005-06	31936	31.14	26632	25.97	43988	42.89	102556	100
2010-11	35267	23.88	45441	30.77	66963	45.35	147670	100
2011-12	36022	23.03	46854	29.96	73534	47.01	156411	100
2012-13	35899	21.82	48511	29.49	80115	48.69	164525	100

Source: ESO, Govt. of Punjab, various publications.

In terms of net state domestic product (table 2), the relative position of three sectors is not much different. In terms of contribution to net state domestic product, the primary sector is losing its share and other two sectors are gaining the ground.

Table 2: Sector-wise Net State Domestic Product for Punjab at Constant Prices (2004-05) in Rs. Crores

Year	Sectors						Total NSDP	
	Primary		Secondary		Tertiary			
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1970-71	8348	46.63	2788	15.57	6769	37.80	17904	100
1975-76	9853	44.43	3519	15.87	8802	39.69	22173	100
1980-81	11987	41.48	4396	15.21	12518	43.31	28901	100
1985-86	16850	44.28	6194	16.28	15006	39.44	38051	100
1990-91	20480	42.56	8844	18.38	18801	39.07	48126	100
1995-96	23808	40.86	12563	21.56	21903	37.59	58274	100
2000-01	27714	37.19	16441	22.07	30357	40.74	74512	100
2005-06	32510	33.90	22966	23.95	40426	42.15	95902	100
2010-11	64052	31.70	51384	25.43	86589	42.86	202025	100
2011-12	71801	30.88	58031	24.96	102692	44.16	232524	100
2012-13	80047	30.26	65363	24.71	119128	45.03	264537	100

Source: ESO, Govt. of Punjab, various publications.

Sub-sectors wise shares of tertiary sector in GSDP in Punjab (table 3) are indicative of the fact that in the decade of 1970s, the leading sector in terms of share has been the 'other services' (33.61 percent), followed by 'real estate, ownership of dwelling and business services' (27.71 percent) and 'trade hotels and restaurants' (26.55 percent). In the decade of 1980s, the sub-sector, 'other services', that included professional services and support services, started losing, in terms of share and the decline accelerated in all the following decades. Decade of 1980s also registered a start of a perpetual decline in share of sub-sectors, 'trade, hotels and restaurants' and 'real estate, ownership of dwelling and business services'. In 1980s and the following decades, some sectors that showed a continuous improvement in terms of shares have been, 'transport, storage and communication' and 'banking and insurance'. This has been basically due to the natural momentum of the sub-sectors and demand pull forces generated by the rising income levels in the state.

Social turmoil in the state during 1980s and earlier 1990s decades put the economy in to a crisis. *Investors and entrepreneurs in trade, hotels, restaurants, real estate, ownership of dwelling and business services lost interest in the state and capital out-flight took place in decade of 1980s and earlier 1990s. Activities complementary to these services, the professional services and support services also followed the same path. Social turmoil period witnessed a sharp rise in share of 'public administration' due to heavy public expenditure on police, paramilitary forces and related enormous paraphernalia.*

Table 3: Sub-sectors wise Shares of Tertiary Sector in GSDP, Punjab

Year	Sub-Sectors of Tertiary Sector						Total Tertiary Sector
	TSC	THR	B&I	RE	PA	OTH	
1970-71	4.02	26.55	2.43	27.71	5.68	33.61	100
1975-76	4.15	30.64	2.33	23.05	4.98	34.84	100
1980-81	4.28	31.87	3.12	21.70	8.10	30.93	100
1985-86	5.12	31.02	4.31	21.36	8.19	30.00	100
1990-91	6.11	29.48	6.78	18.84	11.15	27.64	100
1995-96	7.52	29.83	7.84	17.78	10.64	26.38	100
2000-01	11.04	29.50	10.09	14.56	11.92	22.90	100
2005-06	15.38	28.10	11.65	13.03	10.88	20.95	100
2010-11	14.63	25.27	16.96	10.68	10.66	21.79	100
2011-12	14.54	25.30	17.86	10.13	10.35	21.82	100
2012-13	14.22	25.45	18.68	9.73	10.14	21.76	100

Note: Abbreviations used in the table are as follows

TSC: Transport, Storage & Communication
THR: Trade, Hotels & Restaurants
B&I: Banking & Insurance
RE: Real Estate, Ownership of Dwelling & Business Services
PA: Public Administration
OTH: Other Service

Source: ESO, Govt. of Punjab, various publications.

Structural Change in terms Distribution of Workforce

Sector-wise distribution of workforce in Punjab in relation to India is presented in table 4. Throughout the period under consideration, the primary sector continues to be the largest employer of workforce in India and as well as in Punjab. Because of negligible mining and quarrying, primary sector in Punjab is basically the agriculture sector and allied sectors. In the year 1983, the percentage of workforce employed in primary sector was 67.93 percent. In the temporal dimension, it was 53.23 percent in 1999-2000 and went down to 36.45 percent in 2011-12. The decline in workforce employed in agriculture has been faster in Punjab as compared to all India level but still the primary sector continues to be the largest employer. Further, the services sector is the second largest employer and the secondary sector has the least share in the sector wise distribution of workforce over the period 1983-2011. *During the period under consideration, Punjab experienced a greater shift in workforce to the non-agriculture sectors as compared to the country as a whole. It dispels the commonly held myth that Punjab historically being an agricultural economy, has not experienced a major shift of workers outside the primary sector.*

Table 4: Sector-wise Percentage Share of Estimated Workforce

Level	Sectors	Year				
		1983	1993-94	1999-00	2005-06	2011-12
Punjab	Primary	67.93	56.74	53.23	44.90	36.45
	Secondary	12.75	15.63	17.51	22.10	30.52
	Tertiary	19.32	27.63	29.26	33.00	33.03
	Total	100.00	100.00	100.00	100.00	100.00
India	Primary	69.03	64.67	60.41	58.00	49.44
	Secondary	13.76	14.83	16.85	18.80	23.72
	Tertiary	17.21	20.50	22.74	23.20	26.84
	Total	100.00	100.00	100.00	100.00	100.00

Source: NSSO Reports, various issues

Sub sector-wise analysis of tertiary sector for different years (table 5) shows that within tertiary sector from employment share point of view, all the sectors have picked up slightly in the post social turmoil period. Presently, in terms of workforce share, 'trade, hotels and restaurants' sub-sector has the highest share followed by sub-sectors, 'public administration and community services' and 'transport, storage and communication', in order. As compared to year 1983, the share of sub-sector, 'trade, hotels and restaurants', has doubled by year, 1999-2000; after that it has almost stabilized around 13 percent.

Table 5: Sub-Sector wise Percentage Share of Estimated Workforce

Sub-Sector of Tertiary Sector	Year				
	1983	1993-94	1999-00	2005-06	2011-12
Trade, Hotels & Restaurants	6.17	10.45	13.05	13.46	13.57
Transport, Storage & Communication	3.41	3.56	5.10	5.28	5.38
Banking & Insurance	0.91	1.07	1.25	1.56	1.63
Public Adm. & Community Services	7.88	11.57	9.01	9.86	10.23
Other Services	0.95	0.98	0.85	2.84	2.49
Total Tertiary	19.32	27.63	29.26	33.00	33.30

Source: NSSO Reports, various issues

Pattern of workforce within the tertiary sector in Punjab is indicative of the fact that there has not been any drastic change in the percentage distribution of workforce in most of the sub-sectors within the tertiary sector. The largest share in State income now comes from the services sector. From the point of view of employment, though the primary sector still has the maximum share in sector-wise workforce, the share of the tertiary sector in workforce has been increasing over time.

Economic Growth Trajectory and Tertiary Sector

Various curves fitted to long term series state domestic product, as a function of time, show that GSDP of Punjab follows the exponential trend (R^2=0.997). Hence the exponential curve of SDP and time is the best measure of long-term expected growth trajectory of the state. This expected trajectory can be compared with actual SDP series trajectory to identify the critical time points in the development of the State. GSDP series in comparison to linear and exponential trend are presented in graph (Appendix Graph 1). Growth trajectory of the state shows that there have been three critical points and the four periods in the development trajectory of the state: (a) the Green Revolution take off period (up to 1980-81); (b) social turmoil period (1980-81 to 1994-95); (c) Recovery from social turmoil period (1994-95 to 2006-07); and take off period (2006-07 onwards). Growth trajectory of NSDP series (Appendix Graph 2 and 3) also follows the exponential trend. Plotting of long term NSDP along with exponential trend of the same shows that social turmoil heat was realized by the NSDP in 1981-82 and take off period by the year 2006-07.This is almost in consonance with what we identified with curve analysis of GSDP series. This periodic analysis of the data can help us to capture the finer dynamics of the system.

The long term growth rate of state domestic product of Punjab has been 5.08 percent per annum (table 6). On the onset of Green revolution, in Punjab, the GSDP grew at the rate of 5.28 percent per annum. As expected, the growth engine was the primary sector that grew at the rate of 6.07 percent per annum. It was followed by secondary sector (5.53 percent per annum) and tertiary sector (4.48 percent per annum), in order. In the social turmoil period, the growth rate of GSDP went down to 4.88 per annum and the growth of secondary sector was the highest (7.04 percent per annum) followed by primary sector (4.65 percent per annum) and tertiary sector (4.08 percent per annum), in order. During the post social turmoil period annual growth rate of GSDP touched the lowest level of 4.46; except slight improvement in the tertiary sector rest of the system faced a slow down. Slight improvement of tertiary sector has been partly due to Pay Commission pay hike during this period. Commonly held opinion is that, during social turmoil period, there was out flight of capital and labour from the state. Secondary sector, due to its very nature, could not wind up and ran overnight to another destination. Heavy fixed capital and tight networking of debtors and creditor did not allow the industry to migrate immediately; rather, it tried to adjust itself to disturbed period, by adjusting working hours, dis-saving and maintaining the system even at a heavy transaction cost. Industry faced a crisis on multiple fronts. Supplies on credit from other states got affected adversely and other state customers and suppliers curtailed visiting Punjab. Banking, insurance coupled with transport and communication growth provided the required short run cushion to the industry to stay in the State. Another saving grace has been that due to tough state administration and adverse environment in the state the unionism and the resulting strikes and lockouts have also been negligible during this period.

Table 6: Sector-wise Growth Profile of GSDP and NSDP in Punjab Economy

Period/Item	Primary	Secondary	Tertiary	Total
GSDP				
Green Revolution Take off	6.07	5.53	4.48	5.28
Social Turmoil	4.65	7.04	4.08	4.88
Post Social Turmoil	2.34	5.19	5.91	4.46
Recovery	1.40	6.62	9.10	6.37
All	3.65	6.76	5.40	5.08
NSDP				
Green Revolution Take off	4.50	5.80	6.13	5.36
Social Turmoil	4.91	7.04	3.85	4.86
Post Social Turmoil	2.53	4.96	5.73	4.36
Recovery	12.93	13.91	16.61	14.74
All	4.79	7.27	5.95	5.76

Source: Calculated from ESO Publication, various publications

The growth trajectory is indicative of the fact that secondary sector tried to sustain the higher growth rate even during the social turmoil but got shaken due to prolonged disturbance; much of the slowdown came in post social turmoil period. On the other hand, the services by their very foot loose nature started withdrawing immediately, as soon as the disturbance started in Punjab. It is during the recovery period that the economy has registered the growth of 6.37 percent per annum and industry and services have registered an annual growth rate of 6.62 percent and 9.10 percent respectively.

Within tertiary sector, a look on the temporal behavior of subsectors (table 7) is indicative of the fact that during Green Revolution take off decade, ‘banking and insurance’ grew at the rate of 9.41 percent per annum and during disturbance period; its growth rate was

10.05 percent per annum. In the post social turmoil period, it suffered a slight reduction in terms of growth rate. Same is the behavior pattern of 'transport, storage and communication'.

Table 7: Sub-Sector wise Growth Profile of Tertiary Sector in Punjab

	Transport, Storage & Communica-tion	Trade, Hotels & Restaurants	Banking & Insurance	Real Estate, Ownership of Dwelling & Business Services	Public Adm.	Other Services
Green Revolution Take off	6.37	7.93	9.41	1.76	7.31	4.69
Social Turmoil	7.53	3.28	10.05	2.54	8.57	2.94
Post Social Turmoil	14.99	5.40	8.08	2.74	6.02	3.54
Recovery	7.21	7.73	15.51	4.32	8.58	10.21
All	9.52	4.96	10.83	3.10	7.52	3.88

Source: Calculated from ESO Publication, various publications

Hence, during social turmoil, the industry by its very nature did not fly out to other states immediately during the disturbance period, but it could not sustain in the legacy of turmoil period for a long time. The service sector activities like banking, finance, insurance, transportation and communication maintained their pace during and after disturbance and provided a short term cushion to the struggling secondary sector. Due to social turmoil in the state, the public administration system grew slightly fast. Services like trading, hotels, restaurants, professional and supportive services reduced their operations or migrated out. Now the state has entered in to a higher growth trajectory and the tertiary sector and secondary sector are leading the growth.

Effect of social turmoil is clearly visible on the banking sector. Credit is the backbone of tertiarization and credit-deposit ratio (table 8) is the best approximation of banking operations in a region. Although, the credit-deposit ratio in Punjab has improved a lot during the last decade but it remained slightly subdued in the decade of 1980s and 1990s. It was just 38.6 percent in year 1980 and is 71.1 percent in year 2010. So, in the social turmoil period credit also shied away from the region.

Table 8: Credit-Deposit (C-D) Ratio in Punjab

Years	CD Ratio in Punjab
1980	38.6
1985	44.6
1990	45.5
1995	41.4
2000	39.4
2005	50.1
2009	65.5
2010	71.1

Source: Statistical Tables Relating to Banks in India, Reserve Bank of India (various issues)

As per development economics, investment-GDP ratio is the best determinant of growth and development of a region. Table 9 shows the ratio of investment to GDP in Punjab in comparison to all India. In the year 1980-81, the investment-GDP ratio that was mere 15.6 percent, rose to 21.6 percent in 1985-86 and then to 24.2 percent in 1989-90. Later, 1989-90 onwards, there has been a continuous decline in investment GDP ratio with minor exceptions. Investment-GDP ratio that has been 20.6 percent in 2001-02 went down and has been 14.5 percent in year 2009-10. Throughout the period under considerations, it has been much lower than the national investment-GDP ratio. Presently, the national investment-GDP ratio is 2.5

times of that of Punjab. *Punjab model of development, with social turmoil further compounding its negatives fallouts, lead to the either out-flight of capital or the capital shied away from it. This is what explains the cause of poor industrial base and under-grown tertiary sector.*

Table 9: Investment-GDP ratio in Punjab in comparison to all India

Years	Investment GDP Ratio (%), India	Investment GDP Ratio (%), Punjab	Gap (%) (India-Punjab)
1980-81	15.3	15.6	0.3
1985-86	22.8	21.6	1.2
1989-90	25.0	24.2	0.8
1990-91	27.1	23.1	4.0
1991-92	23.6	22.0	1.6
1992-93	22.0	21.1	0.9
1993-94	22.4	22.4	0.0
1994-95	25.4	22.9	2.5
1995-96	26.6	30.9	-4.3
1996-97	24.0	18.9	5.1
1997-98	25.3	20.5	4.8
1998-99	23.3	20.1	3.2
1999-00	25.9	16.9	9.0
2000-01	24.3	20.6	3.7
2001-02	24.8	20.9	3.9
2002-03	25.2	16.2	9.0
2003-04	27.6	16.1	11.5
2004-05	32.7	19.5	13.2
2005-06	34.3	19.1	15.2
2006-07	35.5	19.9	15.6
2007-08	37.7	16.8	20.9
2008-09	34.9	15.4	19.5
2009-10	36.5	14.5	22.0
20010-11	38.2	15.1	23.1

Source: Statistical Abstract of Punjab, various issues

Spatial Distribution of Tertiary Sector

Spatial distribution of tertiary sector in relation to other sectors gives the nature and extent of tertiary sector development in a region. A look on table 10 and appendix graph 4, shows that tertiarization in Punjab is not evenly distributed in the state. Districts like Moga, Sangrur, Barnala and Ferozepur have a very low share of tertiary sector share in the district domestic product; it is 32.13 percent, 33.66 percent, 34.32 percent and 36.00 percent, respectively. Amritsar has the highest level (51.00 percent) in terms of tertiary sector share in district domestic product. It is followed by Roopnagar (49.82 percent), Gurdaspur (46.43 percent) and Jalandhar (45.90 percent) in order. *Spatial distribution of tertiary sector shows that developed regions, with better economic and social infrastructure have a higher share of tertiary sector in domestic product and vice-versa. Much of the development and resulting tertiary sector development has taken place in already developed regions and somehow, the backward regions, especially a major chunk of Malwa region is still low on ladder of tertiarization.*

Table 10: Spatial Distribution of Tertiary Sector Share in Punjab, 2010-11

Sr. No.	District	Sector			
		Primary	Secondary	Tertiary	Total
1	Gurdaspur	33.58	19.99	46.43	100
2	Amritsar	26.69	22.31	51.00	100
3	Tarntaran	41.72	18.62	39.67	100
4	Kapurthala	36.39	23.60	40.01	100
5	Jalandhar	22.49	31.61	45.90	100
6	SBS Nagar	26.34	39.06	34.60	100
7	Hoshiarpur	31.38	26.23	42.39	100
8	Roopnagar	27.86	22.32	49.82	100
9	SAS Nagar	26.78	30.26	42.96	100
10	Ludhiana	20.85	38.98	40.17	100
11	Firozepur	49.85	14.15	36.00	100
12	Faridkot	42.86	15.09	42.05	100
13	Mukatsar	46.24	12.85	40.91	100
14	Moga	32.75	35.12	32.13	100
15	Bathinda	43.65	15.77	40.58	100
16	Mansa	49.01	13.86	37.14	100
17	Sangrur	43.00	23.33	33.66	100
18	Barnala	45.53	20.16	34.32	100
19	Patiala	32.55	24.10	43.35	100
20	Fatehgarh Sahib	33.59	25.38	41.03	100

Source: Statistical Abstract of Punjab

Linkage Analysis of Tertiary Sector

The shift in composition of SDP has lead to specific pattern of inter-sectoral production and demand linkages. The study of inter-sectoral linkages is need of the time so that the positive growth stimuli among sectors could be identified and fostered to sustain the economic growth momentum. The production linkages or backward linkages among various sectors of an economy basically arise from inter-dependence of sectors, for meeting their productive input needs. Output linkages or forward linkages give the pattern of output disposition among the sectors. The analysis of *backward linkages* (table 11) is indicative of the fact that to produce one unit worth of output, in the year 1968-69, *tertiary sector* required 0.0253 unit worth of input from primary sector, 0.2234 from secondary sector and 0.1389 from itself. That is for input requirements tertiary sector depended more on secondary sector and on itself; and its dependence on primary sector has been the least. Input dependence of tertiary sector has been biased more towards secondary sector than towards primary sector. The demand linkages or *forward linkages* of *tertiary sector* have been the highest with itself, followed by secondary sector. Its forward linkage with primary sector has been very week. Analysis of linkages of tertiary sector is indicative of the fact that emerging tertiary sector in Punjab economy is loosely connected to agriculture sector on the backward and forward front. This requires a further in-depth disaggregate analysis, fortified with a wider database, to derive some finer conclusions regarding the viability of such a skewed pattern of linkages in an agrarian economy.

Table 11: Sectoral Linkages of Tertiary Sector, 2006-07

Sector	Backward Linkage	Forward Linkage
Primary	0.0253	0.03818
Secondary	0.2234	0.36024
Tertiary	0.1389	0.61213

Source: Calculated from Singh and Singh (2011)

Conclusion

Hence to sum up, we can say, the poor developed tertiary sector has its roots in the social turmoil period of late 1980s and early 1990s. Over emphasis on agriculture and because of the social turmoil, required pre-conditions for tertiary sector revolution could not be created. State has lagged behind in the transition to service economy. There is an ample scope to improve the economic growth via tertiary sector growth, provided the proper human resource planning and integration of tertiary sector with commodity sector is done. In this context following are the policy implications.

a) Tertiary sector growth and its translation into higher per capita income growth is a function of human capital. The state with poor human capital need to develop it and improve the efficiency of the labour, if the benefits of the tertiary sector led growth are to be obtained.

b) A massive and sustained investment in human resource development is need of the time. The education, health and economic opportunities system need to be revamped thoroughly.

c) Economic Infrastructure, especially related to transportation needs to be upgraded. In this regard, because of paucity of resources with the state, public private participation needs to be explored.

d) Special packages, in the form of technology parks and economic zones need to be perceived to attract the corporate investment.

e) Being an active border State and food bowl of the country, some special Union budget allocations for improving the investment base are required.

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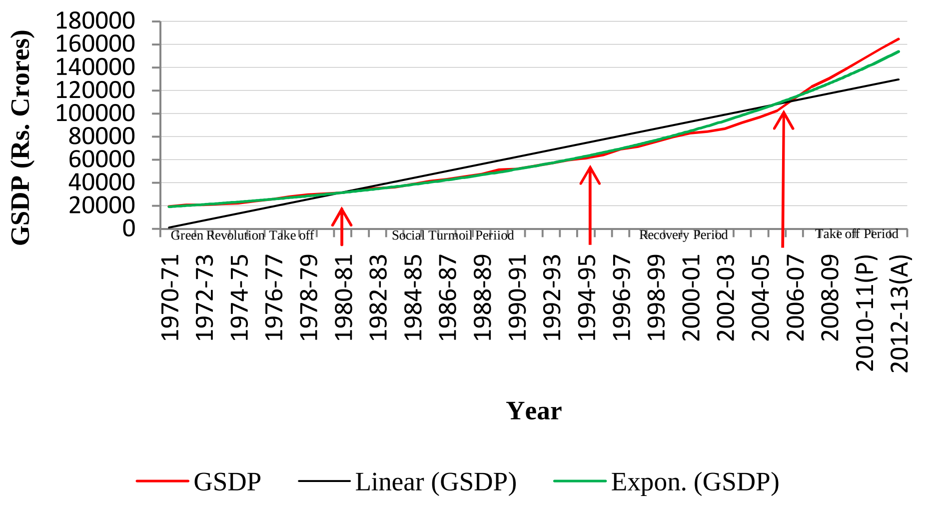
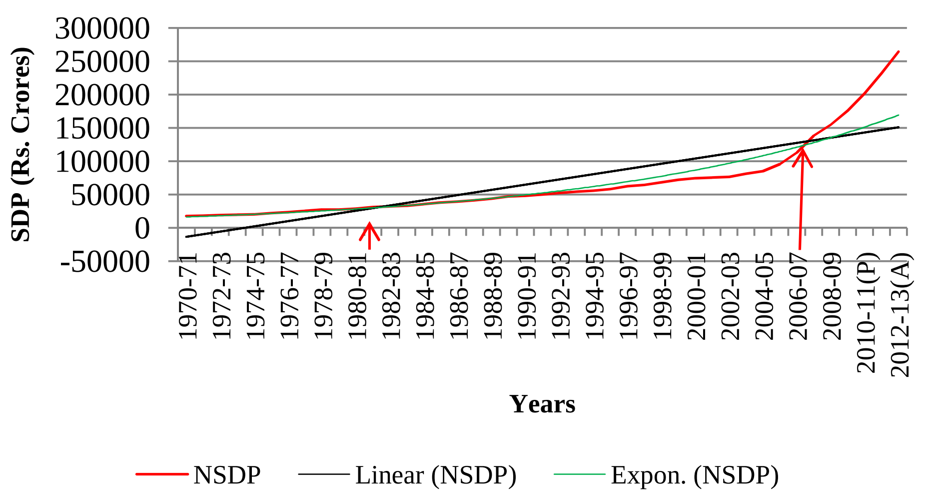
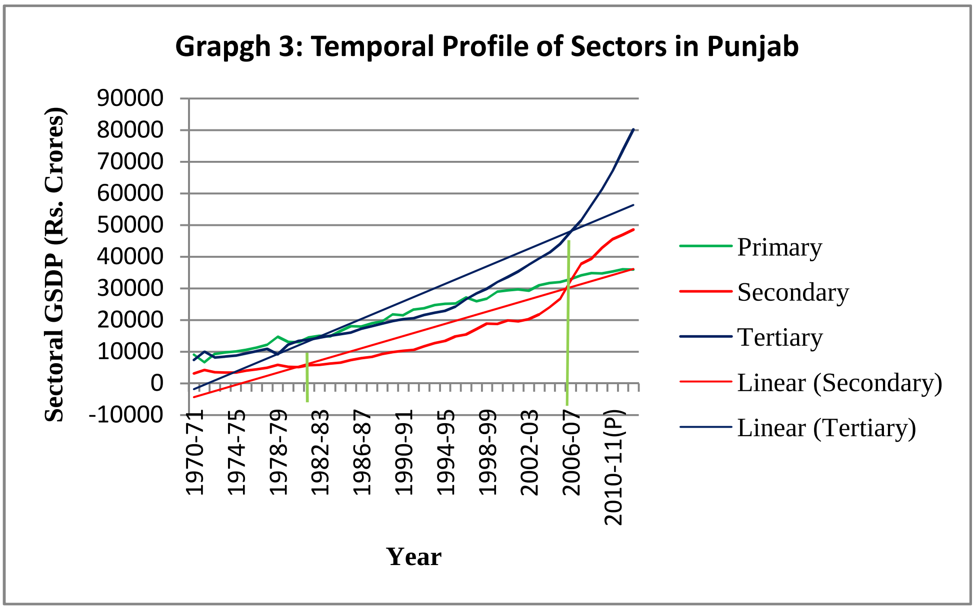
Appendix Graphs

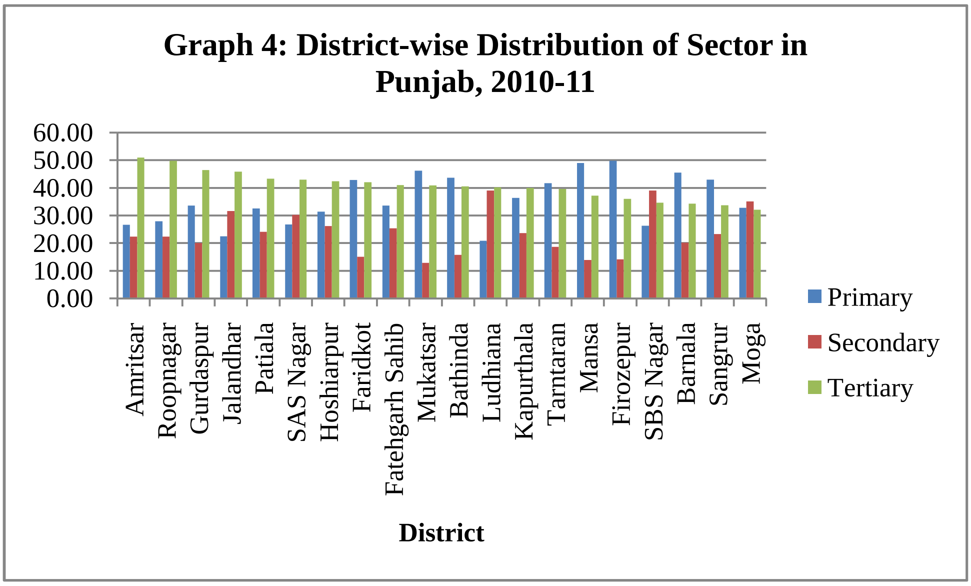
Graph 1: Growth Trajectory of GSDP, Punjab



Graph 2: Growth Trajectory of NSDP, Punjab




Grapgh 3: Temporal Profile of Sectors in Punjab
Sectoral GSDP (Rs. Crores)
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
-10000
1970-71
1974-75
1978-79
1982-83
1986-87
1990-91
1994-95
1998-99
2002-03
2006-07
2010-11(P)
Year
Primary
Secondary
Tertiary
Linear (Secondary)
Linear (Tertiary)


Graph 4: District-wise Distribution of Sector in Punjab, 2010-11
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Amritsar
Roopnagar
Gurdaspur
Jalandhar
Patiala
SAS Nagar
Hoshiarpur
Faridkot
Fatehgarh Sahib
Mukatsar
Bathinda
Ludhiana
Kapurthala
Tarntaran
Mansa
Firozepur
SBS Nagar
Barnala
Sangrur
Moga
District
Primary
Secondary
Tertiary

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