Analysing the Structural Change and Growth Relationship in Haryana

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Certificate

Declaration

I, hereby declare that the research work embodied in this dissertation entitled **"Analysing the Structural Change and Growth Relationship in Haryana"** has been carried out by me at the Department of Economics, Central University of Haryana for the partial fulfillment of the requirement for the award of the degree of Master of Philosophy in Economics. This is a record of original research work done by me under the supervision of Dr. Ranjan Aneja, Assistant Professor, Department of Economics, Central University of Haryana. The dissertation has been subjected to plagiarism check and the work is submitted for consideration of award of M.Phil Economics. The content of this dissertation has not been submitted so far in part or in full for any degree or diploma in any other institution.

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(Parveen Ranga)

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ABBREVIATION

CFC	Consumption of Fixed Capital
CSO	Central Statistical Organization
DBH	Department of Building and Housing
DES	Department of Economics and Statistical Analysis
EAG	Empowered Action Group
EEI	Economic Efficiency Index
ESI	Ecological Security Index
GSDP	Gross State Domestic Product
MLI	Multi Lilien Index
NAV	Norm Absolute Value
NAV	Norm Absolute Value
NSSO	National Sample Survey Organization
NSDP	Net State Domestic Product
NAV	Norm Absolute Value
NSSO	National Sample Survey Organization
OLS	Ordinary Least Squares
PCI	Per Capita Income
PDS	Public Distribution System
SEI	Social Equity Index

SSB	State Statistical Bureaus
TFE	Tractors and farm Equipment
TFP	Total Factor Productivity

Chapter 1

Introduction

Chapter 1

Introduction

1.1 Introduction

The economic structure and sectoral composition is very significant for economic growth of an economy (Lewis, 1955). It plays a fundamental role in changing of economic growth sector and portion.

It is urged by various studies that development economics emphasizes on the linkage between structural changes and economic growth of any economy. The structural change is an economic condition that occurs when the shares of growth transform from primary sector to secondary and tertiary as well. In other words the structural change refers to the transformation into the three different individual sector's composition of growth in the economy. It has been observed over a long period that as economic development occurs, economies tend to undergo structural changes, moving away from a predominant reliance on primary industries as the source of a nation's wealth to secondary and tertiary sector (Kuznets, 1979).

1.2 Theoretical Background of the Structural Change

Pioneer growth theories tried to provide analytical underpinning for the growth process while influential empirical works tried to establish empirical regularities across developing countries in the pattern of structural change associated with growth. Economic growth implies the change in per capita income while economic development means summation of economic growth and change. Here changes may be welfare or

distributional change. The structural models focus on how the structure of the economy changes with the development. Lewis (1954) and Fei-Ranis (1964), the theory provides solution to the excess labour supply in the developing nations. The theory states that with the movement of labour from rural to urban sector, the traditional society transforms into the modern society. The theory assumes a dual economy that is co-existence of agriculture traditional sector and industrial manufacturing modern sector. Development of the economy takes place due to transfer of labour from agriculture to industrial sector. As a result of movement of labour from traditional to modern sector, the capital in the latter accumulates and output expands, thus leading the economy towards development. According to Harris (1970) and Todaro (1969), labor migrated from rural sector may remain unemployed even after going to urban sector. Migration decision is influenced by the expected urban rural income differentials rather than the actual differentials. Decision of migration is financially and psychologically made. Rostow (1960) growth theory described the five different stages of economic growth and shows that how any country ensures growth or transformations.

Hence structural transformation has been emerged a key inductor to arises the economic growth of the economy. It has already observed in various branches and from the expenses of many developed nation that how shift of sectoral share and GDP from agriculture to other sector has uplifted the growth. India also experienced the more or less same phenomena during the last 60 years of growth the share of agriculture is continuously declining while share of other sectors is increasing.

However it will be more interesting to see how this sectoral change structural transformation is taking place at micro level i.e. state level externally in such states where

agriculture is mainstream. Haryana is one of fastest growing state in India and it would be very prominent to understand how the structural changes are taking place in Haryana. Before developing and understanding the state level change in Haryana, it would be important to discuss the overview of structural change that took place in India since independence.

1.3 Overview of Structural Change in India

The planned growth rate (%) of the Indian economy over the period of 1951-56 to 2012-17 is shown in table 1.1. During 1951-56 the growth of primary sector was 2.71, secondary sector grew at 5.54 and growth of tertiary sector was 4.17. Actual achievement was 3.60 against the targeted 2.10. During the Second FYP the growth of primary, secondary and tertiary sector was reported 3.15, 5.59 and 4.94 percent annually respectively. During 1961-66 primary sector grew at 3.15, secondary 5.59 and tertiary sector grew at 4.94 percent. Actual growth of FYP was 4.10 against the targeted 4.50.The similar kind of behavior of growth can be further observed in the FYPs as shown in table. Indian economy came across from the many stages of growth and development. The structural changes that move countries through the development process are often viewed in terms of shifts from primary to secondary and finally to tertiary sector.

Table 1.1: Planned Growth Rate (%) of the Indian Economy

		Growth Rate				
FYP	Period	Primary	Secondary	Tertiary	Actual in (%)	Target
First FYP	1951-56	2.71	5.54	4.17	3.6	2.1
Second FYP	1956-61	3.15	5.59	4.94	4.1	4.5
Third FYP	1961-66	-0.73	6.28	5.26	3.4	5.6
Fourth FYP	1969-74	2.57	4.91	3.22	3.2	5.7
Fifth FYP	1974-79	3.28	6.55	5.66	5.1	4.4
Sixth FYP	1980-85	2.52	5.32	5.41	5.4	5.2
Seventh FYP	1985-90	3.47	6.77	7.19	5.8	5

Eighth FYP	1992-97	4.68	7.58	7.54	6.5	5.6
Ninth FYP	1997-02	2.06	4.51	7.78	5.6	6.5
Tenth FYP	2002-07	2.5	8.2	9.3	7.6	8
Eleventh FYP	2007-12	3.2	7.4	8.2	7.8	9
Twelfth FYP	2012-17		9% (Revised 8)			
Source: Economic Survey of India 2016-17				**Note:** FYP- Five Year Plan		

Technical progress is seen as crucial in the process of structural change as it involves the obsolescence of skills, vocations, and permanent changes in spending and production resulting in structural unemployment. After independence, Indian economy has also experienced such changes.

The share of primary sector in GDP at factor cost (at 1999-2000 prices) which was 56.5 per cent in 1950-51 declined to 34.6 per cent in 1990-91 and further declined to 11.87 % in 2013-14.

The secondary sector's share in GDP was 13.6 per cent in 1950-51 increased to 23.2 per cent in 1990-91 and further increased up to 26.13% in 2013-14. It can be observed that there is very small change in sectoral share originating from secondary sector.

The declined share of agricultural sector has been shifted to tertiary sector, consequently the share of this sector increased from 29.9% in 1950-51 to 59.93% in 2013-14.

The sectoral shift shows that experience of Indian economy is unique. In India, the service sector has grown by bye-passing the secondary sector. For the design of developments strategy for any economy has two basic objectives, i.e., economic growth and creation of employment opportunities. In most of the countries of the world the service sector plays a significant role in the expansion of both GDP and employment. In

India the service sector has failed to play any significant role in employment generation. In India, we see that the share of the services sector in GDP has lately increased dramatically. This has led to an interest in examining this growth. The share of the primary sector in GDP is declining and those of the secondary and tertiary is growing over the years. The share of tertiary sector has been large to begin with and over the years it has become the highest contributor to GDP displacing the primary sector. The share of the workforce in the primary sector has remained high. The tertiary sector's share in the workforce has increased but it has not been able to displace the primary sector's position in this regard. Thus, in terms of employment the primary sector remains the sector which provides the maximum employment.

More or less the similar behavior has taken place at regional level in India. The share of almost all states has been shifted to tertiary sector in respective GSDP of the states. The experience of sectoral share of Haryana has been discussed as follows:-

1.4 Sectoral Change in Haryana

To further understand the trends in the three sectors of Haryana's economy the annual sectoral rates of growth for 2004-05 to 2013-14 have been compared to the all India rates in below table. The agriculture and allied sector has registered a negative growth during 2005-06, 2007-08, 2009-10 and 2012-13 in Haryana whereas the growth rate in this sector has remained positive during the corresponding years at the all India level. Further, on an average the rate of growth of this sector in Haryana has remained higher than the national average and the rate of growth has shown sharp fluctuations that are not evident in the national data. These adverse trends indicate increasing fundamental weaknesses in

the primary sector in Haryana in the past decade. This also indicates a relative slowing down of the development in rural Haryana.

Table 1.2 Sector wise rates of Growth 2004 to 2014 (In Per cent)

Period/Year	Primary Sector (Agriculture, Allied)		Secondary Sector (Industry)		Tertiary Sector (Services)	
	Haryana	India	Haryana	India	Haryana	India
2004-05	3.37	-0.05	10.69	10.34	9.81	9.14
2005-06	-1.81	5.14	8.49	9.72	15.51	10.91
2006-07	14.15	4.16	9.22	12.17	11.32	10.06
2007-08	-0.06	5.80	6.59	9.67	13.62	10.27
2008-09	7.21	0.09	3.50	4.44	11.57	9.98
2009-10	-1.45	0.81	11.41	9.16	17.00	10.50
2010-11	5.22	8.60	5.60	7.55	9.15	9.67
2011-12	7.86	5.02	4.88	7.81	9.82	6.57
2012-13	-0.58	1.42	4.43	0.96	7.94	6.96
2013-14	3.06	4.71	4.43	0.35	9.39	6.78

Source: Directorate of Economics and Statistics Haryana

The manufacturing sector in Haryana has shown a rate of growth lower than the national average in six of the ten years under reference on the other hand the growth in the tertiary sector in Haryana has been impressive in the past decade registering higher growth than the national average in each year. It is however worth mentioning that this growth in the tertiary sector is localized and broadly confined to the areas surrounding the national capital. Thus, issues of regional disparity in growth have remained largely unaddressed.

In this study the GSDP (at factor cost) data since 1980s is used. To make GSDP series

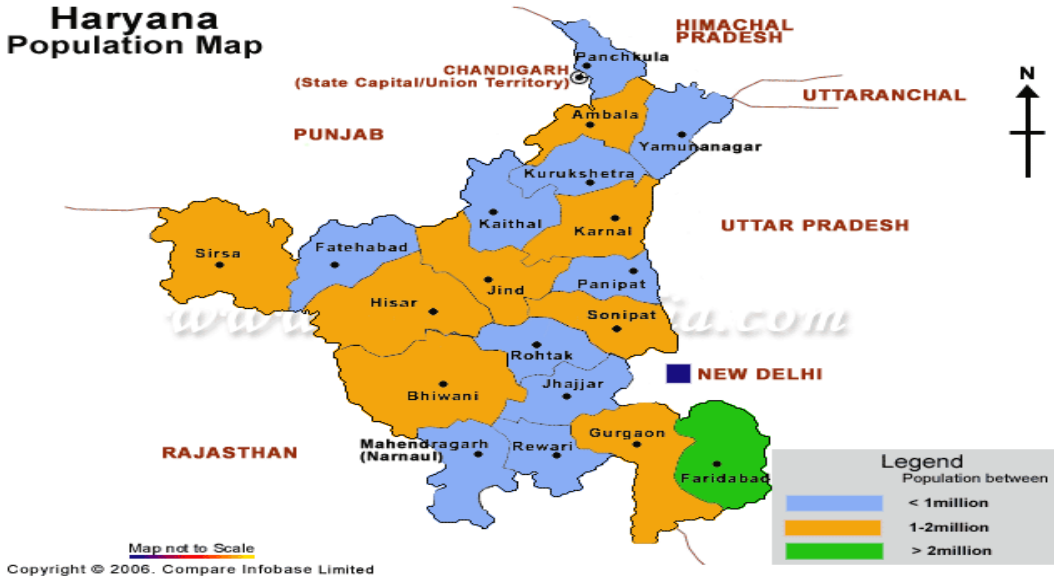
comparable across time, the splicing technique is used. The decadal growth rate of different economic sectors in Haryana compares it with the all India average. It is evident from the table that Haryana has been consistently performing better in terms of GSDP growth than all India average in the last three decades beside the decade of 1990-2000. The overall GSDP growth of the state for last three decades (1980 to 2010) has been more than 6.8 percent per annum higher than that of all India average. However, in the second decade in 1990s the growth rate of GSDP in the state was slightly lesser than that of the all India average. The state has seen 9 percent GSDP growth per annum in the last decade. At disaggregate level, the growth rate of tertiary sector has been the highest both in Haryana and all India. While tertiary sector in Haryana has grown at an annual rate of 9.2 percent during the last three decades, the corresponding figure for all India has been 7.7 percent per annum. For both Haryana and all India, Industrial sector was the top performers in 1980s while service came to prominence since 1990s. The further disaggregation of tertiary sector shows that there is considerable variation in growth among subsectors of services. Banking and insurance has been the top in growth rate among sub sectors in service followed by transport and communication for both Haryana and India for the last thirty years.

1.5 Economic Profile of Haryana

Present state of Haryana, as a separate unit of Indian union, comes into existence on November 1st, 1966 as a result of bifurcation of the state Punjab. The geographical area of Haryana is spread over 44212 sq. km which makes Haryana the 21st biggest state in India by area. As provided by the census report performed in 2011, the population of the

state is 25,353,081 or 25 million making it the 18th most populated state in India. The person of the state mostly speaks Haryanvi.

Haryana is located in the northern part of India that constrained by Uttar Pradesh in the east, Punjab in the west, Himachal Pradesh in the north and Rajasthan in the south. Delhi is national capital that succeeding in Haryana. Haryana establishes the elbow room 30.30 north and dimension 74.60 east. Most part of Haryana area is in the plain with the Aravali mountain range spread in part of south-east Haryana. The Yamuna is the only major river that passes through this small state, flows along the eastern boundaries, which is one of the greenest parts in the country. There is a very good web of canals throughout the state, giving it the much-needed impulse for agriculture, the backbone of Haryana's economy. The antique Saraswati River is said to have flowed from Yamunanagar, but now Saraswati River has been abandon.



Source: Department of Economics and statistical analysis, Haryana

As per the 2011 census 65 percent of its population of is rural and 35 percent live in urban areas. The male literacy rate is 84 percent where as the female literacy rate is 66 percent. Haryana's contribution to India's Gross Domestic Product (GDP), taken at constant prices (2004-05) was 3.5 percent as per the year 2013-14. The Department of Economic and Statistical Analysis, Haryana (DESA) prepares the estimates of Gross State Domestic Product (GSDP). As per the Advance Estimates for the year 2016-17 the GSDP of the State at current prices has been recorded a 5, 47,396.06 crores recording the growth of 12.8 percent over the previous year. The GSDP in 2016-17 is expected to reach at the level of 4, 34,607.93 crores with the growth of 8.7 percent at constant (2011-12) prices. The real growth of 8.7 percent recorded in GSDP of the State in 2016-17 is higher than the all India GDP growth of 7.1 percent. The structural composition of the state's economy has witnessed progressive changes since the formation of the state. The relative share of agriculture and allied activities has fallen from 60.7 percent in 1969-70 to 16.30 per cent in 2011-12. During the same period, the relative share of industry and service sector has registered a higher contribution of 29.1 percent and 54.6 percent respectively, compared to 17.1 percent and 21.7 percent in 1969-70: In spite of this agriculture is the predominant occupation of the people and the state is one of the agriculturally advanced states in India. Population below poverty line is 14 percent as against to national average of 27.5 percent.

Per Capita Income (PCI) is defined as the income per person in monetary terms. It is the net state domestic product at current prices divided by the population of the state. The PCI for Haryana has remained higher than the nationwide Per Capita Income from 2004-05 to 2013-14. In 2013-14, Haryana's PCI was about Rs1.33 lakhs while the nationwide

average was about Rs74, 000. What however is important is that the growth in Haryana PCI has been fluctuating as compared to the growth in national Per Capita Income. Income per capita is a measure of the amount of money earned per person in a certain area. It can apply to the average per-person income for a city, region or country, and is used as a means of evaluating the living conditions and quality of life in different areas. It can be calculated for a country by dividing the country's national income by its population.

According to the white paper, the growth rate in Per Capita Income of Haryana during 2005-06, 2007-08 and 2010-11 remained below the national growth rates. Thus, the unstable characteristics of Haryana's Gross State Domestic Product (GSDP) growth in the last decade are also reflected in the growth of the state's Per Capita Income.

1.6 Rationale of the study

Primary importance of the study is to provide the quantified information about performance and analyzing the structural change and growth relationship in Haryana and the relationship of per-capita income and sector share in domestic product with economic growth of Haryana. This study will provide such information to a group of academia, Government and other organizations. A part of quantified economic information enables such groups to make better decisions for future long or short term plans related to the economic growth. It will be helpful for the further research for the researcher and the expert analysis in various organizations to stimulate the growth rate of Haryana.

1.7 Objectives of the study

After reviewing several studies with their theoretical and empirical robustness, this study has been prompted to analyses the following objectives:

1. To study the recent trends in per capita income and sector share in state domestic production of Haryana.
2. To construct the NAV and MLI indices of structural change in Haryana.

1.8 Organization of the study

The content of this study have been organized in to six chapters. Characterization scheme is outlined as under: Chapter one consists introduction, theoretical background of the structural change, over view of structural change. There is economic growth and inter district Income inequality in Haryana, economic profile of Haryana, rational of study and Objective of the study. Chapter two consists of literature review. Apart from introduction, there are reviews of research gap in this chapter. Chapter three devoted to research methodology which consists of data collection and estimation methods. In this study chapter four outlines the trend and pattern of growth of state domestic product in Haryana. Chapter five consists of structural change and growth relationship in Haryana and at last the sixth chapter devoted for the major findings, conclusion and policy implications.

Chapter -2

Review of Literature

Chapter 2
Review of Literature

2.1 Introduction

Review of literature is one of the vital parts of research as it gives the researcher a proper guideline and subject knowledge in depth for the respective topic. It helps in understanding the techniques and methodology used in the similar studies and finally helps in drawing the research gap which guides the research throughout the research process.

Singh (1980) found that even though the green revolution was ushered in Punjab in the mid-sixties, the condition of agricultural laborers in Ludhiana district had not improved because a large section of them was still living below the poverty line.

William (1985) tried to examine the relationship between imports and regional growth in the northeast. The tariff rates, both nominal and effective, are considered as evidence of national policy that may have benefited this particular region. The findings are that particular industries do benefit from tariff protection, but their location is due to regional resource advantages.

Chandrasekher (1988) observed in his study that the aspects of growth and structural changes in India industry and suggested that industry serving as an engine for a new egad of growth. He reviewed first decade of economic planning creditable performance of Indian industry sector and found that after 1965, the economy entered a phase of secular stagnation. He indicated public sector as a main pillar of economic development and Indian Industry developed significantly during 1950-65 with its help. He concluded by

suggesting that public investment is most important indicator of industrial structural change.

Williams (1991) in his study has tried to measure the extent to which recent increases in the aggregate poverty role are attributable to the changing distribution of employment across industries. He decomposed the total poverty rate change over the 1976-1983 period into components attributable to changes in employment shares and changes in the incidence of poverty within industries,. His results show that the poverty rate increased resulted primarily from the decline in employment rates in general and from increased in the incidence of poverty within all industries, rather than from the shift of employment opportunities between sectors. The results suggest that when the impact of such change includes the decrease in employment in the population, employment shifts contributed to 25% or 30% of the poverty rate increase. When the analysis is limited to employed individuals, however, employment shifts made little or no contribution. This increase results primarily from in increased to the incidence of poverty in all industries, good-producing and service-sector alike.

Sandesara (1993) has studied modern small industrial unit along with data from the first census, this paper attempts to highlight some aspects of growth and structural change in modern small industry over the 15years period between 1972 to 1987-88, the reference years of the two censuses. The focus was on growth and six, structural change, closures and impact of the policy of reservation. It needs to be noted here that increase in labour productivity has not only been more than that in capital productivity, but also more than that in capital-intensity. This conclusion, seen in the content of what he has said above on

productivity, suggests that as purveyor of employment, modern small industry will play only a modest role in future.

Venkataratnam (1996) highlighted mainly tripartism and structural changes. He divided his study in three parts structural changes in Indian economy, rejuvenation of Tripartism in the contest of structural changes, and performance pitfalls and prescription. He found that steel export has picked up and cement industry, which used to be net importer, became net exports. During the period from 1951 to 1991, major foreign direct investment came from USA and UK. He also discussed industrial financial reconstruction, sick industrial companies (special provisions) Act 1985 and changes in labor welfare the study carried out widening regional disparities in the past adjustment period. He pointed out the reduction in industrial conflict. He concluded that the Indian economy shows positive signs on most measures including growth rate, Inflation, employment and foreign exchange rate.

Balkrishnan (2000) in his study explained the monetary changes with regards to development and welfare. The paper has imagined more with a view to bringing up fundamental issues than giving complete arrangements. He concurred that Indian agribusiness shows up twice honored. Not exclusively do agrarian makers get appropriations obvious on account of manures and undetectable if there should arise an occurrence of water and power, yet they don't pay coordinate duties as do mechanical firms. Further, he says, on the off chance that we need to investigate the things about how agribusiness has reacted to the adjustments in the financial approach administration, and afterward there is have to focus a horticultural yield alone. He clarified the citations in addresses of business analysts and initial clarification of farming development and open

welfare. To survey the agrarian development he mulled over two primary factors, yield and cost. He found, the 1980's demonstrated an ascent in the rate of yield development, the extensions in the high yielding assortment, watered range and open speculation have all indicated with respect to their pace of extension in the 1970's. He concentrated likewise on welfare of non-agribusiness populace. The creation is the poor measure of welfare which is truly what we are at last intrigued by. According to Researcher, an evaluation of the Public Distribution System in relation to the overall requirement for found security would reveal that its role is quite limited constitutionally even a widespread coverage of the PDS cannot take away from the fact that the prevention of inflation is after all a second best policy.

Laitner (2000) in his paper presents a model in which a country's measured average propensity to save endogenously rises when its economy industrializes. The model has agricultural and manufacturing sectors. Only agriculture used land. If at early dates income per capita is low, agricultural consumption is important, land is valuable, and capital gains on land may constitute most wealth accumulation, leaving the country's Nipa apes low. If exogenous technological progress raised incomes over time, Engel's law shifts demand to manufacture goods. Then land's portfolio importance relative to reproducible capital diminishes and the national income and products account saving rate can rise. Although studies sometimes infer that changes in saving behavior led or substantially contributed to income growth, this paper presents a, model in which causality runs the other direction. The new analysis takes account of the composition of assets in household portfolios. When income is low, agriculture tends to be relatively important and capital gains on land camouflage house-hold wealth accumulation from

national income and products accounting. If incomes rise and the share of total expenditures on agricultural goods declines, reproducible capital replaces land in prominence.

Gosh (2003) in his paper tried to explain indicates that the growth of agricultural employment by usual status fell from an annual rate of 2.08 per cent in the period 1987-88 to 1993-94 and it is 0.8 per cent in the period of 1993- 94 to 1999-2000. The paper also throws light on the reasons of decline in the farm employment. The labour saving technologies and pattern like mechanization and shifting of cropping pattern (Especially towards horticulture at the margin in some areas) might have decreased the demand for labour. On the other side, the increase in non-agricultural work has been much less than the decline in agricultural employment. Employment opportunities in agriculture sector are seasonal in nature. To meet the increasing requirements of the family, one has to seek better options of employment, specially, when rural poor is not well equipped financially. A work named, 'Study of financial status of rural poor: Report of the pilot study in Udaipur district' (Sriram).

M.S. and Parhi (2004) highlighted that though rural households had income both from agricultural and non-agricultural sources, however, the income from non-agricultural sources remained higher than from agriculture. A large number of people of the selected area for study go to nearby urban centre for work as this fetches those regular cash as against the seasonal flaws in agriculture.

Amiya (2005) conducted a study on growth and structural change in Gujarat with the help of secondary data covering the time period from 1970-2000. They observed that

linear trend is best fitted for the primary sector and agriculture while semi log linear or quadratic in semi-log from fits better for the rest in terms of adjusted, t-test and F-test. The Researcher found that the average per capita income of Gujarat is higher than that of the country. The results revealed that there is inverse relationship between dependence on agriculture and developed economy. It was concluded from the study that secondary and tertiary sectors are enjoying higher growth rate of economy than that of primary sector.

Siva and Teixeira (2006) conducted a comprehensive survey of the economic literature on structural change. The classical economist mainly focused on growth and distribution of income and wealth with respect to structural change in the time period of 1700-1870. The marginality economist also stressed on maximum utilization of resources allocation and also discussed on long term structural change in economy. The development economists mainly focused on the ways which the different sector of the moved from time to time. It was it was concluded from the study that structural change analysis stresses the significant of the leading technological sector as an engine of growth.

Munjal (2007) examined the structural changes in Indian economy using input-output analysis with the help of secondary data. The study enclosed ten years spending from 1989-90 to 1998-99. She applied "multiplier product matrix", to analyses these structural changes. The year 1991, when economic reform was introduced, the economy has transformed from a closed economy to open economy. In this study the Research erase to input-output transaction table for the changes finding in the Indian industrial economy over the years. The researcher found that domestic output as percent of total demand has decreased from 95% in 1989-90 to 92% in 1998-99, compared as 23% in 1973-74. The researcher found that the demand of petroleum product increased considerably over the

last three decades. The most important finding was that the Indian economy has witnessed a significant transformation in its economic structure over the time period of 1989-90 to 1998-99.

Ninomiya (2008) in their study presented, a method is proposed a Structural change in the growth process. The formulate the method as simple statistical test for signal detection without constructing any specific model for the structural change. To evaluate the p-value of the test the tube method is developed because planted forest stands of cryptomeria japonica in Japan, the study an analysis of identifying the effect of thinning on the growth process as structural change. This article, the study shown that the proposed method can detect a structural change reasonably well for actual data. Used for the testing were annual DBH, which can be regarded as realization. We thus, believe that the proposed method can play a useful role in modeling accurate growth curve when considering a structural change. Further analysis must be conducted for constructing a model with a structural change after detecting the change.

Papola (2012) made an attempt to estimate the structural changes in Indian economy. He analyzed significance of structure change in Indian economy over the last thirty years. He identified and discussed critical issues with respect to the trends in sect oral pattern of GDP growth, industry and interregional; inter class disparities, trade, and employment. The Researcher examined trends of sustainable and equitable growth and development. He also discussed Hindu rate of growth for time period of last three decades. He concluded structural change was related to distribution across size of production unite, Analyzed include sectors and products groups and earning differences across activities skills gender and social groups. The most important finding was that the short term high

GDP growth rate was not also provide sustainable growth. It concluded that while attainment of a reasonably high GDP growth may not be problem in the medium term, its inequitable character is likely to pose a serious threat to its sustainability in the long run.

Cortuk (2013) in his study examined the structural change and growth in India. He constructed the indices of structural change, using the data of India's 16 major states, with the period of 2000-06. This studied used to tools NAV and MLI data for result and for used only secondary data.MLI has major effect on the NAV index through the structural change in the economy. Which use a measure of structural change that gives more heaviness to sect oral shifts into high productivity sectors.

Singariya (2014) in the study revealed that structural changes of an economy that entail the dynamics of sector shares industrial, agricultural and services are related to each other and to economic growth as well. The agriculture and industry are the major contributor of decline in the share of agriculture and industry sector has been a steep decline during the period of 2004-05 to 2011-12.There is a negative association with per capita income in agriculture and positive in the association with the industry and service sector and per capita income. On the other hand there is used of dummy for low income states have positive association with industrial sector and have influenced positively to the economic growth of India. They used statistical method of OLS and after panel diagnostics random effect was found unbiased. Some states were able to shift their labor force increase productivity within those sectors, despite the rapid growth of populations. And using panel data collected by the CSO for thirty two states and UTs of India, The findings also show that the service sector has a highest positive influence on per capita income. The service sector has a highest positive influence on per capita income. Thus the impact of

structural changes is not automatic and homogenous throughout the Indian states during this period. Whether India is a capitalized on its favorable growth depends on how well the EAG states are able to reform their economics.

Aggarwal (2015) studied the economic development as the process of structural transformation where the relative share of agriculture in national output falls. But the industry and tertiary sector is upward continues in Haryana. The performance agriculture is examined through major crops, cropping intensity, irrigation intensity, density of tractors, and consumption of fertilizers. The Researcher has concluded that there is a declining share of agriculture in SGDP without a corresponding fall in labour share is matter of concern and needs serious attention on the part of policy maker for innovation.

2.2. Research Gap

The forgone literature review suggests that the various attempts have been made to study the structural change at India level. The issue of structural change and growth relationship has been addressed appropriately at macro level. However, very few attempts have been observed at state level (especially in such states where agriculture is mainstay) structural changes. This prompts the present study. Therefore, in this present study a rigorous attempt has been made to understand the relationship between growth and structural change in Haryana.

Chapter -3

Research Methodology

Chapter 3
Research Methodology

3.1 Introduction

Methodology is an important part of the research and it is used to know what are the methods applied for the analysis of the study. In this chapter the research methodology is discussed and adopted to fulfill the objective of this study is i.e. analyses the trends of GSDP of Haryana and structural changes with growth of each sector. This study includes primary, secondary and tertiary sectors for analysis.

3.2 Collection of data

This study is based on secondary data. The data has been collected from various government organizations such as department of Economic and Statistical analysis of Haryana, Census of India and different annual reports. The study has been covering sixteen years data from the period 2000-01 to 2015-16 for the purpose of exploration of trend of GSDP and structural change with growth rate of each sector. To construct the MLI and NAV has been used the data from the period of 2004-05 to 2011-12.

There are 22 districts in the state of Haryana, but the 22nd District i.e. Dadri has been framed recently and its data is included in the district Bhiwani. Thus this study has considered only 21 districts for analysis.

3.3 Estimation Methods

To achieve the proposed objectives, the collected data has been properly analyzed by using appropriate statistical methods. There are diverse objectives in study which needs different statistical methods for analysis.

To fulfill the first objective, the percentage method has been utilized in this study. It helps to analyses the trends of per capita income and sectoral share in state domestic product of Haryana.

For second objective the index of MLI (Multi Lilien Index) and NAV (Norm Absolute Value) with GSDP of Haryana has been calculated. Various indicators of the GSDP have been used.

3.3.1 NAV (Norm of absolute values)

The first index for measuring the structural change is the NAV following by Dietrich, Calculated as shown below:

$$\text{NAV} = 0.5 \sum_{i=1}^{n} |Xij - Xis| 35$$

Where,

NAV= Norm of absolute values

Xi= Sectoral shares.

S and t are time periods

To compute this index, firstly we need the sectoral shares (Xi) between two point of times, s and t. Then the absolute amounts of these differences are summed up and divided by two. It ensures that the range of the index is from 0 to 1. In this method 0 denotes no structural change while 1 denotes maximum structural change. NAV index summaries the overall change in the distribution of economic activities across overall sectors. In implication of this calculation the two levels of decompositions will be used. At first, economy will be divided into three sectors agriculture, industry and service. Further it will be divided in 13 sub sectors.

3.3.2 MLI (Multi Lilien Index)

Stamer (1999) modified the Lilien index to fulfill the characteristics of a metric, where output shares used rather than employment shares (uses in lilien index to measure standard deviation of the growth rate of employment.

$$\text{MLI} = \sqrt[2]{Xit.Xis\left(ln\frac{Xit}{Xis}\right)}\ 2\ \text{Xis}>0 \text{ and Xit}>0$$

Where,

MLI=Multi Lilien Index

X_{is} are the output share of sector I at time period s.

3.3.3 Growth rate

Growth rate is the rate of increase in size per unit time. Calculating Per cent Growth Rates the per cent change from one period to another which is calculated from by formula:

$$\text{GR} = \frac{Xt-Xt-1}{Xt-1}*100$$

Where,

GR = Growth Rate

Xit= Present value

Xt-1 = Past value

The annual percentage growth rate is simply the per cent growth divided by N, the number of years.

3.3.4 Standard deviation

It shows how much variance or dispersion is there from the "average" (mean or expected/budgeted value). A Standard deviation estimate is based on a sample. In the excel SD is calculated by the following formula:

$$SD = \sqrt{variance}$$

$$Variance = \sum(X - \bar{X})2/N$$

Where,

i = Number of observations

Chapter4

Trends and Pattern of Growth of State Domestic Product in Haryana

Chapter 4

Trends and Pattern of Growth of State Domestic Product in Haryana

4.1 Introduction

The objective of this chapter is to examine the trends and pattern of GSDP in Haryana from 2000-01 to 2015-16. For the purpose, the year to year growth rate per capita GSDP and sector wise share has been calculated .the results are discussed as follows:-

4.2 Trend in Per Capita Income of Haryana

The analysis of collected data has been carried out by using line diagram. The line diagram is pairs of numerical data, with one variable on each axis, to look for a relationship between them. If the variables are correlated, the points will fall along a line or curve. The better the correlation, the tighter the points will hug the line. Line diagram is used to show the pattern structural change in sectors of economy as per the economic growth.

Table 4.1 Per Capita Income of Haryana at Constant (2004-2005) Prices

Year	Per Capita Income (Rs.)	Growth Rate (Percent)
2000-2001	24423	-
2001-2002	25638	5.0
2002-2003	26748	4.3
2003-2004	28805	7.7
2004-2005	37842	31.4
2005-2006	40313	6.5
2006-2007	44222	9.7

2007-2008	47520	7.5
2008-2009	51016	7.4
2009-2010	55214	8.2
2010-2011	57797	4.7
2011-2012	61716	6.8
2012-2013	64052	3.8
2013-2014	67260	5.0
2014-2015	78821	17.2
2015-2016	92987	18.0
2016-2017	101543	9.2
Source: Department of economic and statistical analysis, Haryana.		

Table 4.1 depicts the per capita income of Haryana at constant prices (base year 2004-05). There are sixteen years data (2000-01 to 2015-16) of per capita income, from which growth rate is calculated. The estimated growth rate of per capita income according to time period is positive. This implies that for all the time period per capita income at constant prices is increasing. The highest growth rate of per capita income is seen in 2004-05, as it was 31.4 percent. And the lowest growth rate of per capita income is seen in 2012-13 as it was 3.8 percent. In spite of few small ups and downs, the overall trend shows the increasing trend during the study period. In recent years of the study, it is found that there is higher rate of growth of per capita income.

Table 4.2 Sector wise share of GSDP in Haryana in (2000-01 to 2015-16) in percentage at constant price 2004-05

Sectors	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	30.09	27.34	25.66	25.37	23.63	21.46	20.51	21.24	21.97	20.96	20.14	21.52	21.05	20.93	19.56	18.64
2	0.18	0.18	0.17	0.14	0.17	0.16	0.79	1.41	1.21	1.28	1.22	1.30	1.27	1.06	0.86	0.79
3	0.13	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.17	0.17	0.27	0.29	0.30	0.25	0.27	0.19
4	0.33	0.39	0.25	0.25	0.22	0.36	0.30	0.27	0.22	0.10	0.04	0.04	0.03	0.08	0.06	0.11
Primary	30.74	28.04	26.20	25.89	24.14	22.10	21.72	23.04	23.57	22.51	21.67	21.56	21.08	21.01	19.63	18.75
5	20.39	21.00	21.54	21.49	21.90	21.89	20.45	19.25	18.35	20.02	19.28	17.77	19.62	19.50	18.93	18.85
6	1.69	1.80	2.46	2.44	2.08	2.36	1.72	1.46	1.74	1.50	1.41	1.15	1.91	2.61	2.69	3.19
7	7.41	8.23	8.65	9.16	9.71	10.41	9.86	9.30	9.04	9.18	9.26	9.92	8.96	9.43	9.04	8.73
Secondary	29.49	31.02	32.65	33.08	33.68	34.65	32.02	30.02	29.13	25.98	26.02	24.84	23.95	23.09	22.12	21.88
8	15.40	16.04	16.25	16.48	17.84	18.69	17.21	17.90	18.18	19.64	20.65	21.68	22.47	21.45	22.28	23.06
9	6.62	7.12	7.28	7.60	7.88	8.26	7.38	8.75	8.30	9.02	9.01	7.74	7.09	7.29	7.47	7.11
10	3.61	3.70	3.91	3.67	3.34	3.35	2.80	3.27	3.17	3.03	2.89	3.89	3.89	3.92	4.08	4.02
11	4.31	4.27	4.17	3.99	3.77	3.63	10.81	9.69	9.50	10.61	10.41	13.65	14.74	16.53	17.01	17.44
12	3.02	2.88	2.79	2.76	3.03	2.94	2.48	2.15	2.47	2.68	2.62	2.43	2.42	2.34	2.53	2.56
13	6.81	6.93	6.74	6.52	6.31	6.37	5.58	5.19	5.68	6.54	6.74	4.22	4.35	4.36	4.89	5.17
Tertiary	39.77	40.95	41.15	41.03	42.17	43.25	46.25	46.95	47.30	51.51	52.31	53.61	54.97	55.89	58.26	59.37
Total Income	56954	63488.7	69653.02	78815.51	89430.4	100675	126474.6	151607.2	182501.9	212030.6	254348.7	299931.9	339642.8	378839.4	409673.9	450348.5

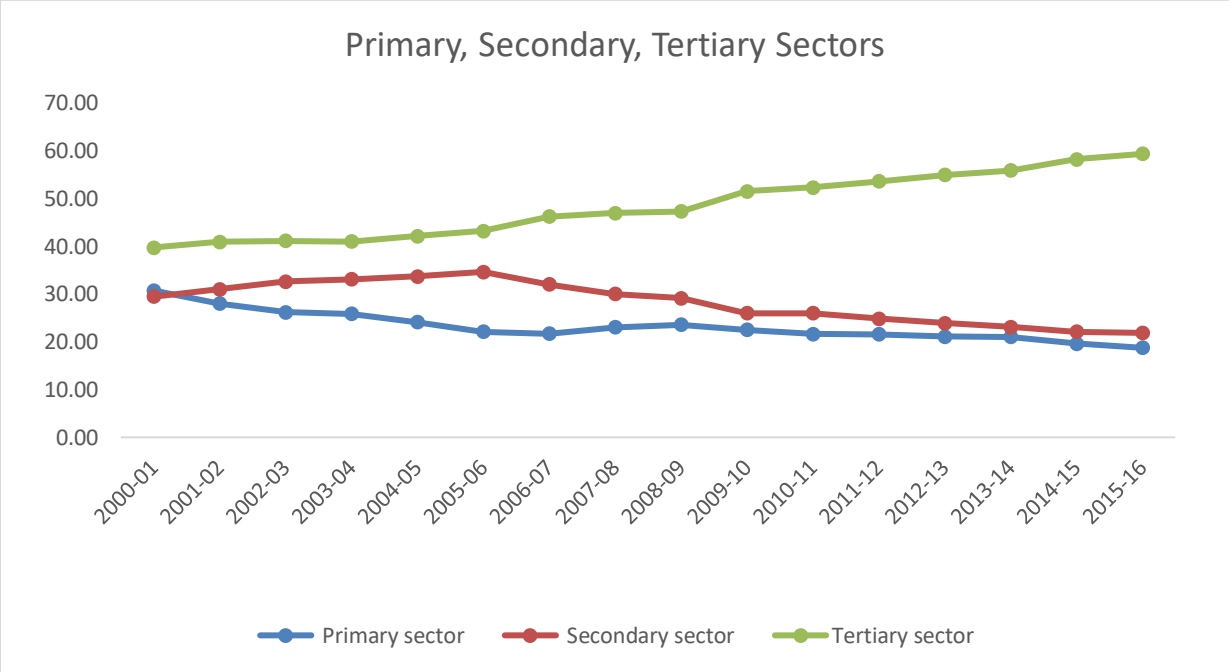
Source: Department of Economics and Statistical Analysis, Haryana

(1) Agriculture (2) Forestry (3) Fishing (4) Mining (5) Manufacturing (6) Electric a d Gas (7) Construction (8) Transportation, Storage (9) Trade , Hotels and Restaurant (10) Banking and Insurance (11) Real Estate and Business Service (12) Public Administration (13) other Services

Table 4.2 presents the sector-wise and sub sector-wise share GSDP over the time. There are three sectors in the economy (primary, secondary and tertiary) which contribute in the making of GSDP. There are sixteen years data from which it can be estimated that GSDP of Haryana is increasing or not. From these data it is observed that GSDP is increasing year to year. The table depicts that highest %age share of GSDP is composed by tertiary sector in 2000-01 which stands at 39.77% followed by primary sector 30.74% and then secondary sector 29.49% respectively corresponding to the period 2000-01.

The overall share of GSDP from tertiary sector increases year to year continuously, however GSDP share relating to secondary sector at first increases at an increasing rate up to 2006-07 then after falls continuously to the value 21.88 corresponding to the year 2015-16.In comparison to the secondary and tertiary sector the share %age of primary sector in GSDP diminishes continuously from the initial year to the final data year showing a negative trend continuously. The trends in sector-wise share are also shown by following figure 4.2

Fig 4.2 Sector-wise share of GSDP (Graphical Representation)



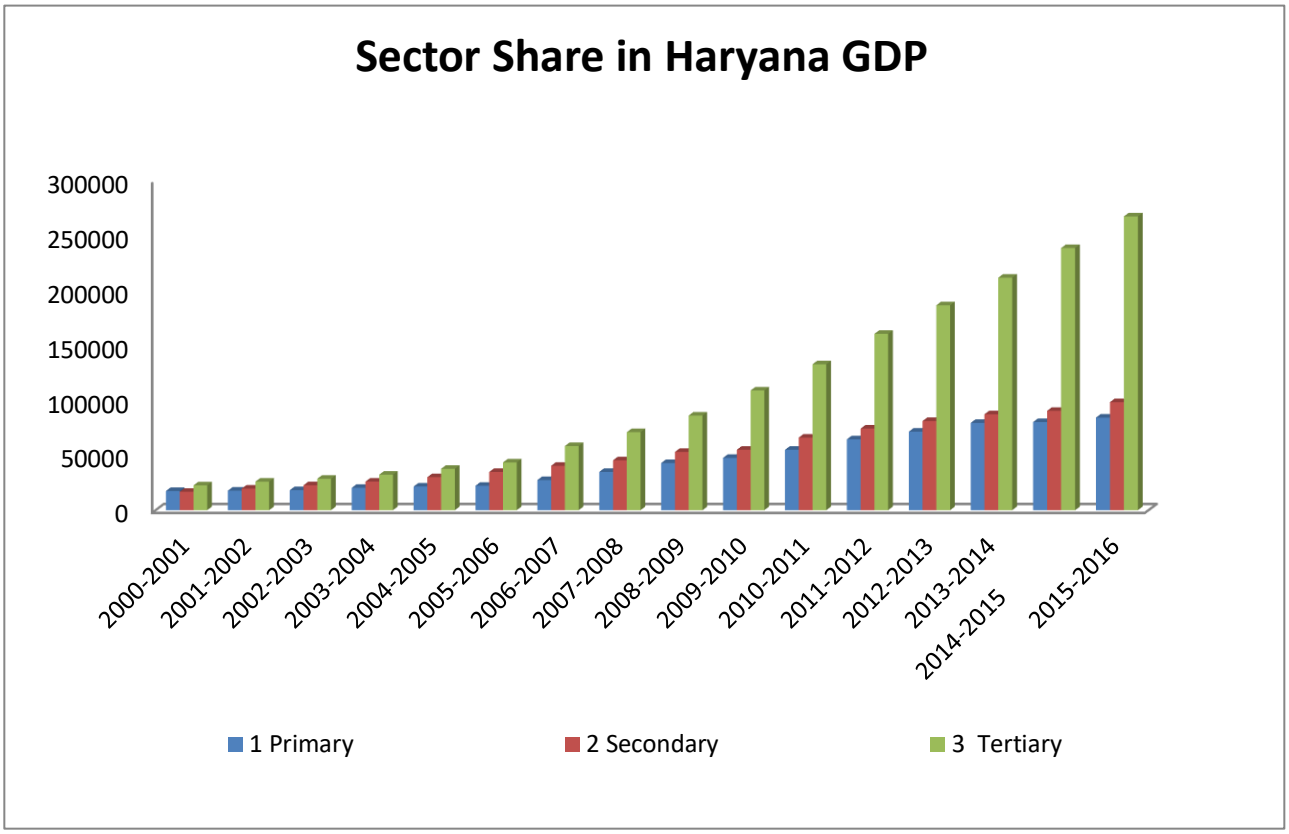
The fig 4.2 represent the sector wise in GSDP in Haryana there are three sectors in the Economy (primary, secondary and tertiary) which contribute in making of GSDP. From this graph we conclude that in the primary sector the percentage growth is non uniform which is either decreasing or constant in 2000-01 to 2015-16. But in secondary sector is increases in 2000-01 to 2005-06 and then decrease thereafter up to 2015-16.And in tertiary sector the percentage change is gradually increases because the primary sector and the secondary sector are merged in tertiary sector.

TABLE 4.3 Sector-wise Year to Year Growth in GSDP in Haryana (2000-01to2015-16)						
Sectors	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
2000-2001	17507.97	16794.15	22652.69	-	-	-
2001-2002	17799.84	19692.05	25996.87	1.7	17.3	14.8
2002-2003	18250.03	22741.74	28661.25	2.5	15.5	10.2
2003-2004	20403.87	26075.35	32336.29	11.8	14.6	12.8
2004-2005	21591.2	30122.48	37716.78	5.8	15.5	16.6
2005-2006	22246.86	34887.94	43540.75	3.0	15.8	15.4
2006-2007	27471.87	40502.05	58500.74	23.4	16.0	34.4
2007-2008	34927.34	45505.51	71174.39	27.1	12.4	21.7
2008-2009	43017.32	53165.61	86318.96	23.1	16.8	21.3
2009-2010	47721.84	55092.47	109216.27	10.9	3.61	26.5
2010-2011	55117.42	66169.85	133061.43	15.5	20.1	21.8
2011-2012	64657.68	74491.79	160782.46	17.3	12.6	20.8
2012-2013	71606.79	81336.9	186699.12	10.7	9.2	16.1
2013-2014	79605.57	87484.25	211749.6	11.2	7.6	13.4
2014-2015	80404.24	90614.11	238655.55	1.0	3.6	12.7
2015-2016	84444.52	98547.87	267356.09	5.0	8.8	12.0
Source: Department of economic and statistical analysis, Haryana.						

The table 4.3 represent the sector wise year to year growth rate in gross state domestic product in Haryana. The table reveals that the primary sector recorded highest growth rate in 2007-08 i.e., 27.1 per cent while it observed lowest in 2014-15 (1 per cent).The

year to year growth rate originating from secondary sector was found highest in 2010-11 (20.1 per cent) and lowest in 2014-15 (3.6 per cent). The tertiary sector recorded very high year to year growth rate. It was highest in 2006-07 and lowest in 2002-13 as shown in above table.

Fig 4.3 Graphical Representation Sector Share in Gross State Domestic Product in Haryana (2000-01to 2015-16)



The highest share of primary sector is 27.1 percent in 2007-08 and lowest percent share of it 1.0 percent in 2014-15. Likewise the highest percentage share of secondary sector is 20.1 percent in 2010-11 and lowest percent share of it is 3.6 percent in 2014-15.

In this way the highest percentage share of territory sector is 34.1 percent in 2006-07 and lowest percent share of it is 10.2 percent in 2001-02.

4.3 Inter District Variation in Economic Growth of Haryana

Haryana has witnessed a healthy growth during last three decades. However, has the economic growth in Haryana been uniformly distributed across districts or not for this, we calculated the growth rate of all districts of Haryana and compared it with state average. The above table shows the district wise growth rate of three main economic sectors. It is evident from the table that the growth rates of all three key economic sectors vary substantially across districts. However, the extent of variation is lowest in case of agriculture. Surprisingly, the agriculture sector has done extremely well in Gurugram and Faridabad, which are known for industries and tertiary sector. The agriculture in these districts has grown at average annual growth rate of more than 5 per cent per annum during 2000-01 to 2015-16.

This is almost double of agriculture growth recorded in Kaithal, Fatehabad and Jind where it has grown by just around 3 percent during the same period.

The inter district variation in growth rate is much higher in case of industrial and tertiary sector. Interestingly, Rewari, Panipat and Jhajjar have witnessed a double-digit growth in industrial sector during 2000-01 to 2015-16. This is much higher as compared to Panchkula and Yamuna Nagar, where the industrial sector has grown at annual rate of 4.9 percent and 5.4 percent, respectively during the same period. The extent of inter district variation in growth is even higher in case of tertiary sector, which has been serving as the main driver of economic growth in Haryana. The tertiary sector growth in Haryana has been mainly concentrated in districts falling in the National Capital Region (NCR) i.e. Gurgaon, Faridabad and Sonipat, Gurgaon has seen the highest, 16.45 percent per annum, rate of growth in service sector from 2000-01 to 2015-16 and has

rapidly emerged as the hub of knowledge and knowledge-based industry in India. In Faridabad tertiary sector has grown at an average annual growth rate of 14.3 percent during the same period. In contrast, in districts such as Fatehabad, it has grown at even less than 9 percent per annum.

Table 4.4 Inter District Variation in Sectoral Growth Rate: (2000-01 to 2015-16)

Districts	Primary	Secondary	Service	SD	Mean	CV
Ambala	4.63	7.62	10.68	3.03	7.64	39.58
Bhiwani	3.58	7.32	9.44	2.97	6.78	43.76
Faridabad	5.04	7.09	14.32	4.88	8.82	55.29
Fatehabad	3.06	9.46	8.93	3.55	7.15	49.68
Gurgaon	5.72	8.06	16.45	5.64	10.08	55.99
Hisar	3.29	8.97	10.00	3.61	7.42	48.70
Jhajjar	3.78	10.05	11.40	4.07	8.41	48.35
Jind	3.13	8.57	9.22	3.34	6.97	47.96
Kaithal	2.47	8.72	9.20	3.75	6.80	55.24
Karnal	4.09	7.84	10.53	3.23	7.49	43.20
Kurukshetra	4.35	9.80	10.20	3.27	8.12	40.26
Mohindergarh	4.60	8.74	9.70	2.71	7.68	35.29
Panchkula	5.57	4.86	13.04	4.53	7.82	57.93
Panipat	4.80	10.51	11.97	3.79	9.09	41.67
Rewari	3.73	10.52	9.94	3.76	8.06	46.68
Rohtak	4.78	7.22	10.99	3.13	7.66	40.83
Sirsa	4.88	8.50	9.11	2.29	7.50	30.50
Sonipat	3.54	8.96	13.07	4.78	8.52	56.08
Yamuna Nagar	4.62	5.38	10.09	2.96	6.70	44.25
Haryana	3.76	7.83	12.16	4.20	7.92	53.06
Standard	0.88	1.54	2.01	0.57	1.48	38.44

Source: Directorate of Economics and Statistical Haryana.

It is evident from the section above that economic growth in Haryana has been concentrated around national capital region. Economic growth in Haryana has not been uniform across districts. According to above table Inter District Variation in Sectoral Growth rate from 2000-01 to 2015-16 in three different sectors in 19 districts in Ambala

growth rate in primary sector is 4.63, in secondary sector 7.62 and in tertiary sector 10.68 and its coefficient variable is 39.58. in Bhiwani district growth rate in primary sector is 3.58, in secondary sector 7.32 and in tertiary sector 9.44 in the district Faridabad growth rate in primary sector is 5.04, in secondary sector 7.09 and in tertiary sector 14.32, in Fatehabad district growth rate in primary sector is 3.06, in secondary sector 9.46 and in tertiary sector 8.93, in the district of Gurgaon growth rate in primary sector is 5.72, in secondary sector 8.06 and in tertiary sector 16.45 it's very high compare to rest of the districts in Haryana in tertiary sector and its coefficient variable is 55.99. in Hisar district growth rate in primary sector is 3.29, in secondary sector 8.97 and in tertiary sector 10.00,in the district of Jhajjar growth rate is like this primary sector is 3.78, secondary sector 10.05 and tertiary sector 11.40, in Jind district growth rate in primary sector is 3.13, in secondary sector 8.57 and in tertiary sector 9.22, in Kaithal district growth rate in primary sector is 2.47, in secondary sector 8.72 and in tertiary sector 9.20, in the district of Karnal growth rate in primary sector is 4.09, in secondary sector 7.84 and in tertiary sector 10.53, in Kurukshetra district growth rate in primary sector is 4.35, in secondary sector 9.80 and in tertiary sector 10.20, in the district Mohindergarh growth rate in primary sector is 4.60, secondary sector 8.74 and tertiary sector 9.70,and its coefficient variable is 35.29.n Panchkula district growth rate in primary sector is 5.57, secondary sector 4.86 and tertiary sector 13.04 and its coefficient variable is 57.93 which is highest in all districts. in Rewari district primary sector is very low it is 3.73 and in Sonipat district tertiary sector is very high it is 13.07 and its coefficient variable is 56.08.In Sirsa the coefficient variable is 30.50 which is lowest structural change in Haryana. And by average in Haryana primary sector is 3.73 with standard deviation 0.88, secondary sector

is 7.83 with standard deviation 1.54 and finally in tertiary sector 12.16 with standard deviation 2.01 by observing this all data in district wise variation in economic growth clearly reflects that Haryana has two growth centers. One growth centre is located around national capital and another growth center is concentrated around the state capital.

Fig: 4.4 Graphical Representations for above table Inter District Variation in Sectoral Growth Rate :(2000-01 to 2015-16)

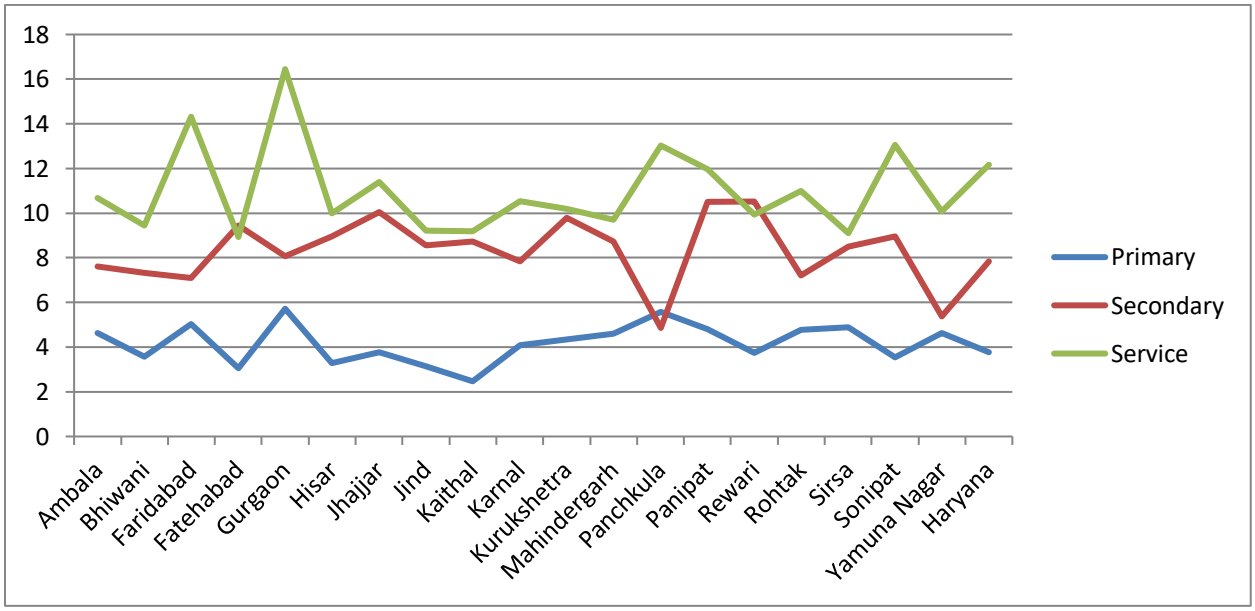
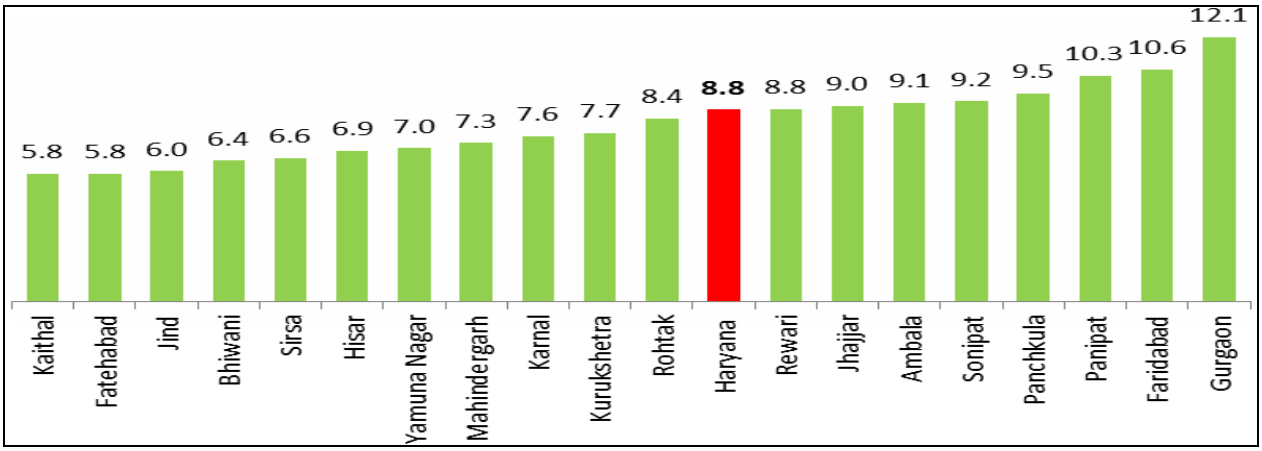


Fig: 4.5 Graphical Representation of Inter District Variation in Sectorial Growth Rate (2000-01 to 2015-16)



Source: Graphical representation directly based on data from Directorate of Economics and Statistical Haryana.

It is evident from the section above that economic growth in Haryana has been concentrated around national capital region. Economic growth in Haryana has not been uniform across districts. While the aggregate, Haryana has grown at an average annual growth rate of 8.8 percent during 2000-01 to 2015-16, there are districts that have grown at a much higher and much lower rate than this figure. For example, districts such as Gurgaon, Faridabad and Panipat have grown at high average annual growth rates of 12.1 percent, 10.6 percent and 10.3 percent, respectively during 2000-01 to 2015-16. Whereas, districts such as Kaithal and Fatehabad have grown at even less than 6 percent per annum during the same period. Thus, the growth in slow growing districts of Haryana is even less than half of fast growing districts. Of the seven districts that have grown at a higher rate than the state average i.e. Gurgaon, Faridabad, Panipat, Panchkula, Sonipat, Ambala, Jhajjar and Rewari, a majority fall in the South-East region and are closer to the national

capital Delhi. Whereas, the districts that lag behind i.e. Kaithal, Sirsa, Fatehabad, Hisar etc., are mostly in the Western region and are located far from the national capital. The inter district variation in economic growth clearly reflects that Haryana has two growth centers. One growth centre is located around national capital and another growth center is concentrated around the state capital.

Conclusion

The main objective of the chapter is to analyze the recent trends in per capita income and sector share in state domestic product of Haryana. it is concluded that in the primary sector the percentage growth is non uniform which is either decreasing or constant in 2000-01 to 2015-16. But in secondary sector it increases in 2000-01 to 2005-06 and then decrease thereafter up to 2015-16.And in tertiary sector the percentage change is gradually increases because the primary sector and the secondary sector are merged in tertiary sector

Chapter-5

Structural Change and Growth Relationship in Haryana

Chapter-5

Structural Change and Growth Relationship in Haryana

5.1 Introduction

In economics, structural change is a shift or change in the basic ways a market or economy functions or operates. Such change can be caused by various factors such as economic development, shifts in capital and labor, changes in resource availability due to natural disaster or discovery or depletion of natural resources, or a change in political system. In this chapter structural change in growth of Haryana is analyzed by constructing NAV and MLI indices. The results of NAV and MLI indices are discussed as follow:

5.2 Constructing the NAV and MLI indices of structural change in Haryana

NAV (norm of absolute values) calculate the differences of sector shares between two points of times. Then add the absolute values of differences and divided by two. The second work is Modified Lilien Index (MLI) standard deviation sectoral growth rate of employment between two time points. It fulfill characteristics of a matrix, used of two indices allow us to check the robustness of our analysis with respect to the structural change measure. The NAV and MLI have been used to measure robustness in the sectors of Haryana during the time period (2004-05 to 2011-12).

Table 5.1 Per capita state domestic product and growth rate of districts (2004-05 to 2011-12)						
	Per capita state domestic product			Growth rate		
Districts/ Sectors	Average Share	Median Share	Std. Deviation	Average Share	Median Share	Std. Deviation
Ambala	5.61	5.14	3.37	-10.16	-0.13	56.32
Bhiwani	4.85	5.11	2.05	4.24	0.04	24.34
Faridabad	11.58	8.51	11.28	-11.81	-5.00	23.64
Fatehabad	2.92	2.50	1.93	0.07	-0.08	9.48
Gurgaon	10.76	5.25	11.42	138.65	-2.04	605.91
Hisar	5.59	5.85	2.41	-0.27	-0.47	9.79
Jhajjar	3.10	2.74	1.52	7.54	-0.11	107.38
Jind	4.06	4.47	2.15	-1.64	-0.50	19.84
Kaithal	3.48	3.71	2.54	0.36	-0.40	30.08
Karnal	5.36	5.13	2.10	-2.48	-0.68	7.43
Kurukshetra	3.73	4.04	2.59	0.50	0.02	16.52
Mohindergarh	2.63	3.12	1.12	5.82	0.26	25.12
Mewat	1.46	1.56	1.01	1.00	1.00	1.00
Palwal	1.44	1.48	0.72	1.00	1.00	1.00
Panchkula	4.38	2.69	5.52	-63.01	-0.01	191.12
Panipat	5.31	3.90	4.61	-2.21	-0.09	19.27
Rewari	3.42	3.18	1.85	25.91	0.03	130.98
Rohtak	3.96	4.29	1.65	6.36	-0.48	53.63
Sirsa	3.87	3.53	2.35	0.51	0.38	14.90
Sonipat	5.74	5.61	1.39	-12.94	-0.02	62.59
Yamuna nagar	6.84	4.70	5.22	-93.76	-0.27	354.26
Sources: Directorate of Economics and Statistics Haryana.						

The table 5.1 shows the behavior of district wise per capita state domestic product and its growth rate. The table depicts average share and growth of average share in per capita state domestic product during the study period. Faridabad has highest value 11.58 which is followed by Gurgaon with value 10.76 and Yamunanagar 6.48 in highest category. While Palwal (1.44 per cent), Mewat (1.46 Per cent), Mohindergarh (2.63 Per cent) and Fatehabad has lowest share per capita. The more or less similar behavior can be observed in case of median share of the districts in state domestic product. The table 5.1 also shows the calculated standard deviation of per capita state domestic product. The higher standard deviation means higher structural change whereas lower standard deviation shows lower structural change. The standard deviation is highest in case of Gurgoan followed by Faridabad, indicating the highest structural change in both districts. While the lowest standard deviation was observed for Palwal followed by Mewat, Mohindergarh and Jhajjhar indicating the lower structural change in these districts.

Next three columns in the table are showing the growth rate in terms of average share, median share and std. deviation while talking about average share. Highest growth rate in terms of average share are Gurgaon (138.65) and Rewari with value 25.91 and lowest shareholders of growth rate districts are Yamuna nagar (-93.76), Panchkula (-63.01), Sonipat (-12.94) respectively.

Next column is explaining the median share of districts in growth rate. Highest shareholding states are Sirsa (0.38) and Mohindergarh (0.26). Faridabad is having the lowest share median share growth rate (-5).

Last column is explaining the std. deviation of growth rate. Here Gurgaon is leading with highest value 605.91 followed by Yamuna nagar (354) and then by Panchkula (191.12). Lowest std. deviation value states are Karnal (7.43), Fatehabad (9.48) and Hissar (9.79)

Table 5.2 District Wise Sector Share in GSDP of Haryana

Sectoral share in total data from 2004-05 to 2011-12 (Percent)

Districts/ Sectors	1	2	3	4	5	6	7	8	9	9.1	9.2	9.3	9.4	10	11	12	13
Ambala	3.87	2.97	2.43	1.16	2.14	5.75	4.79	10.20	7.60	14.82	6.53	3.86	8.91	5.63	3.63	5.97	5.14
Bhiwani	7.44	5.58	5.48	7.40	2.31	5.17	6.58	0.98	4.93	3.27	5.11	3.21	4.53	2.74	2.78	8.13	6.80
Faridabad	2.86	3.84	6.33	51.86	15.37	8.37	8.21	19.37	10.26	4.04	10.14	5.13	13.03	12.26	11.85	5.49	8.51
Fatehabad	6.34	2.50	5.24	0.03	1.28	2.43	4.41	0.69	2.50	1.16	2.54	6.57	3.19	1.38	1.47	3.72	4.23
Gurgaon	2.96	3.22	4.84	1.15	31.51	5.25	4.17	22.98	9.06	3.02	9.86	2.92	6.86	25.63	38.50	5.66	5.25
Hisar	8.62	3.91	7.93	0.18	8.59	6.76	7.68	2.41	5.54	2.93	5.60	5.85	6.03	4.22	3.56	8.07	7.09
Jhajjar	3.15	2.46	6.68	0.50	2.75	2.30	3.82	1.79	4.69	2.62	5.18	1.05	2.74	2.66	2.33	3.95	4.06
Jind	7.29	4.22	5.54	0.17	1.40	3.71	5.51	0.73	4.47	5.65	4.56	7.12	3.65	1.74	2.13	5.59	5.52
Kaithal	6.13	4.72	4.60	0.09	1.02	2.81	4.64	0.71	3.43	0.86	3.71	10.60	3.75	1.52	1.70	4.23	4.60
Karnal	8.14	4.70	6.16	1.82	2.99	5.25	6.25	5.13	4.89	3.24	4.77	10.77	6.50	4.25	3.67	7.08	5.47
Kuruksetra	5.47	2.79	2.98	0.46	1.13	4.22	4.91	0.92	4.04	1.50	4.08	11.67	5.48	2.87	2.13	4.29	4.54
Mahindergarh	3.25	3.10	3.32	3.01	1.05	3.61	3.26	0.18	3.12	3.33	3.31	1.45	1.88	1.41	1.53	3.96	3.87
Mewat	1.71	1.70	4.40	0.84	0.65	2.15	2.09	0.22	1.07	0.13	1.13	1.81	1.03	0.39	1.70	1.56	2.31
Palwal	1.82	1.18	2.21	0.91	0.66	2.52	2.31	0.44	0.58	1.50	0.88	1.94	0.82	0.65	2.14	1.48	2.39
Panchkula	1.36	23.75	1.70	6.41	1.24	2.27	2.23	2.20	2.75	4.03	2.55	0.36	3.21	10.62	4.37	2.69	2.77
Panipat	3.85	2.59	4.19	2.34	4.84	16.44	4.97	18.31	4.12	3.64	3.90	2.96	4.08	3.71	2.64	3.61	4.00
Rewari	2.78	2.76	2.79	1.08	9.63	2.03	3.18	3.78	3.52	5.09	3.40	1.84	3.89	2.88	2.16	3.82	3.43
Rohtak	3.46	2.85	6.38	0.31	2.26	4.29	4.24	1.52	5.50	5.45	4.67	2.86	4.97	4.75	3.01	6.00	4.82
Sirsa	9.63	2.98	5.25	0.11	1.54	3.02	6.29	1.04	3.90	2.67	3.53	6.89	4.54	2.26	2.39	4.78	4.99
Sonipat	5.17	4.67	8.73	7.20	4.87	6.95	5.61	4.80	6.74	3.82	7.87	5.63	5.73	4.74	3.53	5.95	5.60
Yamunanagar	4.69	13.53	2.83	12.98	2.77	4.70	4.83	1.57	7.28	17.21	18.15	5.52	5.18	3.69	2.79	3.95	4.63
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Director of Economics and Statistical Haryana.

(1)Agriculture (2) Forestry (3) Fishing (4) Mining (5) Manufacturing (6) Electric and Gas (7) Construction (8) Transportation, Storage (9) Trade, Hotels and Restaurant (10) Banking and Insurance (11) Real Estate and Business Service (12) Public Administration (13) other Services

The above table discussed the district-wise share of all 13 sub-sectors in gross state domestic product over the study period. Agriculture and animal husbandry sector share varies among districts between 9.63 and 2.96. In terms of leading share Sirsa is at top of table with share of 9.63 which is followed by Hissar (8.62) and Karnal (8.14) while talking about the lowest share of Panchkula which is having the lowest production of agriculture with value of 1.36 and Panchkula (1.36), Mewat (1.71) is just above Panchkula after Mewat, Rewari (2.71), Faridabad (2.86), and Gurgaon (2.96) are trending above respectively. Forestry and logging sector is discussed in column 2nd where Panchkula, Yamuna nagar and Hisar are topping the table with values 23.07, 13.53, 7.93 respectively while talking about bottom shareholder districts, in this category are Palwal, Mewat and Hisar having sector shares with value of 1.18, 1.70 and 2.46 respectively. 3rd column is explaining the sector share of fishing which is dominated by Panipat (9.41), Sonipat (8.73), Hisar (7.93) and lowest shareholders in this category are Panchkula (1.07), Palwal (2.21) and Yamuna nagar (2.83).

4th column contains the sector share of mining and quarrying. Table toppers are Yamuna nagar (12.98), Sonipat (7.20) and Faridabad (5.86). Lowest shareholders in this category are Fatehabad (0.03), Kethal (0.09), Sirsa (0.11) and Jind (0.17).

Manufacturing sectors shares results are discussed in column 5th. Highest shareholders are Faridabad (15.37), Gurgaon (31.05) and Rewari (9.63).On the other hand districts like Sirsa (0.11), Rohtak (0.31) and Mewat (0.65) are the lowest shareholder districts.

6th column have the sector shares of electricity, gas and water supply .Panipat (16.04) and Faridabad (8.37) are highest shareholders respectively. Mewat, Panchkula, Rewari are tabled below with values of 2.15, 2.27 and 2.03 respectively.

Next column have construction share in GSDP. Faridabad have highest share of 8.21 which is followed by Hisar which have share value of 7.68. Lowest share holder districts in this category are Mewat (2.09), Palwal (2.31) and Panchkula (2.23).

9th column contains the share of Transport and storage. Highest shareholding districts in this category are Faridabad (10.26), Gurgaon (9.66) and next Yamuna nagar (9.28). Districts which are on bottom of this category are Palwal (0.58) and Mewat (1.67).

10th Column contains the share of banking and insurance. Highest shareholding districts in this category is Gurgaon (25.63) and lowest shareholding district is Mewat (0.39). Next column is of real estate and ownership of dwellings, legal and business services. Highest share in this category is holed by Faridabad (11.85) and lowest shareholding district is Fatehabad (1.38).

12thcolumn is of public administration. Highest shareholding state in public administration is Bhiwani with value of 8.13 and lowest is Palwal with value of 1.38.Last column have other shares. In this category highest shareholding district is Faridabad (8.51) and lowest is Mewat with value of 2.01.

Table 5.3 District wise Structural Change NAV Index of Haryana(2004-05to2011-12)			
	NAV Index		
Districts/ Sectors	Average	Median	Std. Deviation
Ambala	0.04	-0.43	1.95
Bhiwani	-0.02	-0.02	1.50
Faridabad	0.18	-0.15	8.04
Fatehabad	-0.07	0.42	1.37
Gurgaon	0.07	-0.04	8.08
Hisar	-0.05	-0.12	2.04
Jhajjar	0.03	0.01	1.36
Jind	-0.06	0.39	1.44
Kaithal	-0.05	0.14	1.70
Karnal	-0.08	-0.21	1.41
Kuruksetra	-0.03	0.11	1.69
Mohindergarh	0.02	-0.03	0.80
Mewat	0.02	-0.02	0.73
Palwal	0.02	-0.09	0.54
Panchkula	0.04	0.01	4.38
Panipat	0.00	-0.03	3.33
Rewari	0.02	-0.07	1.59
Rohtak	0.04	-0.07	1.31
Sirsa	-0.15	0.27	1.61
Sonipat	0.01	-0.33	1.11
Yamunanagar	0.00	0.20	3.44
Sources: calculated by researcher			

There are two indices have been used in the present study. NAV and Modified Lilien Index. The use of these two indices allows us to check the robustness of our analysis with respect to structural change measures. Both indices predict the average structural change during the time period. On the bases of above NAV table, Gurgaon and Faridabad stands at first place with the value of 8.08 and 8.04 respectively in structural change. NAV index shows lowest structural change in Palwal, Mewat and Mohindergarh with the value of 0.54, 0.73 and 0.80 respectively during the study period.

Table 5.4 District wise MLI Index of Haryana (2004-05 to 2011-12)			
	MLI Index		
Districts/ Sectors	Average	Median	Std. Deviation
Ambala	2.94	2.46	2.31
Bhiwani	2.26	1.84	1.56
Faridabad	8.60	5.95	11.26
Fatehabad	1.97	1.85	1.14
Gurgaon	10.06	6.49	8.89
Hisar	2.63	2.60	1.74
Jhajjar	1.89	1.81	1.42
Jind	2.12	2.04	1.21
Kaithal	2.34	2.27	1.91
Karnal	2.23	1.62	1.54
Kurukshetra	2.47	2.45	1.95
Mohindergarh	0.95	0.39	0.97
Mewat	0.97	0.77	0.88
Palwal	0.85	0.89	0.51
Panchkula	4.09	1.77	5.29
Panipat	3.74	1.19	4.85
Rewari	1.76	1.34	2.13
Rohtak	1.82	1.76	1.31
Sirsa	2.32	2.29	1.59
Sonipat	1.79	1.73	1.17
Yamunanagar	4.62	2.50	4.28
Sources: Directorate of Economics and Statistics Haryana.			

The table 5.4 depicts the ratio of district-wise structural changes in Haryana through Modified Lilien Index. The both indices are depicting quite similar in their magnitudes, patterns and field similar results. The highest structural changed district and lowest structural changed district are same as NAV results.

On the bases of both indices, the structure change gap is worst in the districts of Haryana such that highest structural changed district's NAV and MLI values are very high and lowest rated districts have very low values. The difference between these values is more. It showed the discrimination between the districts of Haryana.

Conclusion

The main objective of this chapter was to construct the NAV and MLI indices of structural change in Haryana. The use of two indices (NAV and Modified Lilien Index) allows us to check the robustness of our analysis with respect to structural change measures. Both indices predict the average structural change during the time period. So the structural change is same in pattern. The highest structural changed districts and lowest structural changed district are same as NAV results.

On the bases of both indices, the structure change gap is worst in the districts of Haryana such that highest structural changed district's NAV and MLI values are very high and lowest rated districts have very low values. The difference between these values is much. It showed the discrimination between the districts of Haryana.

Chapter 6

Major Findings and Policy Implications of the Study

6.1 Introduction

The present study was an attempt to study the relationship between structural change and growth of Haryana since 2001. There were two main objectives of this study. In first objective trend and pattern growth of state domestic product, Per Capita Income was investigated and as expected it was find that the share of agriculture sector in state domestic product id declining while the share of other sectors is increasing. The second objective was to analyze the structural change in growth of Haryana for the purpose the NAV and MLI indices were constructed. of structural change in Haryana. The major findings of the study are discussed as follow:

6.2 Major findings of the study

1. The highest growth rate of per capita income in Haryana was in 2004-05 (31.4 percent) and the lowest growth rate of per capita income was in 2012-13(3.8 percent).
2. As the share of IT and ITES sector is continuously increasing, the share of tertiary sector in GSDP has increased over the time.
3. The both indices confirm that in most of the districts of Haryana the structural change has taken place.
4. The highest structural changed districts and lowest structural changed district are same as in NAV results.

5. The study also finds that the developed districts of the state contains more share in state domestic product of the state, which indicate that inter-district variations among the districts of Haryana is increasing. It can be evident by the value of coefficient of variation.
6. The lowest structural change has been observed for districts Palwal, Mewat and Mohindergarh.

6.3 Policy Implication and Recommendations

This study found significant results in the context of structural change and employment generation in Haryana. Its finding leads to valuable suggestions to reduce the inequality and improve the opportunity for employment generation across the states. These suggestions are as follows:

1. As a result of structural change labour comes from primary sectors to secondary and tertiary sectors. Thus investment becomes crucial component for an economy to form the structure of production that will be helpful to create the employment for the people coming from primary sector to secondary and tertiary sectors. Thus decision makers should endeavor to develop such environment that enables investment in the economy.
2. Human capital for any sector in any economy is much precious. Its development is the prime responsibility in the economy. The decision maker must concern about the development of human capital.
3. The share of primary sector has been continually decline. Government should improve this sector because mostly population depend or the sector for their livelihood.

4. There is need to ensure farmers access to sufficient quantities of improved seeds and chemical fertilizers.
5. Allied sector of agriculture sector should improve to encourage income of primary sector, like fishery, horticulture, and dairy. There should be equity in growth and development of all districts of Haryana such that on the base of findings Gurugram and Faridabad has highest growth rate while as Palwal and Mewat has lowest this shows that their worst gap in development.
6. The manufacturing sector is fluctuating so there it needs to boost the manufacturing sector because it provides demand and supply for both sectors. Policies like make in India that help in improving sector of growth by motivating people regarding the Morden technique used in the sector.

6.4 Limitations of the study

There are many constraints in this study. This constraint comes in the forefront to carry out such an exercise, which does not have all the information at a single space. The empirical study in social science, especially aggregate variables based on the secondary information to investigate the relationships cope with many problems. There are following limitations of the study:

1. The aggregate data consisting of yearly data and hence will not capture the micro level information of the variable.
2. The variables taken in the study are selected on the basis of availability of data However; the selected variables represent the phenomenon appropriately as a number of other studies have adopted almost similar variables for the purpose.

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Appendix1

Districts/ Sectors																
Ambala	0.894966	0.540806	1.24168	0.965229	3.471933	0.965747	5.290013	2.597449	7.093223	8.067864	2.634361	4.900192	3.247281	1.983729	2.315963	0.833264
Bhiwani	1.851594	0.106899	1.913218	4.807776	2.7857	1.404292	4.836917	3.554876	1.6529	1.827367	1.883864	1.309455	1.770063	0.041998	5.098401	1.323039
Faridabad	0.977546	2.461298	38.10746	34.3335	6.892903	0.163656	10.82846	8.963286	6.001368	5.892836	4.912023	7.616426	0.765379	0.417327	6.198731	2.997318
Fatehabad	3.710949	2.680101	1.971657	0.714539	1.133938	1.950633	3.238362	1.692718	1.303059	1.341568	3.881292	3.304359	1.758518	0.084754	2.173687	0.511571
Gurgaon	0.266004	1.605754	3.39428	19.91201	23.04778	1.078951	16.70664	13.42562	5.74849	6.456664	6.530223	3.823308	17.47286	12.78448	28.3008	0.416244
Hisar	4.59349	3.936415	4.550469	4.838563	1.828897	0.919141	4.984587	3.043008	2.571592	2.625232	0.252267	0.175346	1.792528	0.662221	4.387244	0.98453
Jhajjar	0.692857	4.056417	4.736018	2.003309	0.452232	1.507059	1.983634	2.787333	2.041393	2.513043	3.724474	1.629908	0.080939	0.32498	1.593423	0.112225
Jind	3.036528	1.314453	3.397216	1.027904	2.218014	1.79734	4.057027	3.271267	1.180996	1.090243	2.534981	3.405374	1.865131	0.393004	3.330917	0.077875
Kaithal	1.403875	0.120818	2.527964	0.736878	1.712199	1.812068	3.407195	2.460258	2.379761	2.612709	6.585765	6.552065	2.155374	0.174867	2.446976	0.3713
Karnal	3.399052	1.45453	4.078933	1.154996	2.22624	1.005052	1.11788	0.242393	1.634974	1.515058	5.837136	4.220904	2.232673	0.580074	3.351152	1.611621
Kuruksetra	2.632301	0.188198	2.18769	0.643899	2.879951	0.69268	3.56302	2.852467	2.435114	2.470702	7.252712	6.039749	2.569867	0.738441	2.118476	0.247815
Mahindergarh	0.150169	0.225544	0.309605	1.87206	2.401729	0.344634	2.226692	2.140631	0.208778	0.013405	1.812432	0.436455	0.47559	0.118455	2.344679	0.091425
Mewat	0.013582	2.60025	3.180097	0.190976	1.419211	0.067595	1.524964	0.770263	0.788535	0.827715	0.670639	0.766139	0.617974	1.199722	0.141435	0.748691
Palwal	0.637808	1.01675	1.257603	0.249916	1.727016	0.205192	1.673	0.138424	0.887679	0.612784	1.033121	1.090038	0.172985	1.404659	0.650557	0.897616
Panchkula	16.24535	16.74786	4.384327	4.633753	1.014829	0.03673	0.02599	0.548931	1.271001	1.465286	1.878678	2.348782	6.990207	6.050555	1.663404	0.077994
Panipat	1.247717	1.587997	1.829443	2.443698	10.90987	10.81254	12.43503	12.95161	0.476325	0.257346	0.942394	1.124846	0.37801	1.062296	0.968022	0.389194
Rewari	0.017716	0.027859	1.650529	7.057209	6.884956	1.138317	0.604157	0.265054	1.564139	1.680335	1.531779	1.996805	0.999604	0.725804	1.642111	0.393898
Rohtak	0.614305	3.440931	4.26295	1.664358	1.99502	0.052704	2.601754	3.717479	0.050128	0.776019	1.796355	2.081101	0.220916	1.716733	2.928995	1.183155
Sirsa	6.287972	2.239024	2.918564	1.079899	1.453731	3.203023	4.604536	2.66009	1.217888	0.853883	3.299202	2.332673	2.235093	0.125927	2.348611	0.206921
Sonipat	0.5048	3.998916	1.535287	2.313094	2.068341	1.334469	0.808993	1.926623	2.873809	3.960684	2.232406	0.096358	0.981601	1.208975	2.395664	0.351569
Yamunanagar	8.437435	9.679595	9.22931	9.256073	1.903765	0.130944	3.091635	5.186941	9.628472	0.933825	11.91274	0.33331	1.488254	0.892543	1.149143	0.677599

Table 4.3 GSDP in Haryana Shares of sectoral (primary. Secondary, Teritary) 2000-01 to 2015-16																
Industry	**2000-01**	**2001-02**	**2002-03**	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
(1)	17138.88	17358.41	17874.16	19997.23	21129.26	21601.91	25939.08	32194.36	40102.43	44433.36	51229.85	64538.86	71506.66	79299.14	80152.38	83967.09
(2)	104.36	117.31	118.03	112.72	152.92	156.13	994.66	2136.69	2207.01	2720.22	3115.22	3894.90	4325.60	4003.45	3522.54	3564.83
(3)	74.34	77.78	82.37	98.93	114.06	130.24	162.47	193.89	308.98	356.93	676.44	858.43	1003.22	950.12	1100.80	877.74
(4)	190.39	246.34	175.14	194.99	194.96	358.58	375.66	402.40	398.90	211.33	95.91	118.82	100.13	306.43	251.86	477.43
Primary	**17507.97**	**17799.84**	**18250.03**	**20403.87**	**21591.20**	**22246.86**	**27471.87**	**34927.34**	**43017.32**	**47721.84**	**55117.42**	**64657.68**	**71606.79**	**79605.57**	**80404.24**	**84444.52**
(5)	11610.81	13329.58	15000.78	16934.44	19581.20	22036.32	25857.96	29185.27	33480.04	42456.19	49040.04	53286.09	66637.57	73864.37	77569.21	84875.31
(6)	961.047	1139.79	1715.72	1919.38	1861.60	2373.33	2171.16	2214.74	3180.86	3173.08	3574.96	3446.04	6475.42	9900.52	11019.19	14364.34
(7)	4222.30	5222.68	6025.24	7221.53	8679.68	10478.29	12472.93	14105.50	16504.71	19463.20	23554.85	29759.66	30423.91	35719.36	37025.71	39308.21
Secondary Total	**16794.15**	**19692.05**	**22741.74**	**26075.35**	**30122.48**	**34887.94**	**40502.05**	**45505.51**	**53165.61**	**55092.47**	**66169.85**	**74491.79**	**81336.90**	**87484.25**	**90614.11**	**98547.87**
(8)	8771.97	10186.08	11315.98	12988.22	15957.56	18820.60	21766.92	27133.75	33177.12	41632.47	52525.58	65022.68	76327.83	81278.27	91263.82	103841.17
(9)	3771.47	4523.30	5074.09	5991.46	7049.04	8314.62	9332.66	13269.73	15151.22	19121.73	22919.87	23218.93	24094.82	27626.25	30595.46	32012.01
(10)	2057.73	2350.70	2724.99	2895.71	2990.82	3375.20	3541.84	4950.43	5776.26	6420.56	7339.66	11656.59	13213.89	14838.09	16714.86	18119.65
(11)	2452.57	2710.97	2907.29	3144.19	3369.02	3653.24	13672.34	14694.99	17344.05	22491.81	26468.25	40928.00	50079.87	62622.14	69701.83	78553.96
(12)	1718.82	1826.92	1940.93	2176.80	2706.20	2962.93	3131.53	3262.73	4506.17	5681.70	6671.69	7298.14	8221.86	8856.60	10363.77	11549.20
(13)	3880.13	4398.90	4697.97	5139.91	5644.32	6414.16	7055.45	7862.76	10364.14	13868.00	17136.38	12658.12	14760.85	16528.25	20015.81	23280.10
Tertiary	**22652.69**	**25996.87**	**28661.25**	**32336.29**	**37716.78**	**43540.75**	**58500.74**	**71174.39**	**86318.96**	**109216.27**	**133061.43**	**160782.46**	**186699.12**	**211749.6**	**238655.55**	**267356.09**
Total Income	**56954.81**	**63488.76**	**69653.02**	**78815.51**	**89430.46**	**100675.55**	**126474.63**	**151607.24**	**182501.89**	**212030.58**	**254348.70**	**299931.93**	**339642.81**	**378839.42**	**409673.90**	**450348.48**

Source: Department of economic and statistical analysis, Haryana.