An Analysis of Economic Growth in Haryana

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Abstract

Development is a multi-dimensional process involving the re-orientation and re-organization of entire economic and social systems. The levels of income and output change, involving changes in the institutional, structural and social setup., Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Structural change is defined as a change in the relative weight of the significant components of aggregative indicators of the economy like national product and expenditure, exports and imports and population and labour force. Haryana economy is one of the fastest growing economy of India. It has been growing at a faster pace and experiencing structural change. The present study examines the pattern of economic growth and structural change in Haryana. Along with economic development structural change is taking place. It is reflected in the relative output share of the three main sectors of the State economy. But paradoxically, this structural change is not moving at the desired pace in the employment shares.

Key Words: Development, Strucutral change, Primary sector, Secondary sector, Service sector

Introduction

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. The generation of economic growth may be due to new innovations, better economic resources, improvement in the productivity of the labor force and technological development (which depends on rate of savings and investment and research and development). The economic growth rate helps to assess the direction and magnitude of growth. Structural change is defined as a change in the relative weight of the significant components of aggregative indicators of the economy like national product and expenditure, exports and imports and population and labour force. (Dictionary Paul grave). It is a complex phenomenon involving different effects upon the welfare of people, value system and interstate and international relations. Economic growth brings about this structural change in different aspects directly or indirectly by bringing changes in income, output, employment, consumption patterns, organisational and institutional setup.

REVIEW OF THE THEORY AND EMPIRICS: W.A.Lewis(1954) emphasized on industrialisation through unlimited supplies of labour from over populated subsistence sector to the capitalist sector. Todaro (1969) also stated the two-step labour migration from agriculture to industry. Many nations

experienced structural changes along with economic growth. (Chenery and Syrquin). Various empirical studies tried to underline a set of stylized facts about growth and structural change of an economy. Chenery and Syrquin (1975) undertook the study to find out the development patterns across countries and across time within countries with the objective to measure the growth processes accompanying structural change during the period (1950-1970). It redefined the development pattern as follows: "As a systematic variation in any significant aspect of the economic or social structure associated with a rising level of income or other index of development." Development is a multi-dimensional process involving the re-orientation and re-organization of entire economic and social systems. The levels of income and output change, involving changes in the institutional, structural and social setup. Many of the countries with different institutional features have chosen different economic policies to achieve development and growth, but the significant role of structural differences is important to understand the development process. (Dale W. Jorgenson and Marcel P. Timmer (2011);Cortuk Singh and Nirvkar Singh (2013)). Structural change is defined as a long-term persistent change in the sectoral structure of the entire economy (Syrquin,2007). It includes the relocation of workforce from agriculture to non-agricultural production in the modern development scenario (Roy, 2008). Lewis (1954) stated that the surplus labour moves from traditional (agricultural) sector to the modern (nonagricultural) sector for faster economic development. India has experienced a shift in workforce from the agricultural sector to the nonagricultural sector. (Chaudhury2011) analysed that a major decline in the proportion of employment in the agricultural sector from 2004-05 to 2011- 12, has been compensated by an increase in employment in the construction sector, both in the rural and urban areas. Summing up, structural change can be understood as different arrangements of productive activity in the economy and different distributions of productive factors among various sectors of the economy. Indian economy and its States are experiencing economic growth and structural change.(Sharma and Kumar, Jaya1995, Singaryia 2015). Haryana economy is one of the fastest growing economy of India. It has been growing at a faster pace and experiencing structural change. The present study examines the pattern of economic growth and structural change in Haryana.

Objectives of the Study: 1) To examine the growth pattern of the economy of Haryana. 2) To assess the sectoral growth pattern in Haryana . 3) To understand the structural change in Haryana economy.

Methodology: The present study is based on secondary time series data on aggregated and disaggregated State Gross Domestic Product (SGDP). Secondary data have been collected from statistical abstracts and economic survey reports of Haryana for various years. Growth rates and percentages have been calculated. For analysing the growth pattern and structural change of Haryana, following variables have been selected: State Gross Domestic Product, Net Domestic Product, Per capita Income, Human development Index, unemployment rates. An economic growth rate is a measure of economic growth from one period to another in percentage terms.

 The formulae :   GDPt - GDPt-1 divided by GDPt-1

$$ CAGR = \left(\frac{Ending\ Value}{Beginning\ Value} \right)^{\left(\frac{1}{\#\ of\ years} \right)} - 1 $$

For structural change, sectoral shares have been calculated and compared.

Profile of Haryana State: Haryana is predominantly an agriculture state but it has accelerated the growth rates in all the three sectors, especially industrial and service sector. The State is one of India's largest automobile hubs and accounts for two thirds of passenger cars, 50 percent of tractors and 60 percent of motorcycles manufactured in the country. The state has also emerged as a base for the

knowledge industry, including IT and biotechnology. Haryana is the third- largest exporter of software and one of the preferred destinations for IT/ ITeS Facilities. Haryana has an area covering just 1.3 per cent of the country. Haryana contributes nearly 3.5 per cent to India's GSDP. During 2004-15, the GSDP grew at a compound annual growth rate (CAGR) of 12.93 per cent. Haryana has third highest per capita income in the Country at constant prices Rs.71493.Haryna is economically fast moving State but slow moving on the socio paprameters due to rigid social set up. e.g.higher female foeticide. The HDI Rank of Haryana was 7th in 1999-00, slipped to 9th rank in 2007-08 but again rose to 7th rank in the year 2014-15.(Table 1). Haryana is considered as the current growth engine of India. Haryana is at second position in food grain production in the country. Haryana is self-sufficient in food production and the second largest contributor to India's central pool of food grains. The main crops of Haryana are Wheat, Rice, Sugarcane, Cotton, Oilseeds, Gram Barley, Corn Millet etc. About 86% of the area is arable and of that 96% is cultivated. About 94.4% of the area is irrigated through tube-wells and an extensive system of canals. Haryana contributed significantly to the Green Revolution that made the country self-sufficient in food production. Haryana has a tremendous irrigation infrastructure. Irrigation in Haryana uses water either from underground or from surface through canals. Currently, the most important technology for groundwater irrigation is the use of tube-wells with pump. Besides farming, dairy farming is also essential part of the rural economy. The National Dairy Research Institute at Karnal, and the Central Institute for Research on Buffaloes at Hisar are instrumental in development of new breeds of cattle and propagation of these breeds through embryo transfer technology. As a consequence of rapid structural transition of the State economy over the years, the contribution of the Agriculture & Allied Sector at constant (2004-05) prices went down to only 15.6 percent in the SGDP during 2012-13.

The Three Sectors: The primary Sector namely, Agriculture and Allied Sector is composed of Agriculture, Forestry & Logging and Fishing Sub-Sectors. Agriculture including crop and dairy farming is the main component contributing about 95 percent in GDP of Agriculture and Allied Sector. The contribution of Forestry and Fishing Sub-Sectors in GDP of Agriculture and Allied activities is merely around 4 and 1 percent respectively resulting in very low impact of these two Sub-Sectors on the overall growth of Agriculture and Allied Sectors. Main industries in Haryana are food products and Beverages, Tobacco, textiles, wearing apparels, tanning and dressing of leather, wood and wood products, footwear, paper, publishing and printing, chemicals, medical, optical, watches, rubber and plastics, non-metallic mineral products, fabricated materials, radio and television, electrical machinery, construction and service sector includes whole sale trade, furniture, supporting and auxiliary transport, railways, communication, storage, hotels and restaurants, IT sector, public administration, other services etc.

Results and Discussions: Haryana is a fast growing State. The per capita income of the State increased   62 times approx. from Rs. 608 in the year 1966-67 to Rs. 37972 in the year 2004-05 at constant prices, 2004-05. It continued to rise and after 10 years i.e. in 2014-15, it is Rs. 71493. The rate of growth in per capita income remained quite higher. It was 7.0 percent in 2005-06 and fell down to 5.8 percent in 2008-09 but rose to 10.6 percent in 2009-10. It was 6.29 percent for the year 2014-15. There are fluctuations in the growth of per capita income in Haryana. (Table1.1). Comparing the growth rates of per capita Income with India, Haryana's per capita income growth rate has remained higher than that of India's except for the years 2007-08 and 2010-11. (table 1.2). Table 1.3 depicts the Gross State domestic Product in Haryana both at current and constant prices. SGDP at Current prices is 435310.05 crores rupees for the year 2014-15 while the corresponding value of SGDP at constant prices is 215145.73 crores   rupees. At constant prices, it increased by more than double in 10 years from 2004-05 to 2014-15.The annual growth rate of SGDP has been very higher. It was 8.42 percent in 2004-05, rose to 11.22 percent in 2006-07, it slowed down for the next two years but again rose to 11.72 percent   in the year 2009-10. It was 7.75 percent for the year 2014-15 at constant prices.(Table 1.4). Looking at the compound annual growth rate of SGDP at constant prices of 2004-05. The State

economy experienced a high CAGR since 1970.It was 4.06 percent for the decade of 1970s. It was 3.32 percent for the period 1980 to 1984-85. It was very high (7.01) during the decade 0f 80s.The economy experienced a low growth (5.28) during the decade of 90s. The State economy recovered and the SGDP CAGR became 8.01 percent during 2..5-06 to 2009-10 and remained higher in the coming decade i.e. it was 7.62 percent during2004-05 to 2013-14.(Table 1.6). There is close relation between the performance of agriculture sector and overall growth performance of the   State economy. Haryana's primary sector, which constitutes farming, showed dismal performance in 2009-10 by growing at just 0.7 per cent, against 4.8 per cent growth in 2008-09, lowering the growth rate of Per capita income, as a number of crops' output fell, including wheat and jowar. The predominance of agriculture sector is also responsible for instability in growth rate of economy due to fluctuations in farm production. So in Haryana, the higher growth rate show wider fluctuations. The structural composition of State economy has undergone crucial changes over the long years. Agriculture Sector occupies a significant position in State economy, but with declining share in SGDP. The predominance of Agriculture Sector and its dependence on nature is also responsible for instability in the growth rate of economy. Natural calamities and fluctuations in rainfall often cause substantial loss in crop production. The fall in the share in agriculture sector in SGDP has been grabbed by Services sector and not by manufacturing sector. The composition of Gross State Domestic Product at constant (1993- 94) prices reveals that share of Primary Sector which includes Agriculture and Allied Sectors has declined from 56.6 percent in 1966-67 to 42.5 percent during 1993-94 and then to 29.3 percent during 2002-2003. It further fell to 23.1 percent in 2004-05 and almost after a decade, the share of agriculture sector fell to only 15.6 percent in 2012-13. Manufacturing Sector which occupies the second place in the State economy experienced a rise in its share in SGDP from 17.6 percent in 1969-70 to 26.2 percent in 1993-94 and then to 28.0 percent in the year 2001-02. It continued to rise but slowly to 32.9 percent in 2004-05. It is 27.0 percent in the year 2013-14. The relative rising share of secondary sector in SGDP is healthy sign. It means State is undergoing the process of industrialisation. Services Sector combines different services like Trade, Transport, Banking,Insurance, real estate, Public Administration, Education, Health etc. also witnessed significant increase in its share in SGDP. The structural change in Haryana and its growth has been led by services Sector. Its share in Gross State Domestic Product was 21.7 percent in the year 1969-70 which rose to 31.3 percent in 1993-94 at constant prices. The service sector got a boost and its share jumped to 39.5 percent in 2001-02 and then to 44.0 percent in the year 2004-05. After a decade, it is now 58.0 percent in the year 2013-14.(Table 1.8). In a span of 30 years, the structural composition of SGDP changed with changing share of Agriculture from 42.75 percent in 1980 to 17.44 percent in 2009-10,share of Secondary sector changed from 27.43 percent to 29.92 percent and that of service sector from 29.81 percent to 52.64 percent in SGDP for the same period.(Table 1.9).The CAGR of Agriculture& Allied Activities was 3.7 percent, Mining & Quarrying - 20.3 percent , Manufacturing 6.6 percent , Electricity, Gas & Water Supply 10.4 percent, construction 4.4 percent, Transport Communication & Trade 12.8 percent, Finance & Real Estate 12.2 percent, Public Administration 9.8 percent, Other services 12.6 percent, Community and personal services11.7 percent, Gross State Domestic product 8.7 percent. (Table 1.5). Trade Sector which occupies the third important place in State economy after Agriculture and Manufacturing Sectors witnessed an increase in its share in the Gross State Domestic Product and its share rose from 11.6 percent during 1993-94 to 16.1 percent during 2000-2001 at constant (1993-94) prices to 17.57 percent in 2004-05 at constant prices. The continuous increasing trend in the share of this sector highlights its potential for future growth. The composition of Gross State Domestic Product reveals that the share of Primary Sector is continuously declining whereas the share of Secondary as well as Service sector is continuously increasing. It shows that the State economy is shifting from Agriculture to Manufacturing and Services Sectors. Analysing the sector wise growth rate, it is found that Transport, Communication & Trade showed the highest growth rate(12.8 percent) in the 11th Plan , followed by other service (12.6 percent) and community and personal services(11.7 percent). Besides these sectors, Electricity ,Gas and water supply has high growth rate10.4 percent. Occupational distribution is an important

indicator of structural change. The constantly changing occupational distribution of work force in Haryana shows that structural change is tak8ing place in labour shares at very slow pace. In 1980-81, 65.13 percent of the workforce in Haryana was employed in primary sector which fell to 61.44 percent in 1990-91, just by 4 percent (approx) in a span of 10 years in the next 10 years, this share fell by 9 percent in the same duration i.e. from 61.44 percent to 52.40 percent . This trend continued and in the next 10 years, this labour share in the Primary sector fell to 44.11 percent , a decline by 8 percent only from 1990-91 to 2009-10, although on the output front, the share of Primary sector in the State Domestic product fell to 17.44 percent in 2009-10 from 29.25 percent in the same decade, showing a fall by 12 percent. Hence, the structural change has taken place in the sectoral shares in output but the sectoral shares in employment has changed slowly.(Table 1.9 and Table 1.10). Looking at the annual growth rate of the three sectors in Haryana , It is found that the primary Sector experienced negative growth rate in four years out of ten years duration from 2004-05 to 2012-13. The secondary sector grew almost above 4 percent growth rate and service sector grew above 8 percent during 2004-05 to 2012-13. (Table 1.11). It can be concluded easily that the fastest growing sector i.e. service sector in Haryana has not been able to generate enough employment opportunities to absorb the labour which is being released by the slow growing sector i.e. primary sector. Table 1.12 shows the workforce Participation Rate in rural and urban in Haryana. WFPR 2011 has been 35.17 percent (combined). Of which 50.44 percent is for males and 17.79 percent is for females. Strangely, the female WFPR in rural areas is higher (20.8) than urban (12.1) in 2011.The rate of unemployment is as high as 4.2 percent in urban ar4esa and 2.8 percent in rural areas in Haryana for the year 2011-12.9Table 1.13). Unemployment rate is defined as the number of persons unemployed per thousand persons in the labour force. It is more refined indicator of the unemployment situation. Growth and employment are inter-related. Increase in employment through rising growth is essential not only to absorb the ever-rising labour force of the economy but also to improve the standard of living of the masses (Kapsos 2005). The intensity of job creation i.e. employment per unit of output, is related to economic growth. If growth has been achieved by rising the quantity of factor inputs or by rising the productivity of factor inputs . or by both.   A 3 percent increase in output leads to 1 percent decline in unemployment rate.(Okun1962) There is direct relation between economic growth and employment (Walterskirchen1999). In indonesia, agriculture sector depicts highest employment elasticity, then services sector and lastly, industry sector.(Islam2000).

Conclusion and Suggestions: Haryana economy is surely one of the fast moving State. Along with economic development structural change is taking place. It is reflected in the relative output share of the three main sectors of the State economy. But paradoxically, this structural change is not moving at the desired pace in the employment shares. The diversification of agriculture sector is good factor. But the secondary sector is undergoing very slow changes. The service sector has been growing at the highest rate for the last two decades. With the growth of various subsectors of the service sector like trade, transport, IT sector, community services and public administration, the potential of further growth in output, productivity and employment is quite visible.The employment potential of the new growing sectors and employment intensity of growth are the areas of future research. The government must not ignore agriculture and allied activities as the inter linkages of all the three sectors stresses the need of a balanced growth o0f all the sectors and sub sectors of the State economy.

Table1   Human Development Index, Haryana

Year	HDI Value and Rank
1999-2000	0.501 (7)
2007-08	0.552 (9)
2014-15	0.6613 (7)

Source: Human Development Report,2011 Figures in brackets represent Rank

Table 1.1: State Per Capita Income (constant prices) (2004-05) (Rupees)

year	Per capita income	Growth in Per capita income
1966-67	608	----
2004-05	37972	----
2005-06	40628	7.0
2006-07	44423	9.3
2007-08	47046	5.9
2008-09	49780	5.8
2009-10	55044	10.6
2010-11	57797	5.0
2011-12	61716	6.8
2012-13 P	64052	3.8
2013-14 Q	67260	5.0
2014-15 A	71493	6.29

Source: Economic Survey, Haryana 2014-15 P: Provisional Estimates, Q: Quick Estimates, A: Advance

Table 1.2   Growth in per capita income at constant prices (2004-05) percent

YEAR	HARYANA	INDIA
2005-06	7.0	7.8
2006-07	9.3	7.9
2007-08	5.9	8.1
2008-09	5.8	4.7
2009-10	10.6	6.8
2010-11	5.0	6.8
2011-12	6.8	5.1
2012-13	3.8	2.1
2013-14	5.0	2.7

Source: Department of Economic and Statistical analysis, Haryana.

Table1.3:GrossStateDomesticProduct,Haryana(crore rupees)

Plan Period / year	Gross state Domestic Product at current Prices	Gross State Domestic Product At Constant Prices 2004-05
2004-05	95795	95795
2005-06	108885	
2006-07	128732	
2007-08	151595.90	126170.76
2008-09	182522.15	136477.94
2009-10	223600.25	152474.47
2010-11	260621.28	163770.20
2011-12	298688.33	176916.97
2012-13	341351.16	186642.83
2013-14	388916.63	199656.83
2014-15	435310.05	215145.73

Source: Economic Survey, Haryana 2014-15

Table 1.4   GSDP   Growth rate in Haryana at constant prices (2004-05)

YEAR	HARYANA GSDP growth rate
2004-05	8.42
2005-06	9.20
2006-07	11.22
2007-08	8.45
2008-09	8.17
2009-10	11.72
2010-11	7.41
2011-12	8.03
2012-13	5.50
2013-14	6.97
2014-15	7.75

Source: Economic Survey, Haryana 2014-15 (calculated)

Table 1.5   Sector wise Growth in SGDP (11th& 12th Five Year Plans) (Percent)

Industry	11th Plan (2007-12)	2012-13 (Q)	2013-14
Agriculture& Allied Activities	3.7	-0.7	3.2
Mining & Quarrying	-20.3	-13.7	-1.2
Manufacturing	6.6	4.9	3.8
Electricity,Gas & Water Supply	10.4	0.5	5.1
Construction	4.4	4.7	4.6
Transport, Communication & Trade	12.8	6.7	5.6
Finance & Real Estate	12.2	15.3	15.6
Public Administration	9.8	5.5	3.5
Other Services	12.6	13.0	13.0
Community & Personal Services	11.7	10.9	10.5
Gross State Domestic Product	8.7	6.5	6.9

Source: Department of Economic & Statistical Analysis, Haryana

Table 1.6   CAGR OF SGDP, HARYANA (percent) at 2004-05 prices

Period	CAGR
1970-71 to 1979-80	4.06
1980-81to 1984-85	3.32
1985-86 to 1989-90	4.32
1980-81 to 1989-90	7.01
1990-91 to 1994-95	2.88
1995-96 to 1999-2000	3.91
1990-91 to 1999-2000	5.28
2000-01 to 2004-05	6.47
2005-06 to 2009-10	8.01
2004-05 to 2013-14	7.62
2010-11 to 2013-14	6.99

Calculated at constant prices 2004-05

Table 1.7   CAGR OF SNDP, HARYANA (percent) at 2004-05 prices (percent)

Period	CAGR
1980-81to 1984-85	3.18
1985-86 to 1989-90	4.37
1990-91 to 1994-95	2.72
1995-96 to 1999-2000	3.95
2000-01 to 2004-05	6.41
2005-06 to 2009-10	7.79
2010-11 to 2013-14	5.11
2004-05 to 2013-14	7.62

Calculated on constant prices 2004-05

Table 1.8: Changing Sectoral Composition, Haryana (percent)

YEAR	AGRICULTURE	SECONDARY SECTOR	SERVICES SECTOR
1966-67	56.6	20.5	22.9
1969-70	60.7	17.6	21.7
Base year 1993-94			
1993-94	42.5	26.2	31.3
1994-95	42.5	26.7	30.9
1995-96	39.4	28.3	33.7
1996-97	39.2	27.1	33.7
1997-98	35.6	28.4	36.0
1998-99	34.9	28.8	36.3
1999-2000	33.9	28.2	37.9
2000-01	32.6	27.9	39.5
2001-02	31.1	28.0	40.9
2002-03	29.3	27.5	43.0
2003-04	29.5	27.5	43.0
Base year 2004-05			
2004-05	23.1	32.9	44.0
2006-07	21.3	32.1	46.6
2009-10	17.4	29.92	52.64
2011-12	16.8	28.7	54.5
2012-13	15.6	27.7	56.7
2013-14	15.0	27.0	58.0
2014-15(AE)	14.1	27.0	58.9

Source: Economic surveys, Haryana, various years(Calculated)

Table 1.9: Changing Sectoral Composition of Domestic Product, HARYANA
(2004-05 Prices)

SECTOR	1980-81	1990-91	2000-01	2009-10
PRIMARY	42.75	37.31	29.25	17.44
SECONDARY	27.43	29.65	29.79	29.92
SERVICES	29.81	33.04	40.96	52.64
TOTAL	100.00	100.00	100.00	100.00

Calculated

Table 1.10 : Changing Occupational Distribution of Workforce, Haryana

YEAR	PRIMARY SECTOR	SECONDARY SECTOR	TERTIARY SECTOR
1980-81	65.13	14.25	20.62
1990-91	61.44	12.55	26.02
2000-01	52.40	15.97	31.63
2009-10	44.11	19.43	36.46
CAGR(1980-2010)	-1.29	1.04	1.92

Source: Economic Surveys, Haryana Statistical Abstracts, various years (Calculated)

Table 1.11 -Sector wise Growth rates in State GDP during 11th Five Year Plan

Sector	PRIMARY SECTOR	SECONDARY SECTOR	TERTIARY SECTOR
2004-05	3.37	10.69	9.81
2005-06	-1.81	8.49	15.51
2006-07	14.15	9.22	11.32
2007-08	-0.06	6.59	13.62
2008-09	7.21	3.50	11.57
2009-10	-1.45	11.41	17.00
2010-11	5.22	5.60	9.15
2011-12	7.86	4.88	9.82
2012-13	-0.58	4.43	7.94
2013-14	3.06	4.43	7.94

Source: Economic Surveys, Haryana Statistical Abstracts, various years , Calculated

Table: 1.12   Work Force participation Rate 2011

State	Rural	Urban	Combined
Haryana			
Female	20.8	12.1	17.79
Male	50.1	51.15	50.44
Total	36.4	32.95	35.17

Source: NSSO 68th Round

Table 1.13   Unemployment Rate 2011-12 haryana

level	category	rural	Urban
Haryana	Female	4.2	5.6
	Male	2.6	4.0
	Total	2.8	4.2
India	Female	2.9	6.6
	Male	2.1	3.2
	Total	2.3	3.8

Source: NSSO 68th Round   Unemployment rate is calculated as percentage of Labour force

**Table-: 1.14   Employment in Organized Sector , Haryana
(As on 31st December,2015)**

Type of Establishment	Number of persons employed 2014	Number of persons employed 2015
Public Sector		
Central Govt.	19314	19272
State Govt.	238679	238984
Quasi Govt. (Central/State)	95659	94197
Local Bodies	20248	12897
Sub-Total	373903 (46.10)	365350 (43.58)
Private Sector	437106 (53.90)	472949 (56.42)
Total	811009 (100.00)	838299 (100.00

Source: Haryana Statistical Abstracts, various years

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