

## GROWTH AND STRUCTURAL CHANGE IN ODISHA

*Priyabrata Sahoo<sup>1</sup> & D.P Priyadarshi Joshi<sup>2</sup>*

*This paper is an attempt to study the sectoral growth rate, the composition of growth and the relative performance of the Odisha economy over four decades (1970-71-2012-13). The post-reform period of Odisha recorded a high growth in output than the pre re-reform period. The first decade characterized by a slow primary sector growth. In the second and third decade, the secondary sector gained pace; while the primary sector witnessed a low and negative growth rate. The fourth decade, primary and tertiary sectors recorded a faster growth rate. Balakrishnan & Parameswaran (2007) methodology has been used for decomposition of growth among sectors. It shows that it's the tertiary sector which remains the major driver of growth over the year. While primary sector recorded a reduction in its contribution to the total growth, the secondary sector contribution remains constant over the year. The paper also intends to find, with higher growth whether the relative economic position of Odisha with respect to other states has witnessed any major changes and the answer is negative.*

### INTRODUCTION

Growth is a necessary & essential condition for economic development and inclusive growth. Growth is used as an indicator of economic wellbeing. The growth history of the developed countries has confirmed that with higher growth, the economy transforms from traditional to modern sector i.e. from agriculture to industry to service sector. The share of industry and service sector in the Gross Domestic Product (GDP) starts to dominate the economy while the agricultural sector witnessed a decline in its share. One of the objectives of the inclusive growth is to generate both higher quantity and quality of employment. It is important to increase the income of those sectors, where the large mass depends on. In an underdeveloped and developing economy the large mass especially the poor mainly depends on the agriculture sector and hence the growth of this sector plays an important role for achieving inclusive growth.

Odisha is having huge natural resources and is having potential for higher economic growth. Some of the recent literature observed that the relative economic position of Odisha has improved. Samantaray, A. and et.al (2014) took both the income and non-income indicators (literacy rate, infant mortality rate & maternal mortality rate) to show the improved economic position of Odisha. His primary survey in three different regions of Odisha shows that the post-reform decade has witnessed an occupational mobility and high asset holding among the households. Panda (2012) has shown in his paper that Odisha has achieved a higher growth rate in the recent past with a high poverty reduction. The above literature mentioned that Odisha has recorded a high growth rate in the recent past and its relative economic position has improved. If it is true, it became important to know which are the sector witnessing a faster growth rate in the state? Is there a major structural transformation in output and employment in the state? What is the nature and composition of growth in Odisha at different phases? This paper tries to examine the proposition, 'did Odisha achieve a high growth rate and Structural change in recent past? If yes, what are the phases and the sub-sectoral growth in different phases? The paper tries to explain the sectoral contribution to the overall NSDP growth in each phase. Whether the relative economic performance of Odisha has been improved in comparison to the other states? The paper consists

<sup>1</sup> Research Scholar, School of Economics, University of Hyderabad, email: priyabratasahoo08@gmail.com

<sup>2</sup> Lecturer, Department of Economics, Balimela College, Malkanigiri, Odisha

of 7 sections. After providing an introduction in section 1, the section 2 discusses the sectoral composition of output and employment in Odisha. Section 3 describes the phases of economic growth of Odisha. Section 4 presents the sectoral composition of growth of NSDP of Odisha. Section 5 explains the relative performance of Odisha w.r.t other states, followed by a concluding remark in section 6.

## DATA AND METHODOLOGY

The Net State Domestic Product (NSDP) data and the per capita NSDP data of Odisha has collected from the State Domestic Product data of Economic and Political Weekly (EPW) Research Foundation (originally published by National Accounts Statistics (NAS), CSO). The period of analysis is from 1970-71 to 2011-12. The data are available at four different base year (1970-71, 1980-81, 1993-94 and 2004-05) at constant prices. Hence for a comparison the whole series converted into a common base 2004-05 by using the splicing method. The five-year moving average method is used to smoothen the fluctuations in the data series, and hence we lose three years. The phases of growth can derive after estimating the structural break in the series. There is various method for estimation of the single/multiple structural breaks. The limitations of the structural break analysis as presented by Dholakia (2011). Estimating structural break for different sectors are not going to give us a unanimity period of analysis, and hence estimation of growth will be cumbersome. To avoid this problem the decadal growth analysis has been used in this paper. To have a high degree of freedom the dummy variable regression model has been used which has explained in the next paragraph. The compound annual growth rate has been calculated among the sectors over the decades. The sub-period analysis of growth has been calculated using the dummy variable interaction model. Three dummy has used for the four decades.

Balakrishnan & Parameswaran (2007) has done the decomposition analysis among the sectors for all India. The same methodology is followed in this paper.

If Y denotes aggregate GDP, while P, S, and T refer to primary, secondary and tertiary sector GDP respectively. Let  $w_{it}$  denote the share of sector i in year t, and g the growth rate. Then Y can be written as

$$Y_t = P_t + S_t + T_t \dots\dots\dots(1)$$

From equation (1) the growth rate Y can be written as –

$$g_{Yt} = w_{Pt}g_{Pt} + w_{St}g_{St} + w_{Tt}g_{Tt} \dots\dots\dots(2)$$

This can be done for the two sub-periods and then terms can be arranged to have:

$$\overline{(g_{Y2} - g_{Y1})} = \overline{(w_{P2}g_{P2} - w_{P1}g_{P1})} + \overline{(w_{S2}g_{S2} - w_{S1}g_{S1})} + \overline{(w_{T2}g_{T2} - w_{T1}g_{T1})} \dots\dots\dots(3)$$

Dividing the equation throughout by left-hand side value and multiplying by 100 gives the percentage contribution of each sector to the change in average growth rate of Y in period two over the previous period.

## **STRUCTURAL TRANSFORMATION AND RELATIVE ECONOMIC POSITION OF ODISHA**

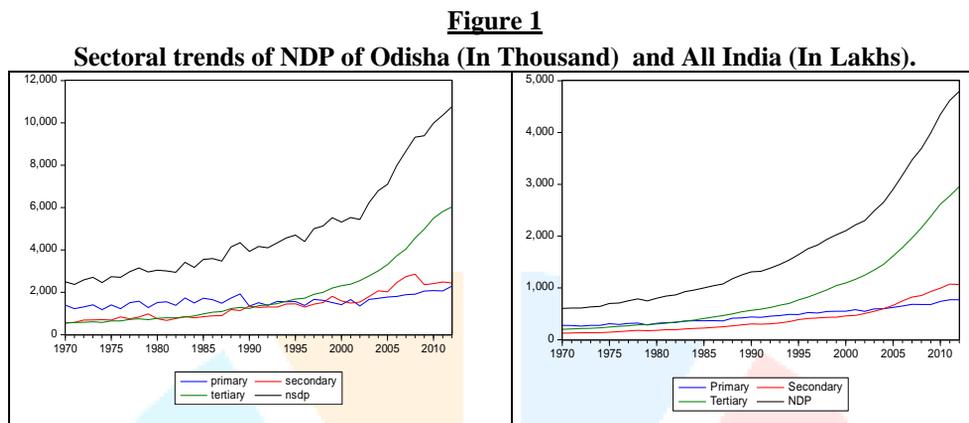
The relative economic position of Odisha can be examined by looking the per capita income (PCI) of Odisha with the other states. The PCI data for the major states (9 states) for the period 1970-71 to 2011-12 has collected from EPW research foundation. The splicing method has been used to convert different base year series into a common 2004-05 base. The states are ranked on the basis of their PCI for the year 1991-92. The selection of the particular year for ranking of the state is because of the fact that it lies in middle of the whole period of analysis. Nine states are picked up, three each from the lower, middle and high PCI states. The relative economic position of Odisha can be derived by taking the ratio of each state PCI to Odisha PCI. The states with the index greater than 100 implies, the concerned state is in a better position in comparison to Odisha and vice versa.

The structural transformation as a concept has started with the writings of Fisher (1939), Clarke (1951), Kuznets (1966, 1971) and Kaldor (1966, 1967). To them with the growth of an economy, the sectoral composition of output and employment undergo changes. The structural changes have been taking place with the falling share of income and employment in the primary sector and an increasing share of the secondary and tertiary sector.

India has witnessed a higher growth rate in the post reform period as a result of faster growth in the tertiary sector (Eichengreen & Gupta; 2011, Pais, J.; 2014). With high growth, the primary sector witnessed a decline in the share of output while the tertiary sector has recorded faster increase in its share and the industrial sector remain stagnant over decades (Papola, T. S. ; 2006, Mazumdar, S. ; 2011). Looking into the employment share, still more than 50 percent of the population of India depends on the primary sector whereas the sector has seen a faster decline in output share in the post reform period. While the tertiary sector witness an increasing share of income, the labour-absorbing capacity of this sector is low. The secondary sector share of income and employment remain stagnant since decades showing a stunted structural transformation in India (Binswanger; 2013).

As mentioned in the introduction section, the state Odisha achieved a higher growth rate in the post reform period. Hence the questions which come forward, does Odisha witness the same trends as the national level? If it has recorded a higher growth, does there any structural transformation in terms of output and employment in the state among the sectors. The sectoral growth rate has been looked in the next section whereas the level of income and share of income and employment are presented in this section.

Figure 1.1 & 1.2 presents the sectoral trends of NSDP of Odisha and India. From figure-1.1 it can be seen that the primary sector income for Odisha is higher over the secondary and tertiary sector up to 1990-91. It implies that the Primary sector remains the major source of income of Odisha up to 1990's. It is only after 1994-95, the tertiary sector income crosses the primary sector and primary sector witness a slowdown. It is after 2002-03 the tertiary sector witness a faster rise resulting rise in NSDP of Odisha. In case of all-India, the tertiary sector witnessed a rising trend way back in the 1980's while for Odisha it is around 1990's. Both in Odisha and India it's the tertiary sector which remains the major driver of the total output over the year.



Source: – CSO, National Accounts Statistics, GOI.

**Table 1**  
**Sectoral Composition of NSDP in Odisha and India (In percent)**

Year/Sector	Odisha			India		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
1971-72 to 1981-82	49.83	26.56	23.61	42.38	21.86	35.76
1981-82 to 1991-92	44.54	26.61	28.85	35.91	22.75	41.34
1991-92 to 2001-02	31.11	30.03	38.86	28.71	22.32	48.97
2001-02 to 2011-12	22.57	27.66	49.77	19.33	22.95	57.73

Source: Estimated from CSO, National Account Statistics (NAS).<sup>1</sup>

Table 1 presents the decadal average income share of sectors of Odisha and India. The level of income shows the trends of sectoral output for Odisha and India. But in order to have a comparison of the sectoral output among Odisha and India the sectoral share of output has been considered. Instead of having the sectoral share of income for a particular year the decadal wise income share among the sectors has calculated. The primary and secondary sector contribution to total income are higher for Odisha in comparison to all India whereas the reverse is the case for the tertiary sector. It emerges from the trends that the primary sectors income share has been declining throughout while the tertiary sector shares witness rising trends. While the decline in the share of primary sector and an increase in the share of tertiary sector is faster in the post-reform period in comparison to the pre-reform period for Odisha, it is consistent through-out at the national level. The secondary sector income share remains almost constant over time. The agriculture sector remains the prime contributor of the primary sector and to the overall NSDP. With the tertiary sector accounting for more than half (56%) of the NSDP, it become an important sector for the state economy. The sector followed by the secondary sector (24%) and the primary sector has a mere 20% share of the total NSDP of Odisha for the year 2011-12. In the case of all India, primary sector constituted only 13% of the NDP while the income share of the secondary and tertiary sector to the NDP is 22% and 65% respectively for the year 2011-12.

<sup>1</sup> The sectoral NSDP trends are highly fluctuated and hence instead of taking a yearly average income share the decadal income share has been calculated to have a better understanding of the composition of the output of Odisha.

The detailed sub-sectoral trends of NSDP is provided in the appendix of the paper. Agriculture remains the prime contributor of the primary sector though its share has been declined over year. The major increase in income share of the secondary sector in Odisha happens in 1990's due to higher growth of mining as there is huge flow of FDI to mining sectors of Odisha (Das; 2016). Among the secondary sector construction, manufacturing and mining contribution are larger. The mining sector have witnessed the highest increase in income share among the secondary sector. The income share of the construction sectors even dominates the manufacturing sectors in Odisha. Though the income share of the secondary sector rises in 19990's again it witness falling trends. It is the trade-hotel-restaurants, transport-storage-communication and the other services which contributed more to the tertiary sector. Sector emerges as the fastest growing sub-sectors among the tertiary sector are banking and insurance sub-sectors. The major rise in income in the tertiary sector happens to be after post reform.

Table 2

**Sectoral share of employment in rural and urban Odisha and India**

<i>Year/Sector</i>	<i>Rural Odisha</i>			<i>Urban Odisha</i>		
	<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i>	<i>Primary</i>	<i>Secondary</i>	<i>Tertiary</i>
1993-94	80.90	9.40	9.80	15.70	26.40	57.70
1999-00	78.20	11.90	9.90	13.00	32.00	55.00
2004-05	69.00	17.50	13.60	13.90	26.60	59.40
2011-12	62.25	22.64	15.13	14.10	23.11	62.80
	<i>Rural India</i>			<i>Urban India</i>		
1993-94	78.40	10.20	11.40	12.30	32.10	55.50
1999-00	76.30	11.40	12.40	8.80	32.20	59.20
2004-05	72.70	13.70	13.60	8.80	34.10	57.20
2011-12	64.10	20.39	15.51	6.69	34.99	58.33

Source : Taken from NSSO Employment Unemployment Survey various Reports

The sectoral share of employment along with income over time will provide us a picture of, in which direction the economy is moving? As previously mentioned one of the main objective of inclusive growth is to provide opportunities and hence creation of both quantitative as well qualitative employment with high growth in income. Table-2 presents the sectoral share of employment in rural and urban Odisha and India in terms of the Usual Principal Subsidiary Status (UPSS) for the post-reform period. The data are collected from Employment Unemployment Survey (EUS) quinquennial reports prepared in each five year by NSSO. Due to lack of availability of employment data, I have considered four quinquennial rounds for our estimation. The 50th, 55th, 61st, and 68th round reports of NSSO has been taken for this purpose. As the report does have rural and urban classification of employment –unemployment data and does not provide the total employment scenario, the same classification has been considered here.

The share of employment in rural Odisha and rural India are more or less remain same while the urban areas of Odisha and India seen a different share among the sector. While the primary sector witnessed a decline in employment share, there is an increase in share of secondary and tertiary sector. The changes are however faster in the decade of 2000's. A large mass of the population still depends on the primary sector for their livelihood. In Odisha around 65 % of the total population employed in primary sector in 2004-05 which has declined to 57 % in the year 2011-12. While for the all India the figure has declined from 58.5 % to 49%. Among the secondary sectors in Odisha, it is the manufacturing and construction sectors which have seen a high rise in

the employment share. Though the mining sector has recorded a high growth in NSDP during the 1990's period, its employment share has declined and its share in overall employment is meagre, less than 1 percent. The employment share of the secondary sector increases faster than the tertiary sector. Hence though there is a high growth rate in output in the tertiary sector in terms of employment generation its lag behind. In Urban Odisha the employment generation in the secondary and tertiary sector are higher than the primary sector. Comparing with urban India in urban Odisha the employment share for primary and tertiary sectors are higher and the secondary sector is having lower employment share. It implies that though there is industrial growth in the state, it has confined to the rural Odisha where there is a rise in employment share of this sector. As 85% of population of the state lives in rural areas the rural share of employment plays a vital role for the inclusive growth of the state. In the state like Odisha which are having slow urbanisation process, the employment creation in the rural economy plays a vital role for the inclusive growth. Still around 60% of the population depends on the farm sector in Odisha though its share of income has declined drastically to 15% implying the importance of the farm sector in the state of Odisha.

### **GROWTH IN ODISHA**

As discussed earlier the nature and composition of growth plays an important role to determine the inclusiveness in an economy. The previous section deals with the level and share of income among the sector. Though it provides us in which direction the economy moves forward and whether there is a structural transformation by looking the trends it fails to give an idea how much an economy is moving forward. In order to analyse this we have to estimate the growth rate of income among the sectors. Which are the sectors witnessing a higher growth rate in Odisha and driving the total growth rate. Here first we are presenting the growth literature at the national level followed by the methodology and sectoral growth of output in Odisha and the phases of growth in income in Odisha.

While the growth in output has started its momentum at India during the 1980's, it's fragile and volatile in comparison to the growth of 1990's which is more sustainable and the high growth is due to the major policy intervention (Panagariya; 2004). To him India grew at 3.5 per cent, popularly known as Hindu rate of growth, during the period 1950 to 1980. Kaur (2007) also find the same result showing the major structural break started in the mid of 1980's. Sen & Kar; 2014 argued the growth in the recent period are in the sectors such as mining, telecommunication, real estate, etc., which attributed to the 'closed ordered deal' between the business houses and the political agents. Though the growth rate is higher, this type of growth pattern is not sustainable over time and beneficial to certain section of society. All these literatures on growth of income in India are of the opinion that the nation witness a higher growth rate in the post reform period. Does Odisha witness the same growth rate at different phases as the national level or it witness a different pattern of growth rate?

Despite having huge natural resources Odisha has been considered as a backward state since decade. Odisha's annual per capita income for the fiscal year 2012-13 was estimated to be Rs. 24,928 in comparison to the all-India average of Rs. 39,904, way below the national average. Odisha economy lags behind the national average in terms of both level and growth of NSDP. The long-run growth rate of the Odisha economy during the period 1950-51 to 1997-98 is around 2.7

% (Meher; 2003). According to him, the slow growth rate of the economy is due to the slower growth of the agricultural sector as it constitutes the major share of the income in the economy. The decade of 1990's saw a slowdown in the agriculture growth (Patnaik; 2010) and an acceleration in mining output growth (Das; 2016) in the state. The reason for slow growth in agriculture was because of the shift in the focus of the Government of Odisha from agriculture towards mining due to the huge demand for iron ore by China and the demand for coal for the power sector (Das; 2016). The period after 2002-03 has seen a revival of agriculture growth (Patanaik; 2010) and the overall growth (Panda; 2015). All the above literatures are opined that though the state witness a lower growth rate since decades, its after 2000's the state recorded a higher growth in income. The followings deal with the sectoral growth rate and the sectoral composition of growth rate.

**Table 3**  
**Sectoral Growth rate of Odisha**

<i>Sector</i>	<i>1971-72 to 1980-81</i>	<i>1981-82 to 1990-91</i>	<i>1991-92 to 2000-01</i>	<i>2001-02 to 2010-11</i>	<i>1971-72 to 2010-11</i>
Primary	1.74	0.07	0.31	3.48	0.84
Secondary	2.58	6.48	2.44	4.58	3.76
Tertiary	3.53	6.1	6.36	9.56	6.00
NSDP	2.39	3.54	3.25	6.76	3.51

*Source:* Authors estimation from CSO, National account statistics.

#### **Phase-I: 1971-72 to 1980-81**

The first phase recorded a growth rate of 2.39 percent in NSDP. The green revolution started at the national level in 1968-69, had very less impact on the agriculture of Odisha. Though the mainstay of livelihood in Odisha was agriculture, and around 60 percent of the total population were dependants on this sector, it grew a merely 1.71 percent per annum in this phase. The secondary sector grew at a rate of 2.58 percent in this phase. Odisha being the first state to bring power sector reforms, the electricity, gas, and water supply sub-sector show at a growth rate of 4.59 percent in this phase. The Industrial base of Odisha was built in this period. Heavy industries such as Rourkela steel plant was constructed by the then chief minister Biju Patnaik in 1960's, which is the first of the kind public sector in India along with Bhilai, Bokaro & Durgapur steel plant. Among the sub-sectors of the tertiary sector, it is the transport, banking- insurance & public administration grew at a faster rate. The tertiary sector as a whole grew at a rate of 3.53 percent in this phase which is faster among all the sector.

#### **Phase-II: 1981-82 to 1990-91**

The 1980's decade Odisha grew at 3.54 percent. The primary sector recorded a very low growth, and specifically, the agriculture sector grew at a slower rate of 0.74 percent in this phase. The reduction in the growth rate might be the result of a change in policy regime at the national level as well at the state level. The drastic reduction in public investment and subsidies on agriculture might lead to negative growth in the sector. The huge flow of foreign direct investment to the rural hinterland of Odisha resulted in high growth in the industrial sector in general and the mining sector in particular. Heavy industries such as NALCO, MCL was set up their plant in this period. The secondary sector as a whole for the 1980's decade grew at a rate of 6.48 percent and mining and registered manufacturing recorded growth above 12 percent. The 1980's decade was a golden

period for the industrial sector. The mining sector growth touched as high as of 12.30 percent annually over this decade, because of the huge demand for mineral resources from foreign countries as China & Japan. The manufacturing sector especially the registered manufacturing went through high growth rate in that period. The tertiary sector grew at around 6 percent. It was the transport storage communication, banking and insurance sub-sector which recorded high growth rates in this phase. To sum up, this phase witnessed a negative growth in agriculture and higher growth in the industrial sector.

#### ***Phase-III: 1991-92 to 2000-01***

In this phase, growth recorded a slight slowdown to 3.25 percent. Though the overall growth was more or less same, the composition of growth varies. The primary sector recorded a slow rise in output growth while the agriculture sector witnessed a negative growth rate. The secondary and tertiary sector maintain the same growth rate as in the previous decade. Various plants such as Tata Steel in Kaling Nagar - Jaipur, Vedanta at Langigarh Niyamagiri, NTPC at Angul, Posco South Korean MNCs in Jagatsingpur established their plants to make use of the rich mineral resources of the state at a comparatively cheaper rate. Several other corporations signed the Memorandum of Understanding with the Government of Odisha to set up their power plants, in Odisha. Although the exploitation of these mineral resources resulted in high growth rate in Odisha, it benefits hardly reached the poor. The companies which were set-up in the tribal and forest regions exploited the water, forest, and land, (Jal, Jangal, and Jamin) resources, and it adversely affected the rural livelihood and pushed their life into misery. The tertiary sector witnessed a slightly higher growth rate than the previous decade. Though all India witnessed a higher growth rate in the 1990's in comparison to 1980's (Pangariya, 2004) Odisha does not witness the same trends.

#### ***Phase-IV: 2001-02 to 2011-12***

The high growth experienced in this phase is fuelled by both primary and tertiary sector. The NSDP growth was 6.76 percent, while the tertiary sector grew at 9.56 percent and the primary recorded 3.48 percent growth. The phase also witnessed the revival of the agricultural sector which accounted a growth at 3.97 percent. The revival is due to the huge public investment in irrigation and private investment in commercial crops in some part of Odisha. The political stability in the state also played a role. The Naveen Patnaik government led by BJP-BJD came to power in 2000 March for the first time. Later on, though the coalition has broken down, the Patnaik Govt. retain power for the fourth consecutive term. The industrial sector has seen a reduction in growth rate. The growth rate of the industry declined to 4.58 percent. The mining sector saw a drastic fall in the growth rate. The social awareness among the people in various regions of Odisha against multinationals not to give up their land resulted in social movement and protest. The Supreme Court judgment on the environmental pollution and forest rights also restricted the functioning of MNCs. Still, the growth maintained by unregistered manufacturing, electricity gas and water supply and construction boom resulted in positive growth in the industrial sector. The service sector grew at a high growth rate of 9.56 percent, and it is the trade-hotel-restaurants, finance-banking –insurance, transport storage and communication which have recorded a higher growth in this period. The growth in this period was dominated by higher growth in the primary and tertiary sector.

Comparing the pre-reform period the post-reform has witnessed a higher growth in Odisha. In the two decades of the post-reform 1991-92 to 2011-12, growth rates was 5.11 percent in comparison to 2.72 percent growth recorded in the pre-reform 1971-72 to 1991-92 periods. All the three sectors experienced high growth in the post-reform period. Among the sub-sectors, mining & quarrying, trade hotel & restaurant, transport storage & communication achieved a higher growth rate. In the long run of the four decades, the NSDP growth rate of Odisha economy is around 3.51 percent per annum. It is the communication, banking insurance, mining quarrying, trade hotel & restaurants witnessed long run high growth rate. The growth of primary, secondary & tertiary sector over the long run in the four decades are 0.84%, 3.76% & 6% respectively.

### DECOMPOSITION OF GROWTH IN ODISHA

The previous section dealt with the growth of sectoral output in Odisha. The growth of a sector will be higher if the level of that sector is lower. Hence, the sectoral growth rate only gives us the picture of growth trends over time. For calculation of growth rate we are taking only the level of income. It might be the case that the sector which is growing at a faster rate may have lower share of income and hence does not contribute much to the overall growth of an economy. If we want to know about sectoral contribution to the overall growth rate we have to look both the share and growth of the sector. For the decomposition of growth rate, both the share (level) of the sector and its annual average growth rate took into account. Each sector's contribution to the total growth can measure by multiplying the average growth rate of income with an average share of that particular sector. Balakrishnan & Parameswaran (2007) has done the decomposition analysis for all India among the sectors. We have followed the same methodology in this paper for our decomposition analysis.

Table 4  
Sectoral Decomposition of Growth in Odisha (in per cent)

Sector	1971-72 to	1981-82 to	1991-92 to	2001-02 to	1971-72 to	1991-92 to
	1981-82	1991-92	2001-02	2011-12	1991-92	2011-12
Primary (a)	0.74	0.25	-0.03	0.77	0.17	0.68
Secondary (b)	0.58	1.33	0.78	1.24	0.67	1.27
Tertiary (c)	0.72	1.65	2.34	4.34	2.36	4.24
Aggregate (a+b+c)	<b>2.01</b>	<b>3.11</b>	<b>3.01</b>	<b>6.25</b>	<b>3.19</b>	<b>6.19</b>

Source: Authors estimation from CSO, National account statistics.

Table-4 shows the sub-sector wise contribution to the overall NSDP growth. If we look to the sub-sectors in the first phase, it is the agriculture which has the highest contribution to the growth followed by construction, real estate, and ownership dwelling. The second phase has got the highest contribution from the construction, agriculture, trade-hotel restaurants, registered manufacturing and other services. While the third phase, i.e., the 1990's experienced a drastic fall in the contribution of agriculture, primary and registered manufacturing and secondary sector but mining and quarrying, transport-storage communication, other services contributed more to the overall NSDP in that period. In the fourth phase, i.e., in the 2000's decade, the primary sectors contribution has increased due to increase in the contribution of the agriculture while the secondary & tertiary sector contribution has declined. The main contributor to the growth are trade-hotel-restaurants, transport-storage-communication, banking –insurance and agriculture

sector. Though, there is a very high increase in the contribution of the agricultural sector added with drastic fall in the contribution of mining sub-sectors in the fourth phase the main contributor of growth in that period remains the tertiary sectors. The major contributor to NSDP growth for the whole period 1971-72 to 2011-12 are the trade-hotel-restaurants, construction, finance-insurance-real estate and business services. Though in the second phase, the contribution of primary sector has declined while the contribution of service and industrial sector resulted in a higher growth.

### **RELATIVE ECONOMIC POSITION OF ODISHA-**

Up to now we came to know from the analysis that the post reform period of Odisha has recorded a higher growth rate. As we know with economic reform most of the states also witnessed a higher growth. Kumar and Subramanian, 2012 has described that the 2000's decade witnessed a higher growth rate in comparison to the 1990's decade. But the high growth in the decade resulted in increase in divergence among the states. His calculation shows that the growth of per capita NSDP for the state Odisha in 2000's decade is 6.58% which is three times higher than the 1990's decade. The per capita growth in Odisha in 2000's decade is even higher than the national average of 5.85 %. Ahluwalia, 2011 examines that the growth of GSDP for the state Odisha for the 1990's decade is 4.2 % which increases to 9% in the 2000's decade. To him the state also perform well both in education and health front in the post reform period. Now it is important to know whether the relative performance of the state has improved with respect to the other states. The NDP and per capita NDP of an economy present the economic performance of an economy. An economy having high income is counted as a richer state than the economy having low income.

The relative economic position of Odisha can be looked into by looking the per capita income (PCI) of Odisha with the other states. The PCI data for the major states (9 states) for the period 1970-71 to 2011-12 has been collected from EPW research foundation. They are of in different base year. The splicing method has been used to convert the series into a common 2004-05 base. The states have ranked on the basis of their PCI for the year 1971-72. Then nine states have been picked up, three each from the lower, middle and high PCI states. The relative economic position of Odisha can be derived by taking the ratio of each state PCI to Odisha PCI. The states are having the index greater than 100 implies, the state is having a better position than Odisha and vice versa.

A close look into the NSDP of Odisha over the year, its share in the national NDP has been declining over the year (figure-2.2.1). The share of NSDP of Odisha to all-India, which was around 3.9% in 1970-71, declined to 2.25% in the year 2012-13. The per capita income used as a better indicator of standard of living. The per capita income of Odisha and India in the 1970-71 is Rs 10248 and Rs 10016 respectively which in the year 2012-13 became Rs 25,415 and Rs 38,856 at 2004-05 constant prices. The per capita income of Odisha and India are same in 1970-71 while over the year the PCI of India increases faster than the Odisha. It means most of the states are growing faster than the state Odisha. While the per capita income for Odisha increases by around 248 percentages at the national level, it increases by 388 percentages over the period 1970-71 to 2012-13. The figure-2.2 witnessed a declining trend of NSDP share and the ratio of PCI implying a decline in the relative economic position of Odisha over time in comparison to the national level.

To compare the relative performance of Odisha with other states, the major states classified into high income, middle income, low-income states taking into consideration their per capita income.

From each group, three states were chosen. Assam, Bihar & Uttar Pradesh are in the lower income groups, Andhra Pradesh, West Bengal, Rajasthan come under middle -income groups, and Punjab, Gujrat, and Haryana come under the high-income groups. Odisha's relative position measured in terms of the ratio of per capita income of the state to Odisha's PCI. The states having the index greater than 100 implies, the state is having a better position than Odisha and vice versa. Figure.3 presents the relative economic position of Odisha in comparison to the other states. The economic position of Odisha has improved in comparison to the low-income states as the PCI ratio though increases initially declined after some period. The ratio for the middle and high income state increases at a faster rate over the period implying the worse-off situation of the Odisha in comparison to these states. Hence though Odisha has achieved a higher growth rate its relative economic position has not improved over the year.

## CONCLUSION

This paper studies the growth and its composition for the state of Odisha and its relative economic position for four decades starting from 1970-71 to 2012-13. The major structural changes in Odisha have taken place in 2000's. The 1970's decade witnessed a slow growth in all the sectors. The 1980's has witnessed a slowdown in the agricultural growth. The 1990's has recorded high growth in the secondary sector but negative agricultural growth. The 2000's decade has been considered as the golden phase due to the high agriculture and service sector growth though industrial growth has been slowed down. The service sector remains the main contributor to growth over the period. Agriculture in the primary sector, construction, mining and manufacturing in the secondary sector and trade-hotel-restaurants, transport, finance-business and real estates in the service sector remains the main contributor to growth in Odisha. Tertiary sector remains the major driver of growth in Odisha. While Odisha has achieved a higher growth rate in the post-reform period, its relative position has gone worse. Among the major Indian states, its relative position has improved in comparison to the low-income states only, while there is deterioration in its economic position in comparison to the medium and high-income states. The state government should focus on the factors which will enhance growth in the state and will improve the relative economic position of the states with respect to other states.

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**Appendix Tables****Table - A.1: Sectoral Income share of Odisha**

Sectors	1971-72 to 1980-81	1981-82 to 1990-91	1991-92 to 2000-01	2001-02 to 2011-12
Agriculture	37.38	35.02	25.45	18.41
Forestry and Logging	11.33	8.1	4.63	3.36
Fishing	0.51	0.82	1.46	1.28
<b>primary</b>	<b>49.22</b>	<b>43.94</b>	<b>31.55</b>	<b>23.05</b>
Mining and Quarrying	1.21	1.49	3.89	6.37
Manufacturing	7.98	7.7	7.37	7.58
Registered Manufacturing	3.81	4.34	4.62	5.26
Unregistered Manufacturing	5.56	4.69	3.78	2.4
Construction	14.63	14.43	15.89	11.77
Electricity, Gas and Water supply	1.57	1.92	2.1	2.29
<b>Secondary</b>	<b>26.78</b>	<b>26.86</b>	<b>30.28</b>	<b>28.09</b>
Transport Storage Communication	1.74	2.54	4.15	8.59
Railways	0.27	0.47	0.8	1.08
Transport by other means	1.58	2.09	3.09	5.81
Communication	0.09	0.13	0.34	1.58
Trade, Hotels and Restaurants	7.55	8.32	10.6	14.04
Banking and Insurance	0.47	1.2	2.27	4.98
Real Estate, Ownership of Dwellings and Business Services	7.21	7.54	7.44	6.46
Public Administration	2.43	3.51	4.37	4.03
Other Services	4.4	5.88	9.16	10.76
<b>tertiary</b>	<b>24</b>	<b>29.19</b>	<b>38.17</b>	<b>48.86</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Authors calculation from NAS state NSDP data

Table - A.2: Sectoral Growth in Odisha

Sectors	1971-80	1981-90	1991-2000	2001-10	1971-90	1991-2010	1971-2011
Agriculture	1.71	0.74	-0.17	3.97	1.76	1.83	1.0
Forestry and Logging	1.66	-3.69	1.52	0.85	-0.98	1.57	-0.75
Fishing	6.23	9.58	4.9	3.31	7.61	3.81	6.91
<b>primary</b>	<b>1.74</b>	<b>0.07</b>	<b>0.31</b>	<b>3.48</b>	<b>1.3</b>	<b>1.89</b>	<b>0.84</b>
Mining and Quarrying	1.68	12.35	12.32	4.02	5.07	10.06	9.65
Manufacturing	2.98	7.11	1.24	2.9	2.93	4.46	3.24
Registered Manufacturing	3.04	12.14	1.99	0.34	4.69	4.84	4.45
Unregistered Manufacturing	1.71	1.83	-1.36	5.77	1.1	0.97	0.76
Construction	4.59	6.64	0.49	3.62	4.93	5.04	4.68
Electricity, Gas and Water supply	2.64	5.87	1.45	6.18	2.91	2.47	2.97
<b>Secondary</b>	<b>2.58</b>	<b>6.48</b>	<b>2.44</b>	<b>4.58</b>	<b>3.1</b>	<b>4.12</b>	<b>3.76</b>
Transport Storage Communication	1.94	5.47	5.14	10.85	3.64	8.06	5.67
Railways	3.99	11.06	9.63	12.45	6.63	12.62	9.07
Transport by other means	5.11	15.94	4.9	7.74	8.53	7.84	8.51
Communication	2.69	10.63	9.02	12.24	5.68	11.68	8.04
Trade, Hotels and Restaurants	5.42	7.38	23.32	17.25	6.59	22.98	13.49
Banking and Insurance	11.52	13.48	10.72	16.71	12.69	13.61	11.89
Real Estate, Ownership of Dwellings and Business Services	3.7	2.7	2.77	4.91	3.13	3.69	3.14
Public Administration	5.69	6.45	6.36	4.56	6.37	4.59	5.32
Other Services	4.11	7.68	8.34	7.41	5.67	7.18	6.77
<b>tertiary</b>	<b>3.53</b>	<b>6.1</b>	<b>6.36</b>	<b>9.56</b>	<b>4.69</b>	<b>7.82</b>	<b>6</b>
<b>Total</b>	<b>2.39</b>	<b>3.54</b>	<b>3.25</b>	<b>6.76</b>	<b>2.72</b>	<b>5.11</b>	<b>3.51</b>

Source: Authors calculation from NAS state NSDP data