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Unequal Engines of Growth: Capital Expenditure and Sectoral Dynamics in Odisha's Economic Journey

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Abstract

The paper delves into the complex growth dynamics of the Odisha economy, highlighting the need for a deeper understanding of sectoral and state-level growth performance. Over the past three decades, from 1990-91 to 2021-22, it observes that the industrial and service sectors in Odisha have shown significant improvements in their growth rates, recording 5.68% and 7.74% respectively. However, the agriculture sector has lagged behind with a growth rate of 2.26%, indicating a concerning disparity among sectors. One notable finding of the paper is the emphasis on capital expenditure as a pivotal factor influencing Odisha's growth trajectory during this period. This underscores the importance of strategic planning and effective program implementation, which are suggested as crucial steps for Odisha to harness its abundant natural and human resources more efficiently. The research serves as a call to action for the state to focus on rigorous monitoring and structured planning to maximize its economic potential. In summary, the paper highlights the disparities in growth among sectors in Odisha over the past three decades, with industrial and service sectors outperforming agriculture. It identifies capital expenditure as a key determinant of growth and emphasizes the urgent need for strategic planning and meticulous program implementation to unlock the full economic potential of Odisha.

Keywords: *Odisha Economy, Sectoral Growth, Capital Expenditure, Economic Disparity, Industrial Sector, Service Sector, Agriculture Growth, Strategic Planning, Public Investment, Economic Transformation.*

Introduction

The year 2020-21 unfolded as a global and local calamity, with its inception marked by a health crisis that soon permeated every sector of society. Among these, the economy bore the most profound impact. Interestingly, the economic toll of the COVID-19 pandemic, severe as it was, was overshadowed by the grave health hazards it posed. Consequently, efforts to resuscitate and fortify the foundations of the economy encountered formidable challenges. A comprehensive evaluation of the government's response to mitigate the devastating repercussions of this catastrophe, both on a macro and micro scale, is currently underway.

In the fiscal year 2020–21, India's GDP embarked on a disheartening descent. The figures paint a bleak picture, with a staggering -10.3% production growth reported by the IMF's October 2020 World Economic Outlook. The nadir was reached in Q1, a disheartening 23.9% plunge (April through June 2020–21), though Q2 witnessed a partial respite at 7.5% (Economic Survey, 2020-21). Strikingly, aside from agriculture, all eight components contributing to India's GDP experienced unprecedented contractions during the April–June quarter (Reserve Bank of India, 2021). However, a glimmer of hope emerged as the economic downturn began to ease in Q2, signalling the dawn of a recovery.

Subsequent to the surges in COVID-19 cases, the Indian economy nosedived into a technical recession during the initial months of April to September in 2020-21. An abrupt cessation of economic activities, coupled with widespread supply chain disruptions caused by

lockdowns and associated restrictions, created a domino effect. This encompassed significant declines in demand, extensive job and income erosion, a sharp decrease in confidence among consumers and businesses, increased levels of uncertainty, contractions in worldwide trade and tourism, and changes in behaviour, such as voluntary adoption of social distancing measures. These forces collectively contributed to India's and its states' economic woes (Kumar, 2020).

Meanwhile, Odisha, characterized by its lush landscapes, abundant natural resources, and moderate development, embarked on an impressive economic trajectory. Despite grappling with recurring natural disasters, including the recent pandemic, the state acted with remarkable agility. It initiated investment plans to stave off significant economic challenges under the steadfast leadership of Chief Minister Naveen Patnaik. Odisha's determination to play a pivotal role in national growth as a manufacturing hub post-COVID-19 was evident.

Examining economic statistics, GSVA at constant (2011-12) base prices illustrated an impressive 64.36% expansion in the size of Odisha's economy from 2011–12 to 2019–20. During the same period, the Gross State Domestic Product (GSDP) surged by 71.65% at constant base prices, accounting for both GSVA and adjustments for product taxes and subsidies (Odisha Economic Survey, 2020-21). The state displayed promising growth trends, with the real GSDP growth rate registering 5.21% in 2019–20 over the previous year. Notably, the services sector exhibited resilience, mitigating unfavourable effects, while the industry sector maintained a steady trajectory, collectively contributing to over 80% of the state's GSDP.

As the state focused on maintaining momentum in its economic growth trajectory, it also prioritized reducing regional disparities, expediting poverty alleviation, optimizing public service delivery, and fostering sustainable and inclusive growth.

Currently valued at Rs 5,40,812 crore ($79 billion), Odisha's economy set its sights on a grand aspiration—to transform into a $1 trillion economy by 2050. This growth is imperative for economic advancement and inclusivity. Historical examples from industrialized nations underscore the transition from traditional agricultural economies to contemporary industrial and service sectors (Sahoo and Joshi, 2018). The significance of bolstering the primary sector, particularly agriculture, is underscored in the pursuit of inclusive growth, particularly in underdeveloped or developing economies.

Odisha's wealth of natural resources and untapped economic potential makes it a compelling candidate for growth. Recent studies have further substantiated its improved economic standing. Metrics such as income, literacy rates, IMRs, and MMRs have portrayed an encouraging upward trajectory. Households in the state have witnessed substantial asset accumulation and improved occupational mobility, contributing significantly to poverty reduction.

In the realm of economic development assessment, "Gross State Domestic Product (GSDP) and Net State Domestic Product (NSDP)" serve as primary benchmarks. Notably, NSDP, which accounts for capital maintenance costs, offers a more precise indicator. Critics have argued that Gross Domestic Product (GDP) fails to distinguish between maintenance expenses and genuine economic enhancement, as it incorporates all maintenance costs, be they for the renewal of aging equipment or the replacement of obsolete technology.

Economists such as Spant advocate for the use of Net National Product (NNP) as the preferred measure of economic growth, with Net Domestic Product (NDP) as a secondary choice. NSDP, alongside per capita NSDP, offers insights into the economic progress and well-being of a state's populace.

This research endeavours to scrutinize Odisha's economic growth rate, composition, and sectoral performance over three decades spanning from 1990-91 to 2021-22. It aims to pinpoint areas of strength and areas needing improvement concerning essential growth and development metrics.

The structure of this paper is organized as follows: Section I provides an introduction to the subject, Section II delineates the data and methodology used, Section III offers a concise review of existing literature in the field of economic growth, Section IV lays the foundation for analysis with an analytical framework, and Section V concludes with policy recommendations drawing upon the insights derived from this comprehensive study.

Data and Methodology

This paper's analysis is based on secondary data sources. The NSDP statistics and PCNSDP data, total receipt and total expenditure data for Odisha at 2011-12 constant prices from 1990-91 to 2021-22 were compiled using EPW research foundation SDP data, which was initially released by National Accounts Statistics (NAS), CSO. A percentage is utilized to assess the state's sectoral contribution to the NSDP. CAGR is used to show the growth rate of Odisha in various areas. Regression analysis has been done to show the growth performance and NSDP deflator is used to convert current capital expenditure into constant expenditure

Explanation of the Used Data:

Agriculture and Allied sector: The agricultural and associated sector is made up of the contributions made by farming, logging, fishing, mining, and quarrying. We

used the EPWRF data at constant prices for 2011–12 for the study, which is shown in Table 5.

Industry Sector: The manufacturing, building, power, gas, and water supply sectors all contribute to the industrial sector. For the purposes of the analysis, we used EPWRF data at 2011-12 constant prices, as shown in Table 5.

Service Sector: The service sector comprises diverse industries such as transportation, logistics, communication, trade, hospitality, financial services, real estate, property ownership, commercial services, public administration, and a multitude of other service-oriented activities. For the purposes of this research, we used EPWRF data at 2011-12 constant prices, as shown in Table 5.

State Domestic Product (SDP): SDP is the total value added to the economy by "agriculture, industry, and services".

Net state domestic product (NSDP): It can be defined as a financial gauge of the quantity of goods and services generated within the State's boundaries during a particular timeframe, factoring in deductions for depreciation and redundancies. Another term used to refer to this is "State income," which is synonymous with NSDP. We used the EPWRF data at constant prices for 2011–12 for the study, which is shown in Table 1.

Review of Literature

According to Thind and Singh (2018), structural transformation is essential for economic progress. When an economy transitions from primary to secondary to tertiary, it undergoes structural transformation, which alters the sectoral mix. Labor is transferred from low to high productivity sectors when change occurs. In this research, they looked at the link between structural change and economic development during a 30-year period, from 1983–1984 to 2014–2015, in 15 important Indian states. The study's goal is to determine whether or not structural change has helped these states' economies grow. In all states except Gujarat and M.P., where the share of the tertiary sector was less than 50%, as well as in Rajasthan and Odisha, the share of the tertiary sector was just close to 50%, the contribution of the service sector to the gross state product (GSDP) increased as a result of the structural change. Odisha had the biggest fall in agriculture's percentage of the GSDP out of all the states as a result of change. For numerous states, including Punjab, Madhya Pradesh, Gujarat, Odisha, Rajasthan, etc., the secondary sector's proportion of the GSDP was rising. The CSO and NSSO provided the data that was utilized in the study. The study's findings demonstrated that structural change has boosted growth in each of the 15 states.

Spant (2003) examined GDP and NDP, two metrics of economic growth, and questioned the consistent use of GDP as a gauge of economic development. In his opinion, NDP should be given greater weight as it serves as the primary barometer of economic growth rather than GDP. This criticism's underlying premise was that GDP includes all investment costs, regardless of whether they are made to increase the capital stock or simply to replace outdated or "obsolete equipment and software" or worn-out assets. The expense of updating outdated and worn-out machinery simply serves to keep output at the current level; it does not expand the economy's potential. The author and many other economists choose NNP, with NDP coming in second, to gauge a nation's economic growth. According to the author, neither NNP nor NDP were mentioned once in the OECD Economic outlook. NDP has been a more useful metric in recent years for tracking characteristics like potential production and chances for non-inflationary growth that are often associated with the new economy. GDP minus capital depreciation equals NDP. The proper method for calculating the potential rise in real wages and real profit is to use NNP or NDP rather than GDP. In several of his investigations, Edward Denison— "the pioneer of growth accounting"—used NNP. GDP can be used to measure economic growth as long as capital depreciation remains relatively constant over time, but in the current situation, where investment is shifting toward shorter-lived assets and increasing capital depreciation, NDP should be used to measure economic growth instead of GDP because GDP will overstate the real growth rate.

Numerous studies on structural change and economic expansion in India have been done. By creating structural change indicators and doing a time series analysis on the data, Orcan and Singh (2011) looked at how structural change and growth relate in India. According to Panagariya's analysis, which identifies four stages, the first three of which span 1951–65, 1965–81, and 1981–88, they found that 1988 marks a break in the time series of development and structural change. The third phase has been characterized as a time of fast expansion by writers including DeLong (2003), Rodrik and Subramanian (2005), and Kohli (2006). A state-level investigation of productivity and convergence in India was conducted by Kumar and Managi in 2012. Regional expansion has also been examined in several researches.

Munjal (2007) used input-out analysis, which provides the tools needed to examine industries and their connections to the rest of the economy, to look at the structural changes in the Indian economy during a ten-year period. The fluctuating links between industries are seen in the volatility of the Multiplier Product Matrix analysis's visual representation of economic landscapes.

According to Mohapatra (2017), socioeconomic indicators are particularly helpful for planning and development purposes because they enable planners

and policymakers to identify issues that require extra care and attention. Indicators that have been examined include the economy, education, health, mineral resources, agriculture, sex ratio, slum population, life expectancy, HDI, marked surplus ratio, etc. The author also compared other socioeconomic indicators of Odisha with those of India. In order to determine where the state is falling behind and where it is leading the nation in terms of growth and development, comparisons have been done. The outcome of this comparison analysis demonstrates that the state is performing significantly worse than the country in terms of socioeconomic ground. The state needs to double its efforts and make fuller utilization of its resources. It is a rich state with poor people.

Odisha is blessed with a wealth of natural resources, including rich green coastal plains, flora and fauna, and mineral resources like coal, bauxite, limestone, etc., yet it is still an impoverished state, claim Rath and Jena (2006). The state's primary and industrial sectors have not had substantial development; instead, both have had skewed growth trajectories. In the 1990s, the contribution of the forest sector to the primary sector rapidly decreased, with the exception of the mining and fishing sectors. Only the service sector has had a steady rise during the 1990s, with the industrial sector contributing negatively as well. Even while agriculture's contribution to the NSDP was declining, its percentage of employment remained strong. Rath and Jena investigated Odisha's sectoral growth trends, sectoral contribution to employment, and per capita income. According to the study's findings, Odisha's industrial expansion has been hampered by a lack of suitable infrastructure amenities. Private investment and entrepreneurship, both of which are required for growth, are likewise insignificant in the state. The state's irrigation infrastructure urgently needs upgrading, and crop diversity should be prioritized to accelerate agricultural growth. The struggling agriculture industry needs revitalization and rejuvenation.

Senapati and Goyari (2019) examined the expansion and insecurity in Odisha's agriculture industry from 1967-68 to 2014-15. Odisha agriculture is still heavily reliant on rainfall. During the 1960s and early 1980s, the districts performed well. The state falls behind other states in agricultural development. Odisha has yet to completely commercialize its agriculture and allied activities; the bulk of farmers continue to grow low-value basic crops primarily for family food security. Odisha faces the risk of natural catastrophes like flooding and droughts, making agriculture extremely volatile. Additionally, the authors have investigated the performance of various areas before and after the green revolution as well as the impact that irrigation and fertilizer play in boosting agricultural output and variability. Different districts of the state saw unsatisfactory crop growth rates. Additionally, the state had a low rate of fertilizer and pesticide use. The state's low performance was mostly caused by its failure to adopt new technologies, poor investment, deteriorating soil, and insufficient usage of HYVs seed. Stable growth is essential for the long-term development of agriculture. Increasing public investment and upgrading infrastructure will hasten Odisha's agricultural growth. Agriculture research can stimulate growth in that industry.

Analysis of Growth Performance of Odisha

The resources of the state government are critical to the advancement of the state's economy. A range of services are given for the welfare of the people, "the development of public assets, and the delivery of public services utilizing resources mobilized via the state's own taxes, a share in central taxes, center grants, state non-tax income, and borrowing from other sources" (Economic Survey of Odisha, 2021).

Table 1: CAGR (%) of Variables in Odisha during 1990-2021 (NSDP) at 2011-12 Constant Price

Time Period	Net State Domestic Product (NSDP)	Rate of Inflation (NSDP Deflator)	Population	Revenue Expenditure	Capital Expenditure	Total Expenditure	Revenue Receipt	Capital Receipt	Total Receipt
1990-2000	3.82	9.00	1.53	5.35	0.30	4.19	1.90	7.38	3.78
2000-2010	7.93	7.03	1.31	5.38	3.04	4.85	10.52	41.64	29.31
2010-2021	6.20	4.06	0.86	9.43	14.64	10.58	8.78	11.44	10.79
1990-2010	5.45	6.84	1.39	5.64	4.36	5.36	6.99	24.34	16.45
2000-2021	6.59	6.08	1.11	7.69	9.18	8.00	9.23	16.24	13.39
1990-2021	5.88	6.37	1.24	6.82	7.30	6.92	8.09	18.36	13.71

Source- Authors own calculation from EPWRF Data

Odisha's economy is picking up steam at a little faster pace. The State's expenditures have seen double-digit growth in recent years on the spending side. The development sector has gotten both capital and revenue expenditures, while committed expenditure being lower than in other states. The bulk of revenue is invested in education and rural development, whereas the majority of capital expenditure is spent on irrigation and transportation (Odisha Survey, 2021). The State's developmental requirements are aligned with the focus on these areas.

Table 1 presents CAGR of NSDP, Population, Revenue Expenditure, Capital Expenditure, Total Expenditure, Revenue Receipt, Capital Receipt and Total Receipt in Odisha from 1990-2021 at 2011-12 constant prices. The CAGR of NSDP during 1990-2000 was 3.82%. Revenue and Capital expenditure were growing at rate of 5.35% and 0.30% and the overall growth was 4.19%. During the corresponding period, growth rate of revenue, capital and total receipt was 1.90%, 7.38% and 3.78%. Total expenditure was more than total receipt during 1990-2000 and the rate of inflation was 9%. During 2000-2010, the growth rate of NSDP was 7.93% and the rate of inflation during the period was 7%. During this period the total receipt (29.31%) was much higher than total expenditure (4.85%). From 2010-2021 the total receipt and total expenditure (10.58%) was more or less same (10.79%) and the rate of inflation was also lower than the previous period by about 3%. The period witnessed a NSDP growth rate of about 6%. During the entire time period (1990-2021) the growth rate of NSDP was 5.88%, and the total expenditure and receipt was 6.92% and 13.71%. The rate of inflation was around 6%. The period 2000-2021 witnessed the highest growth of NSDP (6.59%) and Total expenditure (8%) while the rate of inflation during the corresponding period was the lowest (6%). Total receipt (16.45%) witnessed the highest growth during 1990-2010.

Table 2: CAGR (%) of PC Variables in Odisha during 1990-2021 at 2011-12 Constant Price

Time Period	Per – Capita Net State Domestic Product (PCNSDP)	PC Revenue Expenditure	PC Capital Expenditure	PC Total Expenditure	PC Revenue Receipt	PC Capital Receipt	PC Total Receipt
1990-2000	2.25	3.76	-1.21	2.62	0.36	5.76	2.21
2000-2010	6.53	4.02	1.71	3.50	9.08	39.80	27.63
2010-2021	5.29	8.50	13.66	9.64	7.86	10.49	9.84
1990-2010	4.01	4.19	2.93	3.92	5.53	22.64	14.85
2000-2021	5.43	6.51	7.99	6.82	8.03	14.97	12.15
1990-2021	4.59	5.51	5.99	5.61	6.77	16.91	12.32

Source – Authors estimation from EPWRF data.

Table 2 presents the CAGR of PC variables in Odisha from 1990-91 onwards till 2021-22 at 2011-12 constant prices. The growth rate of PCNSDP during 1990-2000 was 2.25%. The pc revenue expenditure during this period was about 4% while the pc capital expenditure (public investment) was -1.21%. The pc total expenditure during the corresponding phase was about 3%. The revenue receipt and capital receipt was 0.36% and 5.76% and the aggregate receipt was 2.21%. During the period of 2000-2010 the PCNSDP increased by about 4.5%. The revenue expenditure maintained the same growth rate as in the previous decade whereas the capital expenditure increased, it was about 2%. The PC revenue and capital receipt was about 9% and 40% and the aggregate was around 28%. In the phase of 2010-2021, PCNSDP growth recorded a slight slowdown to 5.29%. However, the PC revenue and capital expenditure witnessed an upward growth by about 5% and 12% and the total expenditure witnessed growth of about 10%. In case of PC revenue and capital receipt, both the variables recorded fall in their growth rate but the reduction was drastic in case of capital receipt. The total receipt during the respective period was 10%. During the entire period taken under consideration for the study (1990-91 – 2021-22), the growth rate of PCNSDP, PC aggregate expenditure and PC aggregate receipt was approximately 5%, 6% and 12% respectively. During all the phases the PC total expenditure is less than PC total receipt.

Table 3: Growth Performance of Odisha in terms of NSDP during 1990-2021

Time Period	Dependent Variable	Independent Variable	Coefficient	Stand Error	t- value	p- value	R-square
1990-2000	NSDP	Capital Expenditure	0.84	5.23	0.16	0.88	0.00
2000-2010	NSDP	Capital Expenditure	9.56	7.97	1.20	0.26	0.14
2010-2021	NSDP	Capital Expenditure	7.14	0.88	8.08	0.00	0.87
1990-2010	NSDP	Capital Expenditure	17.12	3.73	4.59	0.00	0.53
2000-2021	NSDP	Capital Expenditure	7.14	0.88	8.08	0.00	0.87
1990-2021	NSDP	Capital Expenditure	0.85	0.85	13.42	0.00	0.86

Source – Authors estimation from EPWRF data.

There are many factors such as saving rate, investment rate, population growth rate, human capital, technological progress, rule of law, openness to trade, war and assassinations etc., that affect economic growth. Investment is most important factor among all these variables, which positively and significantly affect economic growth across countries and regions. Investment may be divided into two categories: public and private investment. Capital expenditure as a proxy for public investment is taken into account in this study to find its impact on economic growth performance of Odisha from 1990-2021 using regression analysis.

The total time period is divided into six sub-periods such as 1990-2000, 2000-2010, 2000-2021, 1990-2010, 2000-2021 and 1990-2021 and separate regression is carried out for each period by regressing NSDP on capital expenditure and estimation results are given in Table 3.

The estimated coefficients of capital expenditure for all these periods are positive. But, it is statistically significant for the period 2010-2021, 1990-2010, 2000-2021, and 1990-2021. The R-squared values for these regressions are also high. (Although NSDP and capital expenditure are time series variables and expected to have non-stationery and autocorrelation over time. To make it stationary, adjustment for these will be done). This means that public investment is significantly affecting economic growth of Odisha during these periods. If public investment is increased by Rs. 1 lakh, it will lead to 7.14 lakhs increase in income of Odisha during 2010-2021. Higher public investment has led to higher economic growth of Odisha during 2010-2021. This high growth in NSDP and Public investment has also impacted the other periods and can be interpreted accordingly.

Table 4: Growth Performance of Odisha in terms of PCNSDP during 1990-2021

Time Period	Dependent Variable	Independent Variable	Coefficient	Stand Error	t- value	p- value	R-square
1990-2000	PCNSDP	PC Capital Expenditure	-2.27	3.13	-0.72	0.49	0.06
2000-2010	PCNSDP	PC Capital Expenditure	4.17	7.26	0.58	0.58	0.04
2010-2021	PCNSDP	PC Capital Expenditure	6.52	0.88	7.43	0.00	0.85
1990-2010	PCNSDP	PC Capital Expenditure	12.26	3.99	3.07	0.01	0.33
2000-2021	PCNSDP	PC Capital Expenditure	9.04	1.02	8.90	0.00	0.80
1990-2021	PCNSDP	PC Capital Expenditure	10.51	0.88	11.91	0.00	0.83

Source – Authors estimation from EPWRF data.

By taking per capita income and per capital expenditure, similar kinds of regression analysis is done for same periods as given in the Table 4. Except the period, 1990-2000, all periods have positive coefficients for per capital expenditure. However, as earlier these coefficients are statistically significant for these periods 2010-2021, 1990-2010, 2000-2021, and 1990-2021. This means that per capita public investment plays very important role in influencing economic growth performance of Odisha during these periods. Therefore, it is necessary for Government of Odisha to spend more capital expenditure on various kinds of infrastructure (Roads, railways, ports, social and financial institutions) to increase economic growth and hence increases the standard of livings of masses.

Table 5: CAGR (%) of NSDP of three major sectors of Odisha at 2011-12 constant prices during 1990-91 – 2021-2022

Time period	Agriculture and allied sectors	Industry	Service
1990-2000	0.84	4.27	6.52
2000-2010	3.94	8.46	10.08
2010-2021	2.98	6.53	5.05
1990-2010	1.67	6.30	7.90
2000-2021	3.30	5.62	7.79
1990-2021	2.36	5.68	7.74

Source – Authors estimation from EPWRF data.

The state economy is undergoing a structural change, with a gradual transition from agriculture to industry and services, with more pronounced growth in the services sector. Table 5 shows data on Odisha's sector growth rate from 1990–1991 to 2021–2022.The first phase i.e. 1990-2000 recorded a NSDP growth rate of 3.82%. Though agriculture is the primary source of income in Odisha, employing over 60% of the total state population, it grew by only 0.84% in 1990-2000. The industry sector grew at a rate of 4.27% during 1990-2000. The service sector, as a whole, experienced the swiftest growth rate among all sectors during this phase, registering a robust 6.52% increase. During the decade of 2000-2010, the NSDP growth rate of Odisha was 7.93%. All sectors contributed to the rapid growth that was experienced during this phase. The service sector grew at a rate of about 10%, the industry sector grew at a rate of about 8% and the agriculture sector recorded 3.94% growth. The period saw the agriculture sector rebound, in large part as a result of significant "public investment in irrigation and private investment in commercial crops in some regions of the state" (Sahoo and Joshi, 2018). Higher growth in the industrial and service sectors dominated this period's growth. During the period of 2010-2021 the NSDP growth rate of Odisha slightly slow downed to 6.20%. All the sectors witnessed fall in their growth rate during this phase. The rate of growth of agriculture was about 3%, industry was around 7% and service sector was 5% during 2010-2021. The main reason behind the slow growth or fall in growth rate may be the natural calamities and epidemic that hit the state between 2010-2021, like phailin in 2013, fani in 2019 and the most recent of which being the COVID which effected the entire country. The overall growth rate of Odisha during 1990-2010 was 5.45%. The growth rate of agriculture, industry and service sector during this period was 1.67%, 6.30% and 7.90% respectively. The growth experienced during this period was fuelled by industry and service sector performance. The growth rate of agriculture was around 3%, industry was around 6% and service was around 8% during 2000-2021. The overall growth rate of all the corresponding sectors from 1990-2021 is 2.36%, 5.68% and 7.74%. The NSDP growth rate during the entire period is 5.88%. As it can be seen in the table that the growth rate of service sector has been highest during the entire time period taken into consideration for the study. Service sector is the growth engine of Odisha economy.

Table 6: CAGR (%) of Per Capita NSDP of three major sectors of Odisha at 2011-12 constant prices during 1990-91 – 2021-2022

Time period	Agriculture and allied sectors	Industry	Service
1990-2000	-0.68	2.70	4.92
2000-2010	2.60	7.06	8.66
2010-2021	2.10	5.62	4.15
1990-2010	0.28	4.84	6.42
2000-2021	2.17	4.47	6.61
1990-2021	1.11	4.39	6.42

Source – Authors estimation from EPWRF data.

Table 6 shows the PCI growth rate (%) of three major sectors of Odisha at 2011-12 constant prices from 1990-91 to 2021-22. During the period of 1990-2000 the PCI growth rate of agriculture and allied sector was - 0.68%, while the growth rate of industry and service sector was 2.70% and 4.92%. In the phase of 2000-2010, the performance of agriculture sector improved, it witnessed a growth rate of around 3%. During this period industry and service sector witnessed an outstanding growth rate of about 7% & 9%. However, the PC growth rate fell for all sectors between 2010 and 2021, with the service sector experiencing the greatest drop. The rate of growth in agriculture and industry falls by about 1%, while the rate of growth in the service sector falls by about 5%. From 1990-2010 the growth rate of agriculture and allied sector, industry and service sector were 0.28%, 4.84% and 6.42% respectively. During the next phase i.e., 2000-2021 the growth rate was 2.17%, 4.47% and 6.61%. During the entire period the growth rate of agriculture and allied sector was 1.11%, industry sector was 4.39% and service sector was 6.42%. The PCI growth rate of all the sectors was highest between 2000 and 2010 under the time frame taken into account for the research. Over the time, the service sector has continued to contribute the most to growth, followed by the industry sector. Even though agriculture is Odisha's primary source of income and the sector supports the bulk of the state's people, its growth rate have always been modest.

Conclusion & Policy Suggestion

Odisha, with its pristine beauty and wonderful culture, has emerged as the country's top state, with a promising growth trajectory over the previous two decades. Except for a few outliers, Odisha's growth has been quite rapid in the last decade. Odisha has been the eastern portal to a booming economy in the previous two decades due to political success and economic leadership (Economic survey of Odisha, 2017-18).

In recent years, Odisha has emerged as a major industrial power in the country. "Rational use of rich mineral resources, rising share of manufacturing sector in NSDP due to metallic production, effective single window system, liberal policy issues on competitive power tariff, infrastructural, market and input support, export promotion, forest & environmental clearance, skill development on entrepreneurship", and so on are all contributing to the State's faster industrialization (Odisha Profile, 2018).

The state can further accelerate its growth if it emphasis on different policies.

- Agriculture and associated sectors are the mainstay of the economy, employing more than 60% of the workforce. To make it a thriving industry, the emphasis should be on improving irrigation systems, crop diversity, integrated farming, and the growth of animal husbandry and fisheries.
- Natural disaster mitigation strategies and mechanisms must be strengthened further to reduce the negative effects of repeated natural disasters.
- There is an urgent need to build institutional capacity for evidence-based policymaking and to put in place procedures for real-time analysis and assessment of the state's growth and governance apparatus in order to better translate good intentions into improved human well-being.

Over recent years, Odisha has demonstrated commendable advancements across various development indicators, attributable to its sustained political stability, a comprehensive approach to social and economic development, and a commitment to good governance. Despite these notable achievements, the state acknowledges that it has yet to reach the ranks of the top-performing regions in the country, as indicated in the Economic Survey of Odisha for the year 2017-18.

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APPENDIX TABLES

Table 7: Sectoral share (%) in the NSDP of Odisha during 1990-91 to 2021-22 at 2011-12 constant prices

Time Period	Agriculture and allied sectors	Industry Sector	Service Sector
1990-1991	34.89	42.82	22.28
1991-1992	35.74	40.23	22.55
1992-1993	33.09	42.53	23.58
1993-1994	35.93	38.65	22.94
1994-1995	33.82	41.73	23.56
1995-1996	32.80	42.04	24.27
1996-1997	30.96	38.69	26.90
1997-1998	32.63	36.76	26.22
1998-1999	31.06	41.09	25.99
1999-2000	26.93	46.39	27.48
2000-2001	25.35	44.43	29.16
2001-2002	27.91	38.29	29.05
2002-2003	22.84	44.02	31.09
2003-2004	24.80	43.40	29.85
2004-2005	22.70	50.16	29.47
2005-2006	22.46	46.86	30.97
2006-2007	20.31	50.76	30.99
2007-2008	19.53	52.17	31.00
2008-2009	18.42	50.41	32.53
2009-2010	19.69	41.37	35.24
2010-2011	18.74	39.74	36.60
2011-2012	17.90	39.53	37.30
2012-2013	19.69	37.22	37.80
2013-2014	17.38	39.70	37.21
2014-2015	18.52	35.47	39.72
2015-2016	14.81	37.64	40.60
2016-2017	15.48	39.37	36.15
2017-2018	12.57	40.36	36.39
2018-2019	12.81	42.65	34.57
2019-2020	14.39	37.92	36.11
2020-2021	16.34	39.07	33.72
2021-2022	14.10	40.07	33.05

Source – Author own estimation

Table 8: Year on Year Growth rate (%) of NSDP and PCNSDP

Time Period	Year-on-Year Growth Rate of NSDP	Year-on-Year Growth Rate of Per Capita NSDP
1990-1991		
1991-1992	12.71	10.61
1992-1993	-1.70	-3.51
1993-1994	6.44	5.00
1994-1995	4.87	3.22
1995-1996	4.57	2.97
1996-1997	-6.90	-8.28
1997-1998	14.39	12.76
1998-1999	3.07	1.66
1999-2000	6.34	4.74
2000-2001	-2.64	-3.89
2001-2002	6.09	4.79
2002-2003	-0.72	-1.84
2003-2004	14.60	13.34
2004-2005	13.06	11.31
2005-2006	4.44	3.08
2006-2007	12.45	10.99
2007-2008	8.58	7.16
2008-2009	7.51	6.12
2009-2010	0.81	-0.51
2010-2011	6.30	4.92
2011-2012	3.75	2.44
2012-2013	5.91	4.92
2013-2014	7.78	6.78
2014-2015	1.20	0.28
2015-2016	7.32	6.34
2016-2017	15.86	14.90
2017-2018	7.79	6.95
2018-2019	7.00	6.18
2019-2020	2.30	1.52
2020-2021	-5.74	-6.45
2021-2022	11.91	11.15

Source – Authors own estimation