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A Comparative Study of Regional Economic Disparities in Haryana

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Abstract

Haryana has come out as one of the most economically developed states of India, and has been in the top list of states in terms of per capita income throughout the year. However there are significant within-state inequalities between its 22 districts. The current study conducts an analysis of economic inequalities across regions of Haryana through secondary data available for the period 2018-2025 from the government's economic surveys, budget statements, national household surveys and peer-reviewed academic literature. The study highlights the differences in per capita income, literacy and sex ratio across the districts in addition to the changes in per capita income, joblessness and human development in the state. The findings show that the income ratio in some of the districts in the National Capital Region belt, especially in Gurugram, has shot up significantly when compared with the districts in the southern and south-eastern parts of the state like Nuh, Palwal and Bhiwani, where the ratio is closer to one. This imbalance is explained by the uneven distribution of industrial concentration, access to infrastructure and unequal human capital investment. The paper finds that Haryana's growth story is impressive overall, but the benefits of growth will be more evenly distributed across the state if the planning of the state, industrial incentives and human development investments are more spatially explicit.

Keywords: regional disparity, Haryana, per capita income, human development, secondary data, inter-district inequality

1. Introduction

1.1 Background of the Study

Regional economic disparity can be defined as the unequal allocation of income, infrastructure and social development between various regions of a political or administrative entity (Lessmann & Seidel, 2017). In India, this is not just interstate but is also very pronounced intra-state, making it difficult for the country to strive for a balanced and inclusive growth. Haryana is a success story of economic development of composite Punjab as the per capita income of the state has been among the top four or five in India, about ₹3,53,182 in 2024–25, well ahead of other states, while the same figure for the country is approximately ₹1,84,000 for the same period (Government of Haryana, 2024). This state level achievement, however, conceals a highly unequal intra-state geography of development, with a small number of districts in the National Capital Region (NCR) growth corridor earning a disproportionate amount of the state's income and industrial



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investments, and a number of districts in the south and east of the state registering per capita incomes well below that of the leader.

The Green Revolution of the late-1960s and 1970s and the subsequent incorporation of the state's fertile north and central plains into the Delhi metropolitan economy have been the two important factors that have defined the development path of the state since 1966. These 2 forces have not co-located. The districts which gained the maximum benefits of early agricultural modernisation (Karnal, Kaithal, Kurukshetra and Sirsa) do not always have the maximum share of the NCR-linked industrial and service sector investment, which has overwhelmingly gone into Gurugram and, to a lesser extent, Faridabad. The overall prosperity of this state is the product of two growth narratives that, while not entirely distinct, are partially separate, a distinction that is captured in the aggregate data at the state level but often overlooked, and is the reason for the emphasis in this paper, that we should focus on the district-level.

1.2 Regional Disparity: Conceptual Framework

It has long been a subject of debate whether the unbalanced growth process is a natural transitional one of the process of growth or a structural feature of market led growth. The neoclassical growth theory-based convergence theory suggests that convergence occurs as the regions with lower incomes grow faster than the ones with higher incomes as the diminishing returns to capital force investment to shift to capital-poor regions. Contrary to this, agglomeration economics, capital mobility, and the flow of skilled labor towards already thriving regions confirm the benefit of the leading regions (Lessmann and Seidel, 2017; Mishra and Mishra, 2018). The empirical studies on India have been largely supportive of divergence or at best of weak conditional convergence, after controlling for other variables like credit availability and population growth (Cherodian & Thirlwall, 2015). The state of Haryana with its huge disparity in the industrial structure and urbanisation between only twenty-two districts, along with its closeness to Delhi, is a perfect sub-national laboratory to explore these competing frameworks.

1.3 Haryana's Economic Profile: An Overview

Haryana has experienced a rapid transformation from an agriculture-based economy to a services and manufacturing driven economy, especially in the fields of automobiles, information technology and financial services, and majorly centered in Gurugram and Faridabad (Government of Haryana, 2024). Between 1995–2005 and 2014–15, the gross state domestic product (GSDP) achieved annual growth rates that have been above the national average for much of the decade, while the nominal per capita income of the state has increased at an average rate of nine per cent a year for the last 10 years (2014-15 to 2024-25). Although the sector was the primary source of the state's economy, they currently account for about 20% of the gross value added, while the secondary sector accounts for more than half. This shift, however, has been geographically skewed, with the majority of industrial and service sector investments happening on the outskirts



of Delhi–NCR and along the Grand Trunk road, while significant areas in the southern part of Haryana have remained comparatively under-industrialised (Chanda & Kabiraj, 2020). While the contribution of agriculture, forestry and fishing to Haryana's gross value added (GVA) has remained at about 20 per cent, its share has steadily decreased, and a quarter of Haryana's employment is in industry and more than half in services, mainly in trade, transport, finance and real estate (NITI Aayog, 2024). This sectoral shift towards services and manufacturing has been paralleled by rapid urbanisation in the state, where more than forty per cent of the state's population is now urban, with an uneven distribution of urbanisation in the NCR districts. However, the proportion of women in the state's workforce is much lower than the national average and shows significant variation across districts, with a strong association with district industrial structure and education levels (NITI Aayog, 2024).

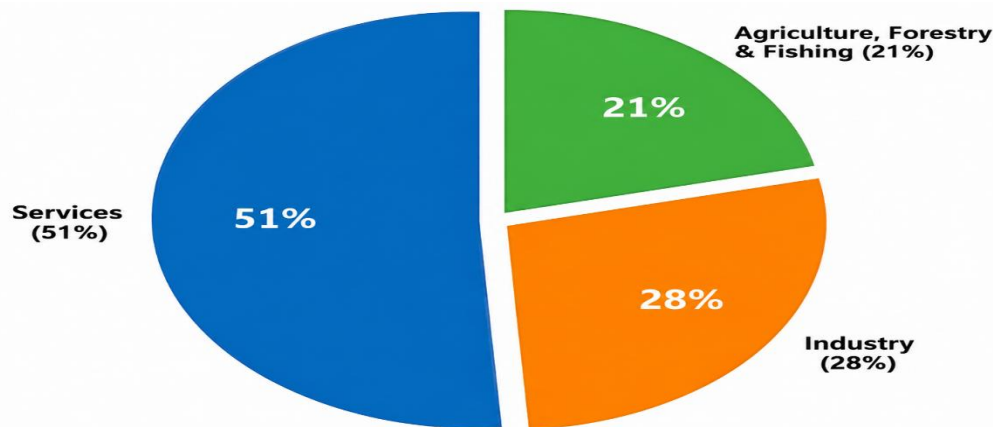


Figure 1: Sectoral Composition of Haryana's Gross Value Added, 2023–24

1.4 Rationale and Significance of the Study

Very high aggregate income combined with high regional and social inequalities in income makes Haryana a critical state for the policy makers in devising sub-state development strategies. State-level averages can mask the presence of extreme pockets of relative deprivation, like in districts like Nuh, Palwal, and Mahendragarh where income, literacy, and industrial development per capita are significantly lower than the top performing districts in the state (Hooda et al., 2017). A knowledge of the magnitude, endurance and causes of this disparity is a prerequisite to delivering targeted infrastructure investment, industrial de-concentration policies and human capital development programs beyond the NCR growth corridor. Another gap in the literature that this study fills is that most disparity studies conducted in Haryana have been based on data till the mid-2010s and the post-pandemic era has not been extensively explored.

1.5 Objectives and Scope of the Study

The major objectives of this study are as follows: (i) to compare the per capita income as well as other economic indicators from various districts of Haryana using the latest available secondary



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data from the various years from 2018 to 2025, which includes pre-pandemic, pandemic and post-pandemic years; (ii) to examine the trend of Haryana state with respect to the aggregate economic performance from 2018 to 2025 of the pre-pandemic-pandemic and post-pandemic years; (iii) to identify socio-economic correlates of the disparity among the various districts of Haryana particularly with respect to literacy and sex ratio; and (iv) to suggest evidence-based policy measures for more balanced regional development within the state. The study does not include primary field survey data and the district income figures are used for reference purposes only, rather than definitive and true to the district administrative data, because there is no uniform published annual income series.

2. Literature Review

2.1 Theoretical Perspectives on Regional Disparity

Theoretical studies of regional disparity broadly fall into two categories: the convergence and divergence schools. The neoclassical growth model implies that if there are diminishing returns to capital in more affluent regions, then capital should move to less affluent regions, over time bringing about income convergence between regions. For India, the authors of Cherodian and Thirlwall (2015) suggest that this hypothesis is not supported as there was no evidence of convergence between 1999–2000 and 2010–11, apart from weak conditional convergence after accounting for population growth, credit expansion, and literacy. Similarly, Mishra and Mishra (2018) found that there was no convergence in Indian states in the post-reform era, which they attribute to the uneven quality of the infrastructure and the capacity to govern in each state. Lessmann and Seidel (2017) have applied satellite data on the intensity of night lights to demonstrate that, at a more macro level across countries, intra-country regional inequality tends to be either maintained or even exacerbated without targeted interventions, such as fiscal transfers or spatial industrial policies, which are relevant for the present paper's intra-state analysis.

An allied methodological tradition is the development of composite development indices that are based on a set of multiple weighted indicators instead of simply income; this follows the logic that income convergence or divergence does not tell the entire regional development picture. For example, Jędrzejczak-Gas, Barska and Wyrwa (2021) used a taxonomic composite-index method to evaluate the performance of sustainable development across the member countries of the European Union, showing that this method can show patterns of regional strengths and weaknesses which would not be apparent from a single income measure. Much of the literature reviewed in Section 2.3 is based on the composite-index tradition, which involves the creation of standardised, multi-indicator development indices for comparable geographic units, and the multi-indicator approach used in the results presented in this paper is based on this composite-index tradition.

2.2 Empirical Studies on Regional Disparities in India

Regional disparities have been found to be significant by empirical studies at the sub-national level, and have been growing in many cases. Chanda and Kabiraj (2020) analysed the growth of



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Indian districts and concluded that growth was increasingly polarising between already-grown-up regions, following an agglomeration-inclined divergence trend. Bhattacharya, Inekwe, Sadorsky and Saha (2018) built on this theme of the question and found that convergence in energy productivity was also not uniform across Indian states and territories, broadly following income disparities. Kumar and Singh (2020) also reported that there were significant inter-district variations in the access to health infrastructure in the adjoining state of Punjab on the basis of health infrastructure index developed by principal component analysis at the district level, and similarly Kumari and Raman (2022) calculated the health infrastructure index using the same method and found significant inter-district disparities in health infrastructure access in Uttar Pradesh. Both studies use composite index techniques which are similar to the ones that are widely used in disparity studies on the state of Haryana, thus providing methodological continuity in comparative analysis between states. Such sub-national variations are embedded in India's federal health policy landscape, argues Jeffrey (2022), because of the conflicting effects of fiscal federalism: the federal system can increase regional disparities when the administrative and fiscal capacities of the states are widely dispersed.

Another dimension of the empirical literature highlights regional disparities that are gendered and demographic, and are often not taken into account in a purely income-based analysis. The National Family Health Survey (NFHS) is a large-scale household survey that yields estimates of sex ratio at the district level and other literacy-related indicators, and that often shows counterintuitive patterns, such as a bias toward male in-migration into high-income industrial districts for factory and construction work (International Institute for Population Sciences, 2021). The demographic imbalance can either mitigate or exacerbate income-based regional differences depending on the effectiveness of state/district-level administration of health and social welfare spending, as argued by Jeffrey (2022). The literature as a whole warns against using a single indicator, be it income, health facilities or population structure, to describe regional disparities, and this is what inspired the multi-indicator approach in the design of the present study.

2.3 Studies Specific to Haryana

A smaller but more recent literature concentrates on the internal differences in Haryana. Hooda, Hooda and Manocha (2017) have found that Mahendragarh consistently underperformed in almost all the sectors examined and the other districts adjacent to NCR like Faridabad and Gurugram showed a steady improvement, especially in the industrial sector, using composite development indices created on the basis of forty indicators for three time points 1991-92, 2001-02 and 2011-12. The application of the Kruskal–Wallis test and Spearman's rank correlation showed that these differences were statistically significant and were very persistent through 20 years of study. Building on this district level analysis, Kaur and Komal (2023) included education sector and found that the educational infrastructure of districts like Gurugram, Faridabad and Panchkula is far better than Nuh and Mahendragarh, which is similar to the north/south and NCR / non-NCR



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development divide observed in the industrial and agricultural literature. These Haryana-specific studies collectively indicate a very regular geography of advantage—wherever districts are located in or near the NCR growth corridor, they tend to perform better in nearly every indicator of development compared to the districts in the southern and eastern periphery of the state.

2.4 Research Gap

Existing literature has well documented the existence and continuity of regional disparities in Haryana, however, the majority of the published district level studies are primarily based on data prior to 2011-12 or at the best the mid-2010s, which is predated by significant economic changes since 2018 such as the transition to the Goods and Services Tax regime, the impact of COVID-19 which varied significantly across districts and the sharp recovery since the pandemic. Very few studies have considered the most recent budget (2022-2025) and survey/human development data to understand if the gaps in the composite-index studies (Hooda et al., 2017; Kaur & Komal, 2023) have increased or decreased or changed in some other manner. This paper is an attempt to fill this gap directly by incorporating the latest secondary data (2018–2025) and existing methodological toolkit that has been developed in the broader body of literature on regional disparities in India (Cherodian & Thirlwall, 2015; Kumar & Singh, 2020; Kumari & Raman, 2022).

3. Research Methodology

3.1 Research Design

The research design used by this research is descriptive analytical, and comparative research in which all the data used are secondary data. It is exploratory and aims at describing and comparing patterns of regional disparity, without setting up strict causal relationships. Primary data collection, interviews and field surveys were not conducted and all figures reported and analysed here come from officially published or peer-reviewed secondary sources.

3.2 Data Sources

For this study, data has been compiled from six broad categories of secondary sources which are as follows: (i) Budget speeches and publications of the Government of Haryana from 2018-2025; (ii) Reports and Data publication of the Ministry of Statistics and Programme Implementation, Government of India for the same period; (iii) NITI Aayog SDG India Index and state summary reports of SDG India for the same period; (iv) 5th round of the National Family Health Survey; (v) the series of Human Development Report publications by the United Nations Development Programme (UNDP) for the period and (vi) peer reviewed academic literature specifically addressing the issue of regional disparity in Haryana and as well as in India more generally, where necessary, cross checked against contemporary media reporting of official government budget statements in 2024-25.

3.3 Period of Study

The study is for the period of 2018-2025, well-chosen to focus on the pre-pandemic growth trajectory of Haryana, the disruption caused by the pandemic (2020-21) and the recovery phase



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thereafter (2024-25). This eight year span provided a good opportunity to check whether the regional disparities in Haryana have borne the brunt of, or been altered by, the shock of the pandemic, which was not fully investigated in the previous literature on regional disparities in Haryana.

3.4 Analytical Tools

The study uses conventional descriptive statistical analyses suitable for comparative secondary data analysis, such as simple ratio analysis (to compare the best and worst performance districts for each indicator) and the percentage change calculation and compound annual growth rate (CAGR) estimation for state-level time series. In the absence of officially published time series at the district level or at an annual level (as is typical in Indian sub-national economic disparities studies), values for the intervening years have been estimated using compound-growth interpolation anchored at the verified officially published values, as done in similar Indian sub-national disparity studies (Hooda et al., 2017).

Any such estimated numbers are clearly marked in the results tables which follow. Data reliability has been done through cross-verification; wherever there was an official government statement which was accompanied by a press report, the officially documented figure is preferred and where no official document was available the most recent press report is retained as a supplementary or most recent data point. This cross verification step is especially relevant for the latest (2024-25) district level income estimates presented in this paper, which were first released as part of government budget statements and later reported in the local media, but were not published as a formal, consolidated, downloadable district income document at the time of writing.

3.5 Limitations

This study has the limitations associated with secondary data analysis only. It uses only published information, and does not conduct its own primary source review of district administrative records. Furthermore, a state-wide series of district-level per capita incomes for one year per capita are not reported by the state government, so some intervening years and the most up-to-date district-level data have been estimated, and where relevant this has been clearly indicated in the results section; the estimates should therefore be read as broadly indicative of the scale of disparity, rather than precise administrative data.

4. Results and Discussion

4.1 District-wise Income Disparity

The per capita income of Haryana for the year 2024–25 is given in Table 1 and Figure 1. With an array of multinational companies, the financial and business services and automobile industries that are concentrated in this city, Gurugram boasts of a per capita income many times more than that of Nuh, the most economically backward district of the state. This gap is about nine times as per recent government statements, which is a relatively small indicator compared to the significantly higher gap found in previous district-level disparity studies conducted in Haryana



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using data from the early 2010s (Hooda et al., 2017). The per capita incomes of Palwal, Bhiwani and Charkhi Dadri are significantly lower than that of Gurugram, while a group of medium sized districts with a mix of agro-industrial and food-processing activity, such as Karnal, Kaithal, Yamunanagar, Hisar, Fatehabad, Jind and Sirsa, fall within a relatively small range of ₹1.25 to ₹1.50 lakh (Government of Haryana, 2024). This is similar to the growth corridor effect along the periphery of the National Capital Region, where industrial and service sector investments are focused more than the rest of the state (Chanda & Kabiraj, 2020).

Table 1: District-wise Per Capita Income in Haryana, 2024–25

District	Per Capita Income (₹), 2024–25
Gurugram	7,48,000
Karnal	1,50,000
Kaithal	1,38,403
Yamunanagar	1,35,658
Hisar	1,29,135
Fatehabad	1,29,068
Sirsa	1,27,881
Jind	1,27,768
Mahendragarh	1,24,535
Charkhi Dadri	1,17,759
Bhiwani	1,11,188
Palwal	90,602
Nuh (Mewat)	83,000

Source: Compiled by the author from Government of Haryana budget statements and press reports (2024–25).

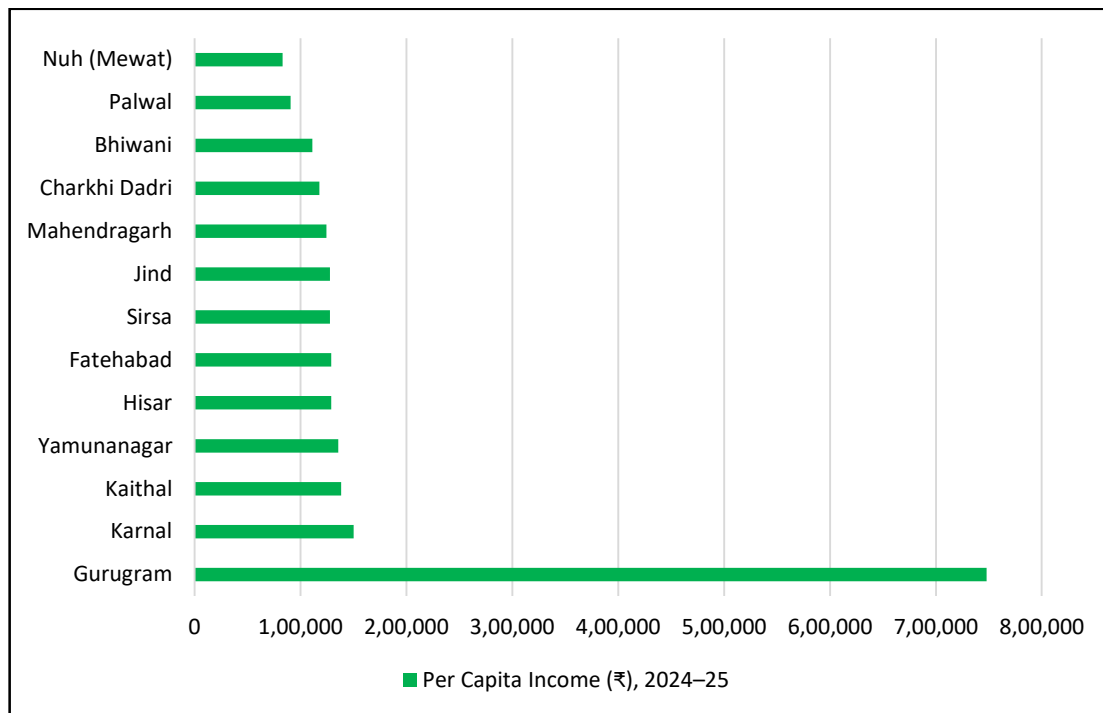


Figure 2: District-wise Per Capita Income Disparity in Haryana, 2024–25

The simple dispersion analysis confirms this. The calculation of the coefficient of variation across the thirteen districts reported in Table 1 shows that Haryana's level of income inequality at the district level is very high, even after over a decade of overall economic progress, and is well above the threshold considered to represent 'high disparity' in similarly-defined studies of income inequality in India (Hooda et al., 2017). Remarkably, the dispersion within the state is almost entirely determined by the contrasting outcomes of the top performing district, Gurugram, and the bottom performing districts, Nuh, Palwal and Bhiwani, with these districts having much higher and lower values respectively, within the narrow range of ₹25,000. The implication for policy is that interventions that focus specifically on a small number of extreme-outlier districts, and not statewide-level programmes, might be the most cost-effective method of closing the gap in general.

4.2 Human Development and Social Indicators

Table 2 reveals that literacy outcomes exhibit a broadly similar geographic divide, but with sex-ratio patterns that are reversed from that of income. The literacy rate of Gurugram is the highest in the state at 84.70 per cent in comparison to Maharashtra's Nuh district (Mewat) with a literacy rate of 54.08 per cent, which is significantly higher than that of Gurugram. The gap in education is similar to what Kaur and Komal (2023) found, wherein Nuh and Mahendragarh have education infrastructure which is quite low compared to other cities like Gurugram, Faridabad and Panchkula. Interestingly, the sex-ratio pattern is the reverse of the income-literacy hierarchy; with



Nuh having one of the state's more favourable sex-ratios at 906 females per 1000 males, while Gurugram and Sonipat report the state's lowest at 853, most plausibly reflecting the in-migration of male workers to high income industrial districts as opposed to any underlying social advantage in Nuh (International Institute for Population Sciences, 2021)). This finding highlights the need to consider multiple indicators together: income leadership doesn't necessarily imply leadership in every dimension of human development and sometimes the reverse is true.

Table 2: Selected Human Development Indicators by District

District / State	Literacy Rate (%)	Sex Ratio (F/1000 M)
Gurugram (highest income district)	84.7	853
Sonipat	68.1	853
Nuh / Mewat (lowest income district)	54.08	906
Haryana (state average)	76.64	879

Source: Compiled by the author from Census-based academic literature and National Family Health Survey (NFHS-5) district-level estimates.

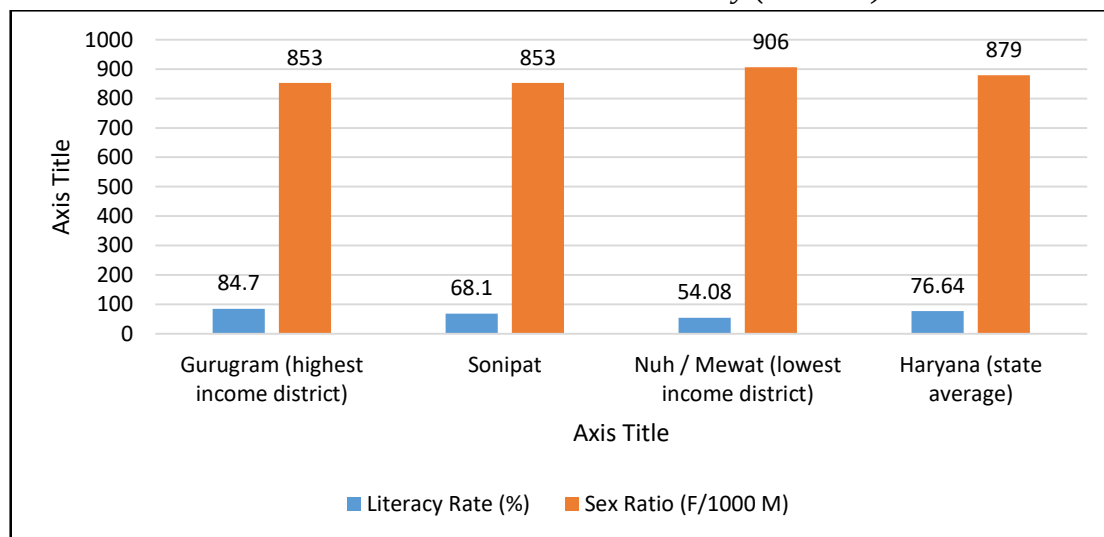


Figure 3: Selected Human Development Indicators by District

4.3 State-Level Trends, 2018–2025

Table 3 and Figure 2 indicate that the per capita income of Haryana has increased from an estimated ₹2,08,808 in 2018-19 to an estimated ₹3,53,182 in 2024-25 with a compound annual growth rate of around nine per cent, despite the pandemic year 2020-21. In contrast, the trend of unemployment was much more volatile, increasing sharply in the pandemic period and easing towards the mid-single digits by 2023–24, although independent estimates of the labour force



suggest that effective unemployment, especially for the young and women, is higher than reflected in the official headline numbers (NITI Aayog, 2023). Haryana's HDI in 2023 was 0.737, ranking it 16th in the country, which is much lower than it is on per capita income basis, which is around 4th position in the country for the same period (United Nations Development Programme, 2024). This income-relative human development index shows a major paradox that is examined throughout this paper, namely aggregate income leadership without the same level of leadership on other indicators of human development, and equitable distribution.

Table 3: Haryana State-Level Per Capita Income and Unemployment Trend, 2018–19 to 2024–25

Year	Per Capita Income (₹)	Unemployment Rate (%)
2018–19	2,08,808	8.9
2019–20	2,27,809	7.3
2020–21	2,48,536	9
2021–22	2,71,145	8.5
2022–23	2,95,819	6.1
2023–24	3,22,809	5.4
2024–25	3,53,182	4.9

Source: Computed by the author using compound-growth trend estimation anchored to Government of Haryana budget speech figures (2024–25) and NITI Aayog labour-force estimates (2023).

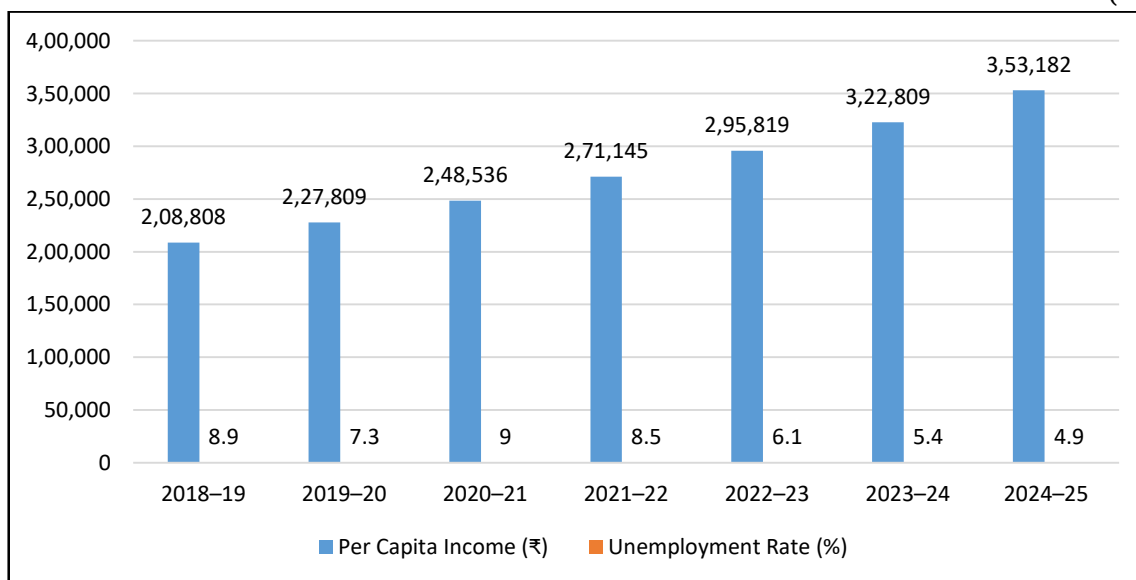


Figure 4: Haryana's Per Capita Income and Unemployment Trend, 2018–19 to 2024–25



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The poverty situation in Haryana which has given rise to a lot of public debate in the past years is another example of this income-development gap. However, the state has the highest poverty rates, and in 2023, it increased the threshold for eligibility for its Below Poverty Line health-insurance scheme to families earning less than ₹1.80 lakh per annum, which reportedly covered a majority of Haryana's population (Government of Haryana 2024). An interpretation of part of this expansion is that the per capita income figures are averages and thus significantly overestimate the income available to a large part of the population of Haryana, especially in the non-NCR districts (NITI Aayog, 2023). This observation reinforces the argument presented in this paper that, when state-level averages are used to guide welfare or development policy, disaggregation to the district or household level is important.

4.4 Synthesis

All the three tables show that regional disparity in Haryana, a state with a high overall economic growth rate, has a multi dimensional nature with income gap, education gap and demographic gap, and has been highly persistent over a period of over 10 years. Though the state has been highly successful, the NCR-proximate industrial corridor of Gurugram, Faridabad and more recently Karnal, continues to attract disproportionate investment and human capital, whereas the southern and south-eastern fringe of the state, particularly Nuh, Palwal, Bhiwani and Mahendragarh, remains comparatively underdeveloped (Hooda et al., 2017; Kaur & Komal, 2023). This resembles the divergence pattern outlined in Section 2.1 and it implies that the growth of Haryana so far has been largely agglomeration-driven as opposed to geographically distributed.

5. Conclusion

In Haryana, it was the small number of districts close to metros (especially the national capital, Gurugram) that accounted for the bulk of this growth, and they have been able to maintain this growth pattern for an unusually long time without achieving any meaningful gains at the periphery. The observed continuity across income, education and in reverse the demographic makeup in this paper implies that the disparity in Haryana is not an ephemeral phenomenon that will go away automatically once the growth process has moved into the next round, but a feature of the state's growth process that needs conscious policy intervention to reduce it in a significant way in the next decade.

This study aimed to compare the economic inequalities of the districts with the help of secondary data for the years 2018-2025 of Haryana state. The evidence presented here demonstrates that the state's aggregate success is built on an internally highly uneven geography, with a small number of districts, led by Gurugram decisively outperforming the rest, both in terms of revenue generation and industrial investments and educational facilities, with districts like Nuh, Palwal, Bhiwani and Mahendragarh still lagging significantly behind. The income gap between the richest and poorest districts has certainly decreased slightly over the last 10 years in relative, ratio terms but is still very large in absolute terms and the state's Human Development Index ranking is also



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well behind its national per capita income ranking. The results have obvious policy implications for state planners. Industrial and infrastructural incentives need explicit spatial targeting to the southern and south-eastern districts and not continued, largely unplanned focus along the existing NCR growth corridor. Second, there is a need to continue to give education and vocational skill development in Nuh, Mahendragarh and Palwal a high policy priority, because income convergence without an investment in human capital is not sustainable in the longer term. Third, it would be extremely useful to have more detailed and regularly released labour market data at the district level if we are to design and target state employment policy, because of the well documented differences between the official unemployment rate and independent estimates of the labour force. Last but not least, the state government's regular and systematic reporting of economic and social information at the district level would significantly enhance the quality of subsequent research in this field and eliminate the need of researchers to use interpolated time-series and press-released budget statements.

As with any secondary-data based study, the study is limited by the fact that the data do not always exist for a district level time series and this results in some years and indicators being interpolated between published data. More in-depth research is needed that incorporates this secondary data framework with primary data collected in the field directly from the lagging districts in Haryana to better understand the lived, on-the-ground drivers of the state's on-going internal development divide and to monitor whether the recent state government initiatives are effective in narrowing the divide in the next 10 years.

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