

**STRUCTURAL TRANSFORMATION AND ECONOMIC
DIVERSIFICATION IN A PLANNED INDUSTRIAL CITY: EVIDENCE
FROM DURGAPUR-AN INDIAN STEEL TOWN (1970–2020)**

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ABSTRACT

Planned steel cities in India were established as mono-industrial growth centres under the Second Five-Year Plan, resulting in highly concentrated employment structures anchored around large public-sector steel plants. Over time, technological change, economic liberalization, and shifts in production regimes have altered the economic foundations of these cities. This study examines long-term structural transformation and economic diversification in Durgapur, a non-metropolitan planned steel city, by jointly analysing sector-wise employment and income patterns from 1971 to 2020.

The study combines secondary employment data with indicative sector-wise income estimates derived from a perception-based survey of experienced stakeholders. Descriptive statistical measures are used to assess sectoral stability and variability, while economic concentration and diversification are evaluated using the Herfindahl–Hirschman Index (HHI) and the Diversification Index (DI)(Frenken et al., 2007). This dual approach enables a comparative assessment of employment-based and income-based diversification trajectories.

The results reveal a pronounced decline in employment concentration, with the employment HHI falling from 0.52 in 1971 to 0.21 in 2020, indicating a transition from a steel-dominated economy to a diversified multi-sectoral structure driven primarily by small-scale and micro enterprises. In contrast, income diversification remained consistently high throughout the study period, with income DI values exceeding 0.86 across all decades. The emergence of high-income service sectors, particularly information technology, introduced temporary income re-concentration without generating commensurate employment growth(Sassen, 2001; Rodrik, 2016).

The findings highlight a structural decoupling between employment diversification and income diversification, suggesting that post-industrial transformation in planned steel cities involves not merely sectoral change but shifts in the relationship between labour absorption and income

generation. The study contributes to urban economic literature by demonstrating the importance of analysing employment and income structures simultaneously to understand the resilience and vulnerabilities of non-metropolitan industrial cities undergoing long-term economic restructuring.

KEYWORDS: *Economic Diversification, Employment Structure, Sectoral Income, Industrial Town, Durgapur, Herfindahl–Hirschman Index (HHI).*

INTRODUCTION

Steel cities in India were largely established during the Second Five-Year Plan (1956–1961), which positioned heavy industrialization as the principal strategy for accelerating national economic development. Planned industrial centres such as Durgapur, Bhilai, Rourkela, and Bokaro emerged during this period as state-led growth poles anchored around large public-sector steel plants (Kaldor, 1967; Chakravorty, 2003; Bluestone & Harrison, 1982). These towns were structurally and functionally designed to support integrated steel production, resulting in a highly mono-industrial economic structure during their formative decades. Employment was overwhelmingly concentrated in steel manufacturing and closely related secondary industries, particularly metal and allied sectors, which absorbed a substantial share of the urban workforce.

Over time, however, the economic foundations of these steel cities began to evolve. From the late 1980s—and more decisively following the economic reforms of the 1990s—structural shifts emerged due to technological modernization, increased automation in heavy industry, and changes in global production regimes. India's integration into the global economy through the GATT framework and the establishment of the World Trade Organization (WTO) intensified international competition. While these processes enhanced industrial productivity and efficiency, they simultaneously reduced labour absorption in traditional secondary industries. As steel production became increasingly capital- and technology-intensive, employment in steel and metal-allied sectors declined despite sustained, and in some cases rising, levels of industrial output (Rodrik, 2016).

Concurrently, these industrial towns experienced a gradual reorientation toward the tertiary sector, marked by the expansion of services, small-scale and micro enterprises, institutional employment, and retail activities. This transition reflects a broader post-industrial trajectory in which employment growth increasingly shifted away from large-scale manufacturing toward services and informal economic activities. The resulting urban economic structure represents a movement away from state-led, industry-dependent systems toward more diversified and service-oriented urban economies, a pattern particularly evident in non-metropolitan industrial cities.

Within this broader context, the present study selects Durgapur as a case study to examine long-term processes of structural transformation and economic diversification among India's planned steel cities. Durgapur offers a particularly instructive example due to its early establishment under the Second Five-Year Plan, its prolonged dependence on a public-sector steel plant, and its sustained exposure to post-liberalization economic restructuring. Unlike some steel towns that

continue to exhibit strong single-industry dominance, Durgapur has experienced a more pronounced expansion of small-scale enterprises, institutional activities, and service-sector functions, while continuing to retain its industrial legacy.

Moreover, Durgapur's strategic location within eastern India, its integration with regional industrial and transport networks, and its evolution as a non-metropolitan urban centre further enhance its analytical relevance. These characteristics position Durgapur as a representative yet analytically rich case for understanding how planned industrial cities in India have navigated the transition from mono-industrial dependence toward more diversified and hybrid urban economies over time.

Data and Methodology

Sector-wise employment shares for the years 1971, 1981, 1991, 2001, 2011, and 2020 were compiled to capture the relative importance of different economic activities in Durgapur. Employment is expressed in percentage terms and reflects long-term structural change rather than short-term fluctuations.

In the absence of consistent historical municipal data on sector-wise income, indicative income values were derived through a primary perception-based survey. Five experienced stakeholders from each sector were consulted to estimate perceived average monthly remuneration (nominal values) across different decades, based on professional experience, institutional memory, and observable sectorial trends. The resulting values represent relative income progression and are intended for comparative analysis rather than precise historical wage estimation.

Descriptive statistical measures, including mean, standard deviation, and coefficient of variation, were employed to assess sector-wise stability and variability over time (Gujarati & Porter, 2009). Economic concentration was evaluated using the Herfindahl–Hirschman Index (HHI), computed from sectorial employment shares (Herfindahl, 1950; Hirschman, 1964, Glaeser et al., 1992; Tashakkori & Teddlie, 2010). An Economic Diversification Index (DI) was derived as $(1 - \text{HHI})$, where higher values indicate greater levels of economic diversification, consistent with regional economic analysis practices (Malizia & Ke, 1993). The Herfindahl–Hirschman Index (HHI) is used to measure the degree of sectoral employment concentration within the urban economy by capturing the relative dominance of individual sectors. Higher HHI values indicate greater economic concentration and mono-sectoral dependence, while lower values reflect a more balanced and diversified employment structure.

Research Objectives

In order to understand the long-term processes of structural transformation and economic diversification in a planned industrial city, the present study sets out the following research objectives:

To examine the long-term structural changes in sector-wise income composition in Durgapur from 1970 to 2020.

- To analyse sectoral employment shifts and their alignment with income generation.
 - To assess the degree of economic diversification across decades using diversification indices.
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- To examine the relationship between income growth and employment growth across sectors.

Data Description

Table-1 presents the evolution of sector-wise employment shares in Durgapur between 1971 and 2020. The steel sector dominated employment in 1971, accounting for over 70% of total employment, reflecting the city's mono-industrial character. This dominance declined steadily over subsequent decades, falling below 5% by 2020.

In contrast, Small-Scale Enterprises (SSE) and Micro and Small Enterprises (MSE) emerged as major employment generators, particularly after the 1990s (Meagher, 2010). SSE employment peaked during the 2001–2011 period, while MSE employment continued to grow into 2020, indicating a shift towards decentralized and flexible production systems.

Institutional sectors such as healthcare and education exhibited stable but modest employment shares, acting as long-term employment anchors. The emergence of IT and organized retail after 2000, though limited in employment share, signals the gradual integration of service-sector activities into Durgapur's economy.

Table-1: Evolution of various employment sector (share %) in Durgapur

Sl No.	Industry typology	1971	1981	1991	2001	2011	2020
A	Steel	70.42	49.03	29.97	19.84	8.21	4.73
B	Metal and allied	13.41	8.47	8.06	7.98	6.54	9.10
C	Non-metal industry	4.64	12.26	4.70	3.99	4.26	2.37
D	Small Scale Enterprise (SSE)	1.48	13.63	35.0	37.19	40.97	33.42
E	Institution-Healthcare	2.64	3.24	3.82	4.58	4.62	4.57
F	Institution-educational	3.05	2.94	2.96	3.61	3.39	4.83
G	IT	0.00	0.00	0.00	0.24	2.14	1.96
H	Shopping mall	0.00	0.00	0.00	0.00	0.98	1.52
I	Medium Scale Enterprise (MSE)	0.65	2.59	8.86	13.28	24.63	26.07
J	Balance	3.70	7.83	6.62	9.29	4.26	11.44

A primary perception-based survey was conducted with five experienced stakeholders from each sector. Respondents were asked to assess the relative level and progression of economic strength of their sector across different decades, based on professional experience, sectoral knowledge, and observable changes, rather than precise income figures.

The values indicate relative trends derived from respondent perceptions and should be interpreted as indicative rather than exact economic measurements. Perceived average monthly remuneration (nominal values) as recalled/estimated by long-term sectorial practitioners.

Table-2: Sector wise income in Durgapur Table-2: Sector wise income in Durgapur

Code	Sector	1971	1981	1991	2001	2011	2020
A	Steel	750	1,500	3,200	8,000	35,000	80,000
B	Metal and allied	650	1,300	2,800	7,000	30,000	65,000
C	Non-metal industry	600	1,200	2,500	6,000	25,000	50,000
D	SSE	500	1,000	2,200	5,500	22,000	45,000
E	Institution – Healthcare	400	900	2,000	7,000	30,000	70,000
F	Institution – Educational	350	800	1,800	6,000	28,000	60,000
G	IT	0	300	800	12,000	60,000	1,00,000
H	Shopping Mall	0	0	500	3,000	12,000	25,000
I	MSE	450	900	2,000	5,000	18,000	35,000
J	Balance	400	800	1,600	4,000	15,000	30,000

Table 2 presents indicative sector-wise income levels based on stakeholder perception. Across all sectors, income levels increased substantially over time, reflecting inflation, productivity gains, While traditional industrial sectors such as steel and metal allied industries continued to show high absolute income growth, service-oriented sectors—particularly IT—exhibited the highest income volatility and growth rates. Institutional sectors displayed steady income progression without corresponding large-scale employment expansion, indicating rising skill intensity rather than labour absorption.

Descriptive Statistical Analysis

The descriptive statistics (Table-3) reveal high coefficients of variation for steel, SSE, MSE, IT, and shopping mall sectors, indicating significant structural change over time. In contrast, healthcare and educational institutions show low variability, highlighting their stabilizing role in the urban economy.

Table-3: Descriptive Statistics of Sector-wise Employment Structure in Durgapur (1971–2020)

Sector	Mean	Std. Dev.	Min	Max	CV (%)
Steel	30.37	25.34	4.73	70.42	83.46
Metal & Allied	8.93	2.35	6.54	13.41	26.36
Non-metal Industry	5.37	3.48	2.37	12.26	64.83
SSE	26.95	15.71	1.48	40.97	58.30
Institution – Healthcare	3.91	0.83	2.64	4.62	21.26
Institution – Educational	3.46	0.72	2.94	4.83	20.79
IT	0.72	1.03	0.00	2.14	142.87
Shopping Mall	0.42	0.67	0.00	1.52	160.25
MSE	12.68	10.80	0.65	26.07	85.20
Balance	7.19	2.97	3.70	11.44	41.25

Income-related statistics (Table-4) show extremely high coefficients of variation across all sectors, reflecting rapid income restructuring over five decades. IT demonstrates the highest mean income and volatility, while retail and MSE sectors exhibit moderate but consistent income growth.

Table-4: Descriptive Statistics of Sector-wise Income Structure in Durgapur (1971–2020)

Sector	Mean	Std. Dev.	Min	Max	CV (%)
Steel	21,408	31,471	750	80,000	147.00
Metal & Allied	17,792	25,631	650	65,000	144.06
Non-metal Industry	14,217	19,781	600	50,000	139.14
SSE	12,700	17,763	500	45,000	139.87
Institution – Healthcare	18,383	27,663	400	70,000	150.48
Institution – Educational	16,158	23,906	350	60,000	147.95
IT	28,850	41,835	0	1,00,000	145.01
Shopping Mall	6,750	10,049	0	25,000	148.87
MSE	10,225	13,796	450	35,000	134.93
Balance	8,633	11,808	400	30,000	136.77

The descriptive analysis of sector-wise employment highlights the enduring influence of Durgapur's legacy industrial base. Steel and Small-Scale Enterprises (SSE) record the highest mean employment shares, reflecting the city's historical dependence on heavy industry and allied manufacturing activities. This dominance underscores the foundational role played by industrial employment in shaping the urban economic structure over several decades.

The coefficient of variation (CV) values further reveals the nature of structural transformation across sectors. Very high CV values (exceeding 60 percent) in emerging sectors such as Information Technology (IT), Micro and Small Enterprises (MSE), and Shopping Malls indicate significant fluctuations and rapid growth over time. These patterns point toward a dynamic restructuring of the urban economy, marked by diversification into service-oriented and informal sectors. In contrast, institutional sectors such as healthcare and education exhibit relatively low CV values (below 30 percent), suggesting stable and resilient employment generation. These sectors function as long-term employment anchors, contributing to socio-economic stability amid broader economic transitions.

The income-based descriptive statistics present a more pronounced picture of economic restructuring. The consistently high coefficients of variation, ranging approximately between 140 and 150 percent across sectors, indicate rapid and uneven income growth over time. This reflects a fundamental shift in the city's income structure, driven by sectorial modernization, productivity gains, and changing market dynamics.

Among all sectors, Information Technology stands out with the highest mean income levels as well as the greatest volatility. This trend signifies Durgapur's gradual transition toward a post-industrial income regime, where high-value service sectors contribute disproportionately to overall income growth. Meanwhile, institutional sectors such as healthcare and education demonstrate steadily rising income levels without a commensurate increase in employment. This divergence suggests productivity-driven growth, wage escalation, and professionalization within these sectors, reinforcing the phenomenon of income expansion decoupled from employment growth.

Economic Diversification Analysis-Employment

The employment-based Herfindahl–Hirschman Index (HHI) indicates a long-term transition of Durgapur from a highly concentrated steel-dominated economy in 1971 towards a relatively

diversified multi-sectoral urban economy by 2020, with small-scale enterprises and services playing an increasingly significant role.

HHI was computed using sectoral employment shares, and the Diversification Index (DI) was derived as $(1 - \text{HHI})$, where higher DI values indicate greater economic diversification. Table-5 presents the employment-based Herfindahl–Hirschman Index and Diversification Index for Durgapur. The HHI declined sharply from 0.52 in 1971 to 0.21 in 2020, while the DI increased from 0.48 to nearly 0.79.

Table-5: Employment-Based Economic Diversification Index (Durgapur)

Year	Total HHI	Diversification Index (DI = 1 – HHI)	Interpretation
1971	0.5202	0.4798	Highly concentrated (Steel-dominated economy)
1981	0.2899	0.7101	Moderate diversification begins
1991	0.2367	0.7633	Increasing diversification
2001	0.2153	0.7847	Most diversified phase
2011	0.2520	0.7480	Mild re-concentration (SSE dominance)
2020	0.2144	0.7856	Renewed diversification

Table-6: Sector-wise Contribution to HHI (Employment)

Sector	1971	1981	1991	2001	2011	2020
Steel	0.4959	0.2404	0.0898	0.0394	0.0067	0.0022
Metal & Allied	0.0180	0.0072	0.0065	0.0064	0.0043	0.0083
Non-metal Industry	0.0022	0.0150	0.0022	0.0016	0.0018	0.0006
SSE	0.0002	0.0186	0.1225	0.1383	0.1679	0.1117
Institution – Healthcare	0.0007	0.0011	0.0015	0.0021	0.0021	0.0021
Institution – Educational	0.0009	0.0009	0.0009	0.0013	0.0011	0.0023
IT	0.0000	0.0000	0.0000	0.0000	0.0046	0.0038
Shopping Mall	0.0000	0.0000	0.0000	0.0000	0.0010	0.0023
MSE	0.0000	0.0007	0.0079	0.0176	0.0607	0.0680
Balance	0.0014	0.0061	0.0044	0.0086	0.0018	0.0131
Total HHI	0.5202	0.2899	0.2367	0.2153	0.2520	0.2144

The diversification index (DI) shows a steady improvement from 0.48 in 1971 to nearly 0.79 by 2020, indicating a structural transformation of Durgapur’s economy from a highly concentrated steel-based industrial town to a diversified urban economy. A temporary dip in diversification during 2011 reflects sectoral dominance of small-scale enterprises, followed by renewed diversification by 2020 with the emergence of services, IT, and micro-enterprises.”

This trend indicates a clear transition from a highly concentrated steel-dominated economy to a diversified urban economic structure. A temporary re-concentration observed in 2011 corresponds to the dominance of small-scale enterprises, followed by renewed diversification by 2020 driven by services, micro-enterprises, and institutional growth.

The sector-wise HHI contributions (employment) reveal that steel was the overwhelming source of concentration in the early decades. Over time, its contribution diminished significantly, while SSE and MSE emerged as new but less extreme contributors to concentration. Service sectors,

although growing, did not dominate employment sufficiently to recreate mono-sectoral dependence.

Economic Diversification Analysis-Income

The sector-wise Herfindahl–Hirschman Index (HHI) values indicate a significant transformation in the income composition of Durgapur over five decades. In 1971, the total HHI stood at 0.13325, reflecting a relatively high level of income concentration, primarily driven by heavy industrial sectors such as Steel (0.03346), Metal and Allied industries (0.02513), and Non-metal industries (0.02142). This confirms the city's strong dependence on core industrial activities during its early development phase as a steel-based industrial town.

Table-7: Sector-wise Contribution to HHI (Income)

Code	Sector	1971	1981	1991	2001	2011	2020
A	Steel	0.033	0.030	0.027	0.016	0.016	0.020
B	Metal and allied	0.025	0.022	0.021	0.012	0.012	0.013
C	Non-metal industry	0.021	0.019	0.017	0.009	0.008	0.008
D	SSE	0.015	0.013	0.013	0.008	0.006	0.006
E	Institution – Healthcare	0.010	0.011	0.011	0.012	0.012	0.016
F	Institution – Educational	0.007	0.008	0.009	0.009	0.010	0.011
G	IT	0.000	0.001	0.002	0.036	0.048	0.032
H	Shopping Mall	0.000	0.000	0.001	0.002	0.002	0.002
I	MSE	0.012	0.011	0.011	0.006	0.004	0.004
J	Balance	0.010	0.008	0.007	0.004	0.003	0.003
—	Total HHI	0.133	0.124	0.117	0.114	0.122	0.116
	DI	0.867	0.877	0.882	0.887	0.877	0.884

Between 1971 and 1991, the total HHI shows a steady decline from 0.13325 to 0.11654, indicating a gradual reduction in income concentration. This period corresponds with the relative decline in dominance of large-scale industries, as reflected in the consistent fall in HHI values for steel and allied sectors. At the same time, small-scale enterprises (SSE and MSE) and institutional sectors begin to register stable contributions, suggesting the early stages of income diversification.

The 2001 snapshot marks a critical structural shift. While traditional industrial sectors continue to lose income dominance, a sharp rise in the IT sector (0.03571) is observed, emerging as a new income-concentrating activity. This explains why the total HHI does not decline proportionately during this period (0.11365), despite the weakening of heavy industry. The rise of IT reflects the broader post-liberalization transition towards service-oriented income generation.

In the 2011 period, the total HHI increases to 0.12180, indicating a temporary re-concentration of income. This is largely attributed to the rapid expansion of the IT sector (0.04760), which becomes a dominant income source, offsetting gains from diversification in healthcare and education. Institutional sectors—particularly healthcare (0.01190) and education (0.01037)—show consistent growth, highlighting the increasing role of social infrastructure in urban income formation.

By 2020, the total HHI declines again to 0.11607, suggesting renewed income diversification. Although IT remains a significant contributor (0.03189), its reduced HHI share indicates a more balanced income distribution across sectors. Concurrent growth in healthcare (0.01563) and

education (0.01148) reinforces the shift towards a mixed economic base combining services, institutions, and residual industrial activities.

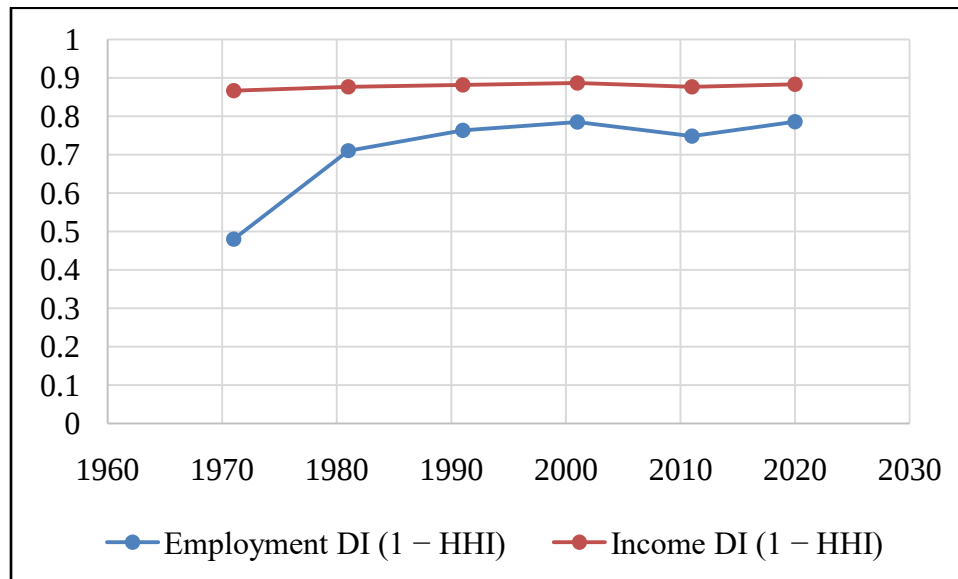
Overall, the HHI-income trends reveal Durgapur's transition from a mono-industrial income structure to a moderately diversified urban economy. While the dominance of traditional manufacturing has diminished, the emergence of IT and institutional sectors has reshaped income concentration patterns. The persistence of moderate HHI levels, however, suggests that diversification remains uneven, underscoring the need for policy support to strengthen a broader range of income-generating sectors and enhance long-term economic resilience.

The HHI-income values indicate that Durgapur maintained a structurally diversified income base throughout the study period, with DI values consistently above 0.86. However, sectoral shifts—particularly the rise of IT and institutional services—produced temporary variations in income concentration without reversing the overall diversified character of the urban economy.

Discussion

The findings of this study provide a nuanced understanding of long-term structural transformation in a planned steel city, revealing a clear divergence between employment concentration and income diversification trajectories. While Durgapur originated as a highly mono-industrial city dominated by steel manufacturing, the empirical results demonstrate that the pace and nature of diversification differed significantly between employment and income structures over time. This distinction is critical for interpreting post-industrial transitions in non-metropolitan industrial cities in India.

Table-7: Employment vs Income Diversification Index



The Table-7 shows that income diversification in Durgapur remained consistently high across all decades, while employment diversification started low and increased gradually over time. The persistent gap between the two trajectories highlights a structural decoupling, where income diversification preceded, and outpaced employment diversification throughout the post-industrial transition.

The employment-based analysis confirms a classical industrial restructuring pathway. The exceptionally high employment HHI in 1971 reflects the overwhelming dominance of the steel sector, consistent with the planning logic of the Second Five-Year Plan. Over subsequent decades, declining steel employment—driven by automation, technological upgrading, and productivity improvements—led to a marked reduction in employment concentration. The expansion of small-scale enterprises (SSE), micro and small enterprises (MSE), and selected service sectors absorbed labour displaced from large-scale industry, producing a steady rise in the employment-based diversification index. However, the temporary re-concentration observed around 2011 highlights that diversification is not a linear process; sectoral dominance can re-emerge when a single category, such as SSEs, expands disproportionately. Importantly, even during this phase, concentration levels remained far below those characteristic of the city's formative industrial period.

In contrast, the income-based analysis reveals that Durgapur's economy was never as income-concentrated as its employment structure might suggest. The consistently low income HHI values and high DI values across all decades indicate that income generation was distributed across multiple sectors even during periods of employment mono-dominance. This divergence underscores a key structural insight: large-scale industrial employment concentration does not necessarily imply income concentration. Capital-intensive industries such as steel generate high incomes relative to their workforce size, while institutional and service sectors contribute steadily to aggregate income without dominating employment shares.

The rise of the IT sector after 2000 introduces a new dynamic into the city's income structure. Unlike steel, which concentrated both employment and income in earlier decades, IT exhibits high income concentration with limited employment absorption. This results in temporary re-concentration in income HHI values, particularly in 2011, without reversing the overall diversified income base. The finding aligns with broader post-liberalization patterns observed in Indian cities, where service-led growth increasingly decouples income growth from employment expansion.

Institutional sectors—healthcare and education—play a stabilizing role across both dimensions (Tripathi, 2019). Their relatively low variability in employment and steady income growth suggest that they function as long-term economic anchors, buffering the urban economy against volatility associated with industrial decline or service-sector booms. This dual role strengthens urban resilience and contributes to a more balanced diversification process.

Overall, the results challenge simplistic narratives of post-industrial decline in steel cities. Rather than a transition from concentration to diversification alone, Durgapur's experience reflects a more complex restructuring in which income diversification preceded and outpaced employment diversification. This has important implications for urban policy, particularly in recognizing that employment diversification alone may not ensure equitable income distribution, and that high-income service sectors can generate new forms of economic concentration even within diversified urban systems.

Way Forward: Economic and Management Perspective

The analysis indicates that Durgapur's economic challenge is no longer one of diversification per se, but of managing structural imbalance between employment generation and income concentration. While income diversification has remained consistently high, employment

diversification has followed a more uneven path, periodically re-concentrating in specific sectors. Future economic strategy should therefore prioritize qualitative restructuring rather than sectoral expansion.

First, the persistent decoupling between income growth and employment growth calls for a shift in evaluation metrics used by local economic agencies. Sectoral performance should be assessed not only in terms of output or income growth, but also through employment elasticity and value-added per worker. This would help identify sectors—such as institutional services and select manufacturing sub-sectors—that combine income stability with sustained labour absorption.

Second, small-scale and micro enterprises have emerged as dominant employment absorbers, yet their rising contribution to employment concentration indicates potential productivity stagnation. Management interventions should focus on scaling efficiency rather than numerical expansion, through technology adoption, managerial upgrading, and integration into formal supply chains. Without such measures, employment-led diversification risks becoming structurally fragile.

Third, the rapid rise of high-income sectors such as IT has introduced episodic income re-concentration without significant employment gains. From an economic governance perspective, this necessitates deliberate linkage creation—for example, incentivizing subcontracting, knowledge spillovers, and service demand generation from high-income sectors toward local enterprises and institutions. This can moderate income concentration while strengthening the local economic multiplier.

Finally, institutional sectors such as healthcare and education demonstrate low volatility in both employment and income, positioning them as economic stabilizers rather than growth drivers. Management strategies should recognize their role in reducing systemic risk during periods of industrial or service-sector transition, and integrate them into long-term economic resilience planning.

In sum, the way forward lies not in further diversification, which is already structurally present, but in managing sectoral interdependencies, improving productivity within employment-intensive sectors, and aligning income growth with labour absorption. This approach offers a more sustainable and resilient economic trajectory for post-industrial, non-metropolitan cities like Durgapur.

CONCLUSION

This study set out to examine long-term structural change and economic diversification in Durgapur, a planned steel city established under India's Second Five-Year Plan. By jointly analyzing sector-wise employment and income patterns over a fifty-year period, the study provides a comprehensive account of how mono-industrial urban economies evolve under conditions of technological change, liberalization, and post-industrial transition.

The findings demonstrate that Durgapur has undergone a clear transformation from a highly concentrated, steel-dominated employment structure to a diversified urban economy characterized by small-scale enterprises, institutional activities, and emerging services. Employment diversification accelerated after the 1990s as steel manufacturing became increasingly capital-intensive, reducing labour absorption while stimulating the growth of decentralized and informal economic activities. Although periods of partial re-concentration occurred—most notably with the rise of small-scale enterprises—the long-term trajectory remains one of diversification and structural balance.

In contrast, the income-based analysis reveals a fundamentally different pattern. Income concentration was consistently low throughout the study period, indicating that Durgapur maintained a diversified income base even during its most industrially concentrated phase. This finding underscores the importance of distinguishing between employment and income structures in urban economic analysis. The emergence of high-income, low-employment sectors such as IT reshaped income concentration patterns in the post-liberalization era but did not fundamentally undermine the city's diversified income profile.

Together, these results highlight a critical structural decoupling between employment growth and income growth across sectors. While traditional manufacturing and institutional sectors provide employment stability, newer service sectors contribute disproportionately to income generation. This decoupling has significant implications for urban inequality, skill formation, and policy design in non-metropolitan industrial cities.

From a broader perspective, Durgapur's experience illustrates that planned steel cities are not locked into irreversible paths of industrial decline. Instead, they can evolve into hybrid urban economies combining industrial legacies with service-sector expansion and institutional growth. However, diversification alone does not guarantee inclusive or balanced development. Policy interventions must therefore focus not only on expanding sectoral diversity but also on strengthening employment-intensive services, upgrading skills, and fostering linkages between high-income sectors and the local economy.

In conclusion, the study contributes to the literature on urban economic restructuring by demonstrating that diversification is a multi-dimensional and uneven process. By integrating employment- and income-based measures, it offers a more refined framework for understanding post-industrial transitions in India's planned industrial cities and provides a basis for more targeted and context-sensitive urban economic policies.

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