

A Study on Investment Friendliness Scenario in India: State-Level Regional Disparity Analysis

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Research Article

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Abstract

This study evaluates sub-national investment readiness and quantifies regional disparities across 36 Indian States and Union Territories (UTs) to support capital allocation strategies for *Viksit Bharat @2047*. Utilising secondary data from NITI Aayog's Investment Friendliness Index (IFI) 2026 framework—encompassing eight pillars and 84 indicators across 36 sub-national jurisdictions- the paper applies descriptive statistics, QGIS spatial mapping, Gini/Palma inequality metrics, and One-way ANOVA with Tukey's HSD post-hoc tests across state topologies (Large States, Hilly/North-Eastern States, UTs/City States) and six statutory Zonal Councils. Results reveal a national mean IFI score of 43.96 (ranging from 56.60 in Gujarat to 24.50 in Lakshadweep). Spatial inequality is concentrated severely in Government Policy (Gini = 0.2618; CV = 0.47) and Financial Health (Gini = 0.2145; CV = 0.38). While composite IFI scores display baseline macro-level convergence across topologies ($p = 0.2170$), statistically significant disparities persist in Infrastructure ($p = 0.0080$) and Business Climate ($p = 0.0365$), driven primarily by structural deficits in Hilly and North-Eastern States relative to Large States ($\Delta = -1.956$, $p = 0.008$). Conversely, governance-centric pillars exhibit sub-national uniformity. Central and state interventions must shift from broad administrative easing to targeted, spatially sensitive investments in physical infrastructure, freight corridor integration, and state-level fiscal stabilisation. The paper offers the first spatial and inferential statistical validation of NITI Aayog's multi-pillar IFI 2026 framework, isolating structural bottlenecks across Indian sub-national jurisdictions.

1. Introduction

1.1 Benchmarking Investment Attractiveness Across States and UTs.

India's long-term economic trajectory over the past three decades highlights a remarkable phase of structural transformation, with real Gross Domestic Product (GDP) expanding at an average rate of 6.1% annually between FY1992 and FY2025. This expansion accelerated significantly in the pre-pandemic decade, recording an average growth rate of 6.6%, and demonstrated notable resilience in the post-COVID-19 recovery phase. As the nation targets the vision of *Viksit Bharat @2047*, aiming for developed-economy status by the centenary of its independence, it confronts an evolving global economic paradigm. Global trade dynamics are increasingly marked by rising protectionism, supply chain realignments, and shifting geostrategic priorities, which collectively challenge historical outward-oriented growth models. Consequently, sustaining high economic momentum requires activating domestic growth drivers, expanding productive capacity, and systematically eliminating structural and administrative friction. A foundational pillar of long-term macroeconomic expansion is investment-led growth. Applying the Solow (1956) growth accounting framework to India's economic history confirms that physical capital accumulation has been the primary engine of development, accounting for over half of total GDP growth since the landmark economic reforms of 1991.

Furthermore, post-pandemic economic momentum has relied heavily on public capital expenditure, with central government budgetary capex expanding to an average of 2.9% of GDP between FY2022 and FY2025. However, to achieve an average real GDP growth rate of 7.8% over the next two decades, the threshold identified by international benchmark assessments to reach high-income status by 2047, the overall investment-to-GDP ratio must experience a broad-based, private-sector-led acceleration.

While macro-level monetary, fiscal, and trade policies are formulated at the central level, the practical execution of investment activity is inherently localised. Sub-national entities comprising 28 States and 8 UTs occupy the operational frontline of business facilitation, infrastructure provision, and institutional governance. Private capital allocation decisions depend heavily on state-level regulatory certainty, administrative responsiveness, logistics efficiency, power reliability, land allotment mechanisms, and human capital quality. Sub-national disparities in capital attraction remain pronounced: a significant proportion of Foreign Direct Investment (FDI) inflows continues to concentrate within a small group of economically dynamic states, including Maharashtra, Gujarat, Karnataka, Tamil Nadu, and Delhi, while Eastern, North-eastern, and resource-constrained regions capture a fraction of national capital flows.

To address these sub-national asymmetries and foster a framework of competitive and cooperative federalism, NITI Aayog developed the Investment Friendliness Index (IFI) 2026. The index establishes a comprehensive, evidence-based methodology designed to evaluate, rank, and benchmark the capacity of Indian States and UTs to attract, facilitate, and sustain economic investments. Moving beyond simple comparative rankings, the index evaluates sub-national ecosystems across eight structured pillars: Infrastructure, Business Climate, Resources, Government Policy, Regulatory Ease, Institutional Environment, Financial Health, and Environmental Resilience. By integrating 62 objective secondary indicators with primary survey inputs from 1850 business enterprise stakeholders across 36 sub-national jurisdictions, the framework captures both formal policy structures and operational ground realities.

This study systematically investigates sub-national investment readiness in India, drawing upon empirical findings from the IFI 2026 framework and broader academic literature on institutional economics, economic geography, and sub-national public finance.

1.2 Theoretical Framework and Institutional Context

The economic theoretical framework underpinning sub-national investment dynamics rests upon institutional economics (North, 1990), new economic geography (Krugman, 1991), and endogenous growth theory (Romer, 1990). Institutional economics asserts that economic performance is fundamentally determined by formal rules (laws, regulations, property rights) and informal constraints (governance practices, administrative responsiveness) that structure human and corporate interaction. In the context of sub-national governance, institutional friction such as delayed statutory clearances, discretionary enforcement, and policy unpredictability functions as an implicit tax on capital, dampening private investment returns and impeding long-term corporate expansion.

Complementing institutional theory, new economic geography demonstrates that industrial location decisions are driven by agglomeration economies, logistics infrastructure quality, market proximity, and specialised input availability. Industrial clusters benefit from localized network externalities, reducing transaction costs and encouraging continuous knowledge spillovers. However, regional disparities often widen when high-performing states establish self-reinforcing cycles of capital accumulation, infrastructure modernisation, and skilled workforce attraction, leaving peripheral regions at a competitive disadvantage. In India's federal structure, economic sub-nationalism has emerged as a key driver of policy innovation. Following economic liberalisation, state governments gained substantial autonomy over crucial economic factors, including industrial land allotment, labour regulation, utility pricing, and localised environmental clearances. Consequently, states actively compete for private investment through specialised industrial policies, targeted tax and capital incentives, and single-window facilitation platforms.

The empirical results of the IFI 2026 highlight these sub-national dynamics. Categorizing states into Top Performers (Goa, Gujarat, Maharashtra, Odisha, Tamil Nadu), Frontrunners, Emerging Performers, and Aspiring States reveals significant variance across geographical tiers. Large states like Gujarat (overall score 56.6) excel due to port efficiency, competitive industrial power tariffs, and low transmission losses, while Maharashtra (53.7) demonstrates strong performance in private equity attraction and innovative business climate indicators. Similarly, top performers among hilly and northeastern states (such as Uttarakhand at 47.5 and Assam at 47.3) rely on human resource mobilisation, fiscal discipline, and targeted industrial policies to mitigate terrain-based logistics constraints. Addressing sub-national bottlenecks requires systematic alignment across institutional and administrative parameters. Fostering sub-national investment readiness entails reducing compliance complexity, ensuring long-term policy stability, and investing in resilient physical and digital infrastructure. By linking empirical evaluation with institutional action, the sub-national reform framework provides a structured pathway toward achieving sustainable, inclusive, and high-velocity economic growth.

2. Literature Review

2.1 Institutional Foundations and Sub-National Investment Attractiveness

The institutional framework governing sub-national economies serves as a pivotal determinant of private capital accumulation and enterprise creation. Grounded in North's (1990) institutional economics, formal regulatory structures and informal administrative norms dictate transaction costs, shaping corporate location choices. At the sub-national scale, institutional friction manifests through discretionary enforcement, licensing delays, and administrative opacity acting as an implicit tax on investment, impeding capital mobility and enterprise formation. Synthesising governance metrics, Boța-Avram (2014) demonstrates that superior regulatory quality and robust rule of law strongly correlate with business environment performance across jurisdictions. Similarly, Boța-Avram (2024) found Ease of

Doing Business (EODB) score is accentuated when a society is characterised by a higher level of quality of education systems and management schools. Deda et al. (2024) confirm that regulatory quality and corruption control directly govern the business environment, finding that regulatory efficiency directly lowers operational entry barriers. Canare (2018) and Chala (2024) reported a positive impact of EODB on the creation of new business enterprises.

While national macro-level policies establish overarching monetary and trade stability, operational facilitation remains inherently localised. Tan et al. (2018a) emphasised that sub-national environments require a multi-dimensional approach incorporating business conditions, operational costs, and local capacity to capture true regional attractiveness. In India's federal structure, economic decentralisation empowers sub-national jurisdictions comprising States and UTs to govern crucial inputs including land allocation, utility connections, and environmental clearances. However, as Wang et al. (2025) observe, administrative efficiency often exhibits non-linear relationships with institutional size and bureaucratic complexity, reinforcing the need for targeted structural ease over simple administrative expansion.

2.2 Agglomeration Dynamics, Structural Determinants, and Regional Disparities

New Economic Geography frameworks (Krugman, 1991) illustrate that capital allocation inherently favors regions with established industrial clusters, superior logistics, and market proximity. These self-reinforcing agglomeration economies often widen spatial disparities between developed industrial hubs and peripheral or landlocked regions. Empirical evidence across emerging economies highlights that hard infrastructure specifically power access, transportation networks, and logistics efficiency dominates investment facilitation. Olubodun et al. (2025) and Kulu et al. (2024) find that core operational indicators, notably access to electricity and property registration, exert a statistically significant positive effect on new enterprise creation and private investment. Saini and Hrušecká (2021) further establish that logistics performance and reduced operational costs directly catalyze macroeconomic competitiveness.

In sub-national contexts characterized by geographic heterogeneity, structural bottlenecks disproportionately constrain peripheral jurisdictions. Highly industrialised coastal zones leverage logistics infrastructure and urban agglomerations to secure private investment and equity flows, leaving landlocked, hilly, and island regions at a competitive disadvantage. Examining West African and sub-Saharan African panels, Ijirshar et al. (2023) and Nketiah-Amponsah and Sarpong (2020) show that FDI and capital formation remain heavily clustered in regions possessing mature physical infrastructure and predictable credit markets. Sub-national literature, including Tan et al. (2018b), underscores that aggregate national metrics frequently mask acute regional asymmetries, necessitating sub-national benchmarking tools to quantify internal spatial disparities.

2.3 Regulatory Ease, Financial Stability, and Macro-Fiscal Health

The interaction between regulatory compliance, financial systems, and fiscal sustainability constitutes a foundational pillar of investment readiness. Extensive empirical literature links streamlined business facilitation to capital flight reduction and sustained private equity investment. Shabani and Parang (2019) confirm that enhancing regulatory ease significantly mitigates capital flight by fostering local investment security. Furthermore, Ajeigbe and Ganda (2023) and Abille and Mumuni (2023) establish a strong long-run equilibrium between ease-of-doing-business indicators, FDI inflows, and broad-based economic development, noting that regulatory simplification reduces risk premiums for investors.

However, regulatory simplification alone is insufficient without strong financial and fiscal foundations. Kulu et al. (2024) argue that the positive impact of financial stability on new business establishment cannot be isolated from regulatory efficiency. In a complementary context, Udemba et al. (2025) highlight regulatory quality as a core necessity for sustainable economic growth in India, emphasizing that institutional efficiency must be paired with physical infrastructure investment. Fiscal health at the sub-national level directly conditions a government's capacity to finance capex, deliver public goods, and maintain creditworthiness. High fiscal deficits and public debt burdens constrain sub-national state expenditure on critical infrastructure, indirectly deteriorating the localised business environment.

2.4 Environmental Resilience, Policy Predictability, and Governance Convergence

Recent literature increasingly integrates environmental sustainability and climate resilience into business environment evaluations. Ogundajo et al. (2026) show that environmental sustainability and tax incentive frameworks interact to determine enterprise longevity and green investment attraction. Furthermore, Yang et al. (2025) and Jia et al. (2023) demonstrate that institutional readiness and regulatory clarity are essential drivers for clean energy transition and sustainable corporate expansion. Within sub-national ecosystems, environmental resilience and disaster risk management have transitioned from peripheral concerns to core operational determinants, as geographical vulnerabilities pose direct threats to asset security and business continuity.

Concurrently, policy predictability and governance transparency remain key parameters in sustaining corporate confidence. Qazi (2026) and Sharma (2025) argue that institutional governance and anti-corruption measures form the backbone of business facilitation indices. Evaluating federal reform initiatives, Mohamed et al. (2020) demonstrate that digital government delivery and streamlined inter-agency systems eliminate administrative friction and discretionary delays. While regulatory standardisation across states can drive baseline governance convergence, localised physical infrastructure and market scale variations continue to drive regional economic disparities.

2.5 Research Gaps, Operational Rationale, and Theoretical Synthesis

Despite a rich body of literature evaluating business environment indices, foreign capital attraction, and institutional quality, existing scholarship exhibits notable empirical and methodological gaps:

- **Dominance of Cross-Country Aggregates:** The overwhelming majority of empirical studies evaluate EODB parameters using cross-country panels (e.g., Olubodun et al., 2025; Shabani & Parang, 2019; Wang et al., 2025; Bétila, 2021; Chizema et al., 2026). These macro-level assessments treat sovereign nations as homogeneous entities, effectively obscuring sharp sub-national asymmetries, localized institutional bottlenecks, and regional developmental disparities. While national-level central reforms establish the overarching macroeconomic framework, actual investment decisions are heavily dictated by state-level operational conditions—including industrial land availability, digital/physical infrastructure, regulatory efficiency, institutional capacity, and local policy predictability.
- **Limited Empirical Evaluation of Sub-National Readiness Frameworks:** While cross-country studies link EODB metrics to FDI and economic expansion (Chizema et al., 2026; Ezzat, 2025), and localised work highlights specific drivers like public infrastructure and property rights (Miraskari et al., 2024), comprehensive evaluations of multi-pillar sub-national models remain scarce. NITI Aayog's IFI 2026 addresses this gap by offering a benchmark across 36 Indian States and UTs covering IFI and its eight constituent pillars. Beyond serving as a static measurement, the IFI matters operationally because it acts as a strategic reform catalyst. It identifies administrative strengths, highlights sub-national bottlenecks, promotes peer learning, and drives cooperative and competitive federalism to strengthen broader national competitiveness for *Viksit Bharat @2047*. However, empirical studies systematically testing these readiness scores across distinct state topologies (Large States, City States/UTs, and Hilly & North-Eastern States) remains unexamined.
- **Absence of Zonal Spatial Equity Analysis:** Extant sub-national literature rarely subjects multi-pillar investment readiness scores to inferential statistical validation across official administrative macro-regions (Zonal Councils). Studies have yet to establish whether observed sub-national performance variations reflect statistically significant regional disparities or emerging macro-regional convergence.

This study directly addresses these research gaps by evaluating sub-national investment readiness through NITI Aayog's composite IFI 2026 dataset. By integrating descriptive statistics, spatial QGIS mapping, and inferential One-way ANOVA models across structural groups (LS, UTCS, HNS) and administrative Zonal Councils, this paper systematically quantifies sub-national investment disparities to inform targeted, spatially sensitive federal economic policies.

Figure 1 outlines the study's conceptual framework, linking the *Viksit Bharat @2047* vision and sub-national investment disparities to NITI Aayog's IFI 2026 framework. Using multi-pillar data across 36 jurisdictions, it synthesises empirical findings to highlight baseline administrative convergence alongside persistent infrastructure-driven regional gaps.

Thus, the present study applies a novel empirical, spatial, and inferential statistical framework to evaluate the IFI 2026 dataset. Methodologically, the paper advances beyond raw score tabulations by evaluating central tendency and relative dispersion (Mean, SD, CV) across all 36 sub-national jurisdictions and eight constituent pillars, revealing structural insights such as high variability in

Government Policy (CV = 0.47) and Financial Health (CV = 0.38) against uniform Institutional Environments (CV = 0.15). Spatially, QGIS mapping demonstrates clear regional clustering and developmental asymmetries between coastal industrial hubs and landlocked or island geographies. Furthermore, through One-way ANOVA across three state topologies (Large States, Hilly/North-Eastern States, UTs/City States) and six statutory Zonal Councils, the paper provides rigorous inferential validation. It demonstrates that while administrative directives foster baseline macro-level governance convergence, statistically significant regional disparities persist specifically in physical Infrastructure ($p = 0.0080$) and Business Climate ($p = 0.0365$). Grounded in institutional economics and new economic geography, these analytical additions transform raw descriptive metrics into actionable, spatially sensitive federal policy interventions.

<Insert Fig. 1 here>

2.6 Objectives of the study

This study robustly assesses the Investment Friendliness conditions in Indian States and Union Territories (UTs) through the IFI score. Additionally, it incisively analyses the disparities in Investment Friendliness across three distinct categories: Large States (LS), Union Territories and City States (UTCS), and Hilly and North-eastern States (HNS) and six zones.

3. Data and Methodology

3.1 Data Source:

The secondary data on the IFI score has been sourced from NITI Aayog’s Investment Friendliness Index report published in 2026.

3.2 IFI Framework

The Investment Friendliness Index is a composite assessment tool developed by NITI Aayog to evaluate the investment readiness of all 28 States and 8 UTs. It examines the quality of the investment ecosystem across policy, institutional, regulatory, infrastructure and sustainability-related parameters. The Index seeks to answer a core governance question: How prepared is a State or Union Territory to attract, facilitate and sustain domestic and foreign investment?

The composite IFI score is a comprehensive Index value that ranges between 0 (zero) and 100 (hundred), where 0 indicates extremely low Investment Friendliness in the state/union territory, and 100 reflects optimum investment friendliness. The IFI index is computed from eight pillars and 84 indicators, comprising 62 secondary and 22 perception-based indicators. The details on these pillars, their respective weights, parameters, and indicators are presented in Table I. Data on perception-based indicators were gathered through a survey to capture on-the-ground realities across key pillars used to assess states and UTs. The survey was conducted with 1850 investors across 36 states and UTs. Some investors had experience operating in multiple states, resulting in a total of 2503 responses. A stratified

respondent sampling approach was used, in which respondents were categorised into large (22%) and MSME (88%) segments based on revenue size to provide a nuanced understanding of state performance. The primary survey helped bridge this gap by incorporating insights directly from stakeholders and investors familiar with the state-level business environment.

<Insert Table I here>

3.3 Data Normalisation and IFI Scoring

Establishing a uniform framework to score states is crucial for consistent monitoring and assessment of their performance across key indicators of investment readiness. A standardised scoring mechanism enables comparability and helps identify areas that require targeted policy intervention. However, given the diverse nature of the data, which spans quantitative metrics and qualitative perceptions, data homogenisation is crucial for ensuring fairness and accuracy in evaluation. This process establishes a reliable foundation for ranking and benchmarking states, thereby promoting healthy competition and encouraging continuous improvement. To score indicators on a common scale of 0-100, a scoring methodology was developed for states. The shortlisted indicators were categorised into two groups and scored accordingly:

- Secondary indicators: Directly measurable and quantitative.
- Perception-based indicators: Qualitative and subjective.

For secondary indicators, the min-max normalisation was adopted. Using this formula, each state’s score (S) was translated into a range between 0 and 100. A score equal to the minimum will become 0 and a score equal to the maximum will become 100, with scores in between scaled accordingly.

Unlike quantitative data, no minimum-maximum or trimmed minimum-maximum normalisation was applied to the perception-based indicators, as the scoring inherently reflected relative respondent sentiment within the defined scale.

3.4 State Categorisation

Given their vast diversity, comparing states and UTs on a uniform scale can overlook inherent structural and contextual differences. To ensure a balanced assessment of investment attractiveness, NITI Aayog categorises India’s 36 States and UTs into three distinct peer groups based on structural, geographical, and administrative realities. The Large States (LS) category (17 states) comprises major non-hilly regions operating with complex governance systems and diverse regional dynamics. The Hilly and North-Eastern States (HNS) category (12 states and UTs) groups contiguous terrain-challenged regions that face inherent constraints in infrastructure development and resource accessibility. Finally, the Union Territories and City States (UTCS) category (7 entities) encompasses compact geographies operating under distinct administrative setups. By evaluating performance relative to contextually aligned peers rather than applying a uniform scale, this methodological framework controls for structural disparities and ensures robust, equitable comparisons across jurisdictions (See Table II).

<Insert Table II here>

Further, to determine whether the observed variations among the six administrative regions identified by the Government of India (i.e., Central Zone, East Zone, North East Zone, North Zone, South Zone, and West Zone) are statistically significant, a One-Way Analysis of Variance (ANOVA) has been performed on IFI and its constituent eight pillars. The zonal grouping used in this paper follows the statutory classification established by the States Reorganisation Act, 1956 (and subsequent amendments, such as the North-Eastern Council Act, 1971), implemented by the Ministry of Home Affairs, Government of India, which groups India into six official Zonal Councils. This regional division is widely adopted by NITI Aayog, the Ministry of Health and Family Welfare (IIPS for NFHS reporting), and economic research institutions for assessing regional developmental convergence and spatial equity across macroeconomic corridors. To ensure exact replicability for the One-way ANOVA tests, all States and UTs considered in this study are categorised into six zones and presented in Table III.

<Insert Table III here>

NITI Aayog categorises Indian states and UTs into four performance tiers based on their composite IFI score (calculated on a 100-point scale across eight critical pillars). To ensure a fair assessment that accounts for inherent structural, demographic, and geographic differences, states are also evaluated within three comparative groups: Large States, Hilly and North-eastern States, and City States/Union Territories. The primary purpose of this methodology is to move beyond generic rankings to provide a data-driven benchmark. It serves as a strategic reform instrument, enabling policymakers to identify policy gaps, track performance, foster cooperative and competitive federalism, and guide investors toward informed location decisions. The grouping score ranges are depicted in Table IV.

<Insert Table IV here>

3.5 Analytical Tools and Techniques

The present study exclusively relies on secondary data. The relevant data on FIF and its eight constituent pillars have been collected from NITI Aayog’s Investment Friendliness Report published in 2026. The study has utilised descriptive statistics, mean, standard deviation (SD), and coefficient of variation (CV) to demonstrate the central tendency and dispersion of data, and inferential statistics, One-way ANOVA (Analysis of Variance), to demonstrate disparities in IFI and its constituent pillars across structural groups (LS, UTCS, HNS) and administrative Zonal Councils. Graphical tools such as QGIS are used to demonstrate the spatial clustering of IFI and its constituent pillars across states and UTs. QGIS is a free, open-source software that allows users to create, edit, visualise, analyse, and publish geospatial information.

To evaluate structural and spatial inequalities in investment readiness, post-hoc pairwise comparisons and inequality distribution metrics are integrated into the analytical framework. Structural group-pair differences identified via One-Way ANOVA across state topologies are isolated using Tukey’s Honest Significant Difference (HSD) post-hoc test, reporting 95% confidence intervals and adjusted p-values to

control for Type I error. Furthermore, to quantify the magnitude of spatial concentration across all 36 sub-national entities, Gini coefficients and Palma ratios (defined as the aggregate score share of the top 10% divided by the bottom 40%) are calculated for the composite IFI and each of the eight constituent pillars. The Palma ratio and top 10% versus bottom 40% income share distributions measure structural asymmetry, identifying whether spatial inequality is concentrated in specific policy and fiscal dimensions relative to baseline administrative metrics.

4. Results and Discussion

4.1 Results

<Insert Table V here>

An analysis of the descriptive statistics presented in Table V highlights key empirical characteristics regarding the distribution, central tendency, and cross-state dispersion of NITI Aayog's IFI 2026 and its eight constituent pillars across all 36 Indian States and UTs. The overall national mean IFI score stands at 43.96 out of 100, positioning average sub-national performance within the "Emerging Performers" tier. Although a wide performance gap exists, ranging 32.10 points from a high of 56.60 in Gujarat to a low of 24.50 in Lakshadweep, the composite IFI demonstrates moderate spatial convergence across jurisdictions, evidenced by a standard deviation of 7.36 and a coefficient of variation (CV) of 0.17.

A cross-pillar comparative evaluation reveals that sub-national investment disparities are disproportionately concentrated within policy and fiscal management dimensions. Specifically, the Government Policy pillar exhibits the highest relative dispersion across the entire framework (CV = 0.47, Mean = 2.89), signalling sharp divergences in state-level incentive frameworks and administrative approvals. This is followed by Financial Health (CV = 0.38, Mean = 4.03), which displays a wide range (0.80 to 7.00), underscoring stark fiscal gaps among regions. Conversely, core operational dimensions demonstrate moderate, consistent variability. Heavyweight pillars like Infrastructure (CV = 0.20, Mean = 10.54) and Environmental Resilience (CV = 0.20, Mean = 3.29) share identical dispersion coefficients, while Business Climate and Resources both record a CV of 0.22. Finally, Institutional Environment emerges as the most structurally uniform pillar (CV = 0.15, Mean = 3.77), indicating relative cross-state convergence in governance parameters.

<Insert Table VI here>

The disaggregated analysis in Table VI illustrates significant structural disparities in investment readiness across state classifications on the basis of IFI score. Large States (n = 17) lead overall performance with the highest mean score of 47.8 and display high internal consistency, recording the lowest relative dispersion (SD = 4.43, CV = 0.093). Conversely, Union Territories and City States (n = 7) post an average mean score of 41.0 but demonstrate extreme internal heterogeneity (SD = 10.65; CV = 0.260), reflecting severe performance divergence between top-tier hubs and geographically isolated territories. Hilly and North-eastern States (n = 12) record the lowest mean score of 40.3 with moderate

dispersion (SD = 6.23; CV = 0.155), highlighting persistent geographical and structural constraints across sub-regions.

<Insert Table VII here>

Table VII classifies the states and UTs based on IFI score into four categories of performance. Based on the overall assessment, five states such as Gujarat, Maharashtra, Tamil Nadu, Goa, and Odisha have emerged as the Top Performers in the IFI. In addition, 15 States have been classified as Frontrunners, while eight States/UTs have been placed in each of the Emerging Performers and Aspiring States categories.

<Insert Table VIII here>

Table VIII provides a comprehensive ranking of all 36 Indian States and UTs on the basis of IFI score, highlighting substantial spatial inequality and regional clustering in investment readiness across the country. Gujarat leads the nation with the highest score (56.6), followed closely by Maharashtra (53.7), Tamil Nadu (53.3), Goa (53.1), and Odisha (52.4). The top tier is dominated by coastal and industrialized Large States in the Western and Southern zones, which benefit from established infrastructure, active industrial hubs, and efficient policy execution.

Conversely, Lakshadweep anchors the bottom of the rankings with a score of 24.5, preceded by Ladakh (27.0) and the Andaman & Nicobar Islands (30.2). Lower-ranked territories are predominantly island UTs and landlocked Hilly and North-Eastern States (HNS), such as Manipur (32.3) and Sikkim (36.6), where geographical isolation, logistical hurdles, and constrained resource availability persistently hinder investment facilitation. Interestingly, certain non-coastal states demonstrate notable competitiveness; Uttarakhand (47.5, Rank 12) and Assam (47.3, Rank 13) emerge as top-performing HNS regions, outperforming several Large States like West Bengal (41.3) and Bihar (41.2). Overall, Table VIII underscores that while macro-level reform momentum is expanding, targeted interventions are urgently required to bridge regional equity gaps.

The overall ranking comprehensively benchmarks states, highlighting their relative attractiveness for investment and potential for economic growth (Table VIII). It enables states and UTs to assess their strengths and weaknesses, pinpoint areas for improvement and develop targeted strategies to enhance their investment climate.

Figure 2 presents a QGIS spatial map illustrating sub-national performance variations across all 36 Indian States and UTs on the composite IFI score. The map categorises jurisdictions into four distinct performance tiers using a colour-coded legend: Top Performers (IFI > 50, deep green), Frontrunners ($45 \leq \text{IFI} \leq 50$, light green), Emerging Performers ($40 \leq \text{IFI} < 45$, yellow), and Aspiring States ($0 \leq \text{IFI} < 40$, orange). Geographically, the visualisation highlights a strong spatial clustering of high-performing sub-national economies, with Top Performers predominantly concentrated in industrialised and coastal belts such as Gujarat, Maharashtra, Goa, Tamil Nadu, and Odisha. Conversely, Aspiring States and Emerging

Performers are largely situated in geographically constrained corridors, including the landlocked Hilly and North-Eastern States as well as island UTs. By translating multi-pillar scores into an accessible spatial distribution, Fig. 1 clearly underscores the regional disparities and geographical asymmetries inherent in India’s sub-national investment ecosystem.

The One-Way Analysis of Variance (ANOVA) in Table IX evaluates structural differences in the IFI and its constituent pillars across Large States (LS), Hilly and North-Eastern States (HNS), and Union Territories and City States (UTCS). The overall composite IFI score exhibits no statistically significant variation across groups ($F = 1.60, p = 0.2170$), suggesting baseline macro-level convergence. However, disaggregated pillar assessments reveal critical divergences. Specifically, Infrastructure ($F = 5.61, p = 0.0080$) and Business Climate ($F = 3.67, p = 0.0365$) show statistically significant differences at the 5% level, whereas governance-centric pillars like Regulatory Ease and Institutional Environment display cross-group uniformity ($p > 0.05$). Bartlett’s test confirms equal variances ($p > 0.05$), validating model assumptions. These findings imply that national policy directives have successfully established a uniform regulatory baseline, yet physical connectivity and localized economic dynamics remain the primary drivers of sub-national investment disparities. Geographically constrained regions face persistent structural bottlenecks in logistics and market scale. Consequently, federal and state interventions must pivot from broad administrative ease toward targeted, spatially sensitive physical infrastructure investments to foster balanced, equitable regional economic growth.

Table X evaluates the IFI and its eight constituent pillars across six statutory zones using One-way ANOVA. The overall composite IFI score shows no statistically significant variation across zones ($F = 1.16, p = 0.3533$), indicating macro-regional baseline convergence. Among individual pillars, only Business Climate exhibits a statistically significant cross-zonal difference at the 5% level ($F = 3.20, p = 0.0197$).

While Table IX identifies significant disparities in both Infrastructure ($p = 0.0080$) and Business Climate ($p = 0.0365$), Table X shows that Infrastructure gaps dissipate across geographic zones ($p = 0.1399$). This proves that infrastructure bottlenecks are primarily structural and terrain-driven across state types rather than regional, whereas localised Business Climate variations consistently drive sub-national investment asymmetries across both topology and geography.

<Insert Fig. 2 here>

<Insert Table IX here>

<Insert Table X here>

Tukey’s HSD post-hoc test reveals that the statistically significant ANOVA results across state topologies are driven entirely by structural deficits in HNS relative to LS (Table XI). Specifically, HNS display a statistically significantly lower mean score in Infrastructure ($\Delta = -1.956, p = 0.008$) and Business Climate ($\Delta = -1.258, p = 0.022$) when compared to LS. In contrast, UTCS do not exhibit statistically significant

mean differences from either LS or HNS at the 5% level. This demonstrates that geographical terrain barriers, market fragmentation, and supply-chain remoteness in the HNS belts represent the primary locus of structural inequality in sub-national investment readiness.

<Insert Table XI here>

<Insert Table XII here>

An empirical assessment of the Investment Friendliness Index (IFI) across 36 Indian States and UTs reveals that spatial inequality is concentrated in specific policy and fiscal dimensions rather than general administration (Table XII). While the composite IFI exhibits low overall disparity (Gini = 0.0897, Palma = 0.422), a disaggregated pillar analysis highlights significant structural divergence. Government Policy (Gini = 0.2618, Palma = 0.914\$) and Financial Health (Gini = 0.2145, Palma = 0.751) display the highest spatial concentration. In Government Policy, the top 10% of sub-national entities account for 19.44% of the national score, nearly matching the bottom 40%'s aggregate share (21.27%). Conversely, Institutional Environment (Gini = 0.0758) and Regulatory Ease (Gini = 0.1074) demonstrate high sub-national equity, with the bottom 40% accounting for over 31% of aggregate scores.

Operational pillars such as Business Climate (Gini = 0.1227) and Infrastructure (Gini = 0.1106) exhibit moderate inequality. These findings confirm that sub-national investment disparities stem from fiscal stress and uneven policy facilitation rather than regulatory hurdles, indicating a need for targeted fiscal equalisation over broad administrative reform.

4.2 Discussion

The empirical findings of this study significantly enrich the literature on institutional economics and sub-national economic geography within federal structures. Grounded in North's (1990) institutional paradigm and prior empirical work (Boța-Avram, 2014; Deda et al., 2024), the statistical uniformity observed across state topologies in Regulatory Ease ($p = 0.8421$) and Institutional Environment ($p = 0.8317$) demonstrates that centralised policy directives have successfully established a standardised administrative baseline across sub-national jurisdictions. However, as Wang et al. (2025) note, administrative harmonisation alone is insufficient to equalise sub-national investment readiness.

Instead, the statistically significant variations in Infrastructure ($p = 0.0080$) and Business Climate ($p = 0.0365$) across state categories directly reinforce Krugman's (1991) New Economic Geography framework. Industrialised coastal states leverage mature logistics networks and spatial agglomeration to attract private capital, whereas terrain-constrained Hilly and North-Eastern States encounter persistent connectivity bottlenecks, as confirmed by Tukey's HSD post-hoc test ($\Delta = -1.956$, $p = 0.008$). This aligns with sub-national studies (Tan et al., 2018b; Ijirshar et al., 2023) emphasising that physical infrastructure dominates localised capital allocation.

Furthermore, acute dispersion in Government Policy (CV = 0.47, Palma = 0.914) and Financial Health (CV = 0.38, Palma = 0.751) highlights how sub-national fiscal stress limits local capital expenditure and

incentive delivery, constraining the broader business environment (Kulu et al., 2024; Udemba et al., 2025). Ultimately, while baseline administrative convergence has been achieved, bridging sub-national investment asymmetries requires shifting policy focus from general regulatory easing toward targeted, spatially sensitive physical infrastructure investments and fiscal stabilisation.

5. Conclusion, Implications, Limitations and Future Scope

5.1 Conclusion

This study systematically evaluates sub-national investment readiness across 36 Indian States and Union Territories utilising NITI Aayog's Investment Friendliness Index (IFI) 2026 framework through descriptive statistics, spatial QGIS mapping, and inferential One-way ANOVA models, the Gini coefficient and the Palma Ratio. The empirical findings reveal that sub-national investment readiness in India is characterised by structural regional disparities operating alongside baseline macro-level administrative convergence. While composite IFI scores display cross-group uniformity ($p = 0.2170$), disaggregated pillar evaluations demonstrate statistically significant variations concentrated in physical Infrastructure ($p = 0.0080$) and localized Business Climate ($p = 0.0365$) across state topologies, driven primarily by structural deficits in Hilly and North-Eastern States relative to Large States ($\Delta = -1.956$, $p = 0.008$). Conversely, governance-centric pillars such as Regulatory Ease ($p = 0.8421$) and Institutional Environment ($p = 0.8317$) exhibit high cross-state uniformity. Furthermore, acute spatial concentration in Government Policy ($CV = 0.47$, $Palma = 0.914$) and Financial Health ($CV = 0.38$, $Palma = 0.751$) confirms that sub-national investment asymmetries stem from fiscal stress and uneven incentive delivery rather than administrative compliance friction.

5.2 Policy Implications

To bridge these empirical infrastructure and business climate disparities, central and state policy frameworks must pivot from general administrative easing toward targeted, spatially sensitive physical infrastructure investments and fiscal stabilisation. Lagging terrain-constrained Hilly and North-Eastern States can leverage central initiatives such as the PM Gati Shakti National Master Plan to integrate multimodal freight corridors and logistics hubs, alongside the Scheme for Special Assistance to States for Capital Investment (50-year interest-free capex grants) to address last-mile connectivity and energy bottlenecks. For island Union Territories facing geographic remoteness, federal capex should target deep-water port modernisation, renewable micro-grids, and submarine optical fibre networks. Given the high fiscal dispersion across sub-national entities, state governments must strategically deploy federal capital grants to stabilise local public finances, lower local credit risk, and catalyse long-term private capital accumulation required for the *Viksit Bharat @2047* objective.

5.3 Limitations of the Study

This study is subject to several empirical and methodological limitations. First, relying on cross-sectional secondary data from NITI Aayog's IFI 2026 precludes dynamic longitudinal tracking of sub-national

reform trajectories and structural causal impacts over time. Second, while the index combines objective secondary indicators with investor survey inputs, perception-based metrics remain vulnerable to regional subjective baseline biases. Third, evaluating investment readiness at macro-level state topologies and statutory zonal councils potentially masks localized intra-state developmental economic disparities existing at the district level.

5.4 Future Scope

Building upon these constraints, future research should leverage panel datasets as multi-year IFI iterations become available, enabling dynamic panel evaluations of policy reform trajectories and private capital flows. Methodologically, future studies can incorporate spatial econometric frameworks such as spatial autoregressive models and spatial Durbin specifications to quantify inter-state spillovers, agglomeration externalities, and geographic spatial lag effects. Finally, expanding empirical research down to the district level will provide granular insights into intra-regional disparities, assisting policymakers in formulating micro-targeted economic development strategies across lagging industrial zones.

Declarations

Author Contribution

P.D. wrote the main manuscript text, prepared figures and reviewed the manuscript.

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Tables

Tables I to XII are available in the supplementary files section

Figures

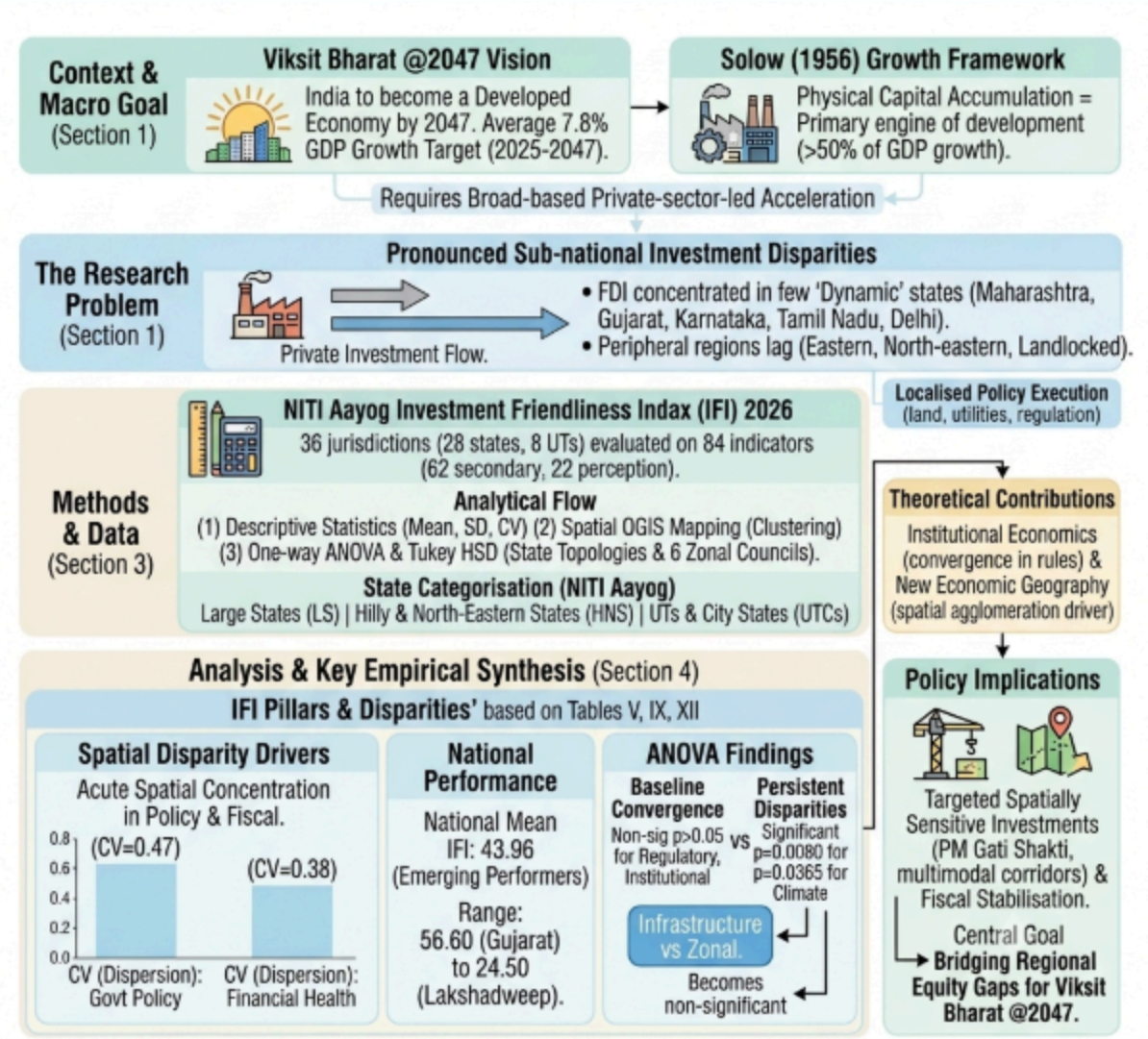


Figure 1
Conceptual Framework.
Source: Author's work.

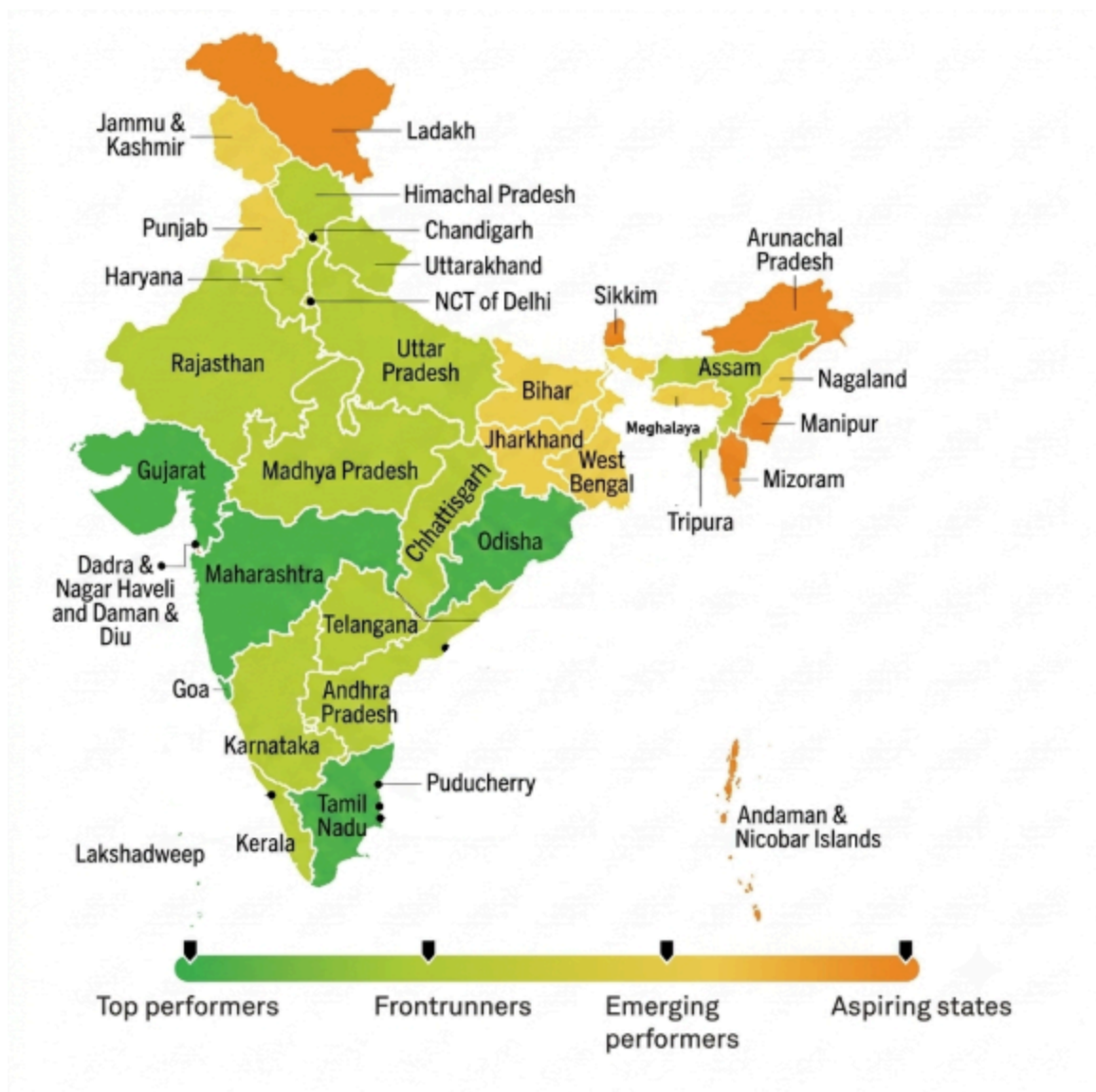


Figure 2

Spatial Map showing IFI Performance of States and UTs

Source: Author's work.

Supplementary Files

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