

REGIONAL ECONOMIC DISPARITIES IN UZBEKISTAN SINCE 2017: THE ROLE OF TASHKENT

O'ZBEKISTONDA 2017-YILDAN BUYON HUDUDLARARO IQTISODIY TAFOVUTLAR: TOSHKENT SHAHRINING ROLI

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Abstract
Annotatsiya

Eng. - This study examines how regional economic inequality in Uzbekistan evolved between 2017 and 2025, with particular attention to the position of Tashkent. The analysis covers all 14 regional units using annual data for five indicators: gross regional product per capita, average nominal wages, industrial production per capita, market services per capita, and fixed-capital investment per capita.

Regional dispersion is measured using the coefficient of variation and changes are assessed through σ-convergence, with the Theil index providing an alternative robustness measure. A leave-out test examines the influence of Tashkent and Navoi on observed patterns. Across all regions, GRP per capita, wages, industrial production, and market services show σ-divergence, while fixed-capital investment shows σ-convergence. The Theil index confirms the same qualitative pattern. Leave-out results show that GRP divergence and investment convergence persist across all specifications. Tashkent substantially amplifies wage and especially market-service disparities, while Navoi strongly influences industrial dispersion.

The findings show that regional inequality in Uzbekistan is multidimensional and that national patterns reflect both broad regional divergence and the distinct economic structures of leading regional economies.

Uzb. - Ushbu maqolada 2017–2025-yillarda O'zbekistonda hududlararo iqtisodiy tengsizlikning o'zgarish dinamikasi, xususan, Toshkent shahrining mazkur jarayondagi o'rni tadqiq etilgan. Tadqiqot doirasida mamlakatning barcha 14 ta hududiy birligi bo'yicha beshta asosiy iqtisodiy ko'rsatkich: aholi jon boshiga to'g'ri keladigan yalpi hududiy mahsulot, o'rtacha nominal ish haqi, aholi jon boshiga sanoat mahsulotlari ishlab chiqarish hajmi, bozor xizmatlari hajmi hamda asosiy kapitalga kiritilgan investitsiyalar hajmiga oid yillik statistik ma'lumotlar tahlil qilingan.

Hududlararo iqtisodiy tafovutlar darajasi variatsiya koeffitsiyenti yordamida baholangan, ularning vaqt davomida o'zgarish tendensiyalari esa σ-konvergensiya yondashuvi asosida aniqlangan. Olingan natijalarning barqarorligi va ishonchliligini tekshirish maqsadida muqobil baholash mezoni sifatida Teyl indeksidan foydalanilgan. Shuningdek, Toshkent shahri va Navoiy viloyatining kuzatilgan hududiy tafovutlarga ta'sirini aniqlash uchun mazkur hududlarni tahlildan alohida chiqarib tashlash usuli qo'llanilgan. Tadqiqot natijalariga ko'ra, barcha hududlar kesimida aholi jon boshiga yalpi hududiy mahsulot, o'rtacha nominal ish haqi, sanoat ishlab chiqarishi va bozor

xizmatlari ko‘rsatkichlari bo‘yicha σ-divergensiya, ya’ni hududlararo iqtisodiy tafovutlarning kengayishi kuzatilgan. Aksincha, asosiy kapitalga kiritilgan investitsiyalar bo‘yicha σ-konvergensiya, ya’ni hududlararo tafovutlarning qisqarishi aniqlangan. Teyl indeksi asosida amalga oshirilgan hisob-kitoblar ham ushbu tendensiyalarni tasdiqlagan. Ayrim hududlarni tahlildan chiqarib tashlash natijalari yalpi hududiy mahsulot bo‘yicha divergentsiya va investitsiyalar bo‘yicha konvergensiya tendensiyalari barcha hisoblash variantlarida saqlanib qolganini ko‘rsatgan. Toshkent shahri ish haqi va ayniqsa, bozor xizmatlari sohasidagi hududlararo tafovutlarning kuchayishiga sezilarli ta’sir ko‘rsatgan bo‘lsa, Navoiy viloyati sanoat ishlab chiqarishidagi hududiy tafovutlar darajasiga kuchli ta’sir ko‘rsatgan.

Tadqiqot natijalari O‘zbekistonda hududlararo iqtisodiy tengsizlik ko‘p o‘lchovli xususiyatga ega ekanligini, mamlakat miqyosida kuzatilayotgan umumiy tendensiyalar esa hududlararo iqtisodiy tafovutlarning kengayishi hamda iqtisodiy jihatdan yetakchi hududlarning o‘ziga xos iqtisodiy tarkibi ta’sirida shakllanishini ko‘rsatadi.

Keywords:
❖ *regional inequality, spatial inequality, regional convergence, sigma-convergence, regional development, Tashkent, Uzbekistan.*

Kalit so‘zlar:
❖ *mintaqaviy tengsizlik, hududiy tengsizlik, mintaqaviy konvergensiya, sigma-konvergensiya, hududiy rivojlanish, Toshkent, O‘zbekiston.*

Introduction.

Since 2017, Uzbekistan has pursued a broad reform programme that has included foreign-exchange liberalisation, lower trade barriers, tax reform, and initial restructuring of state-owned enterprises [22]. These reforms have supported economic expansion, while economic activity and higher-value opportunities remain strongly concentrated in Tashkent [1], [2]. Economic concentration in the capital can generate productivity gains by bringing firms, workers, infrastructure, and knowledge into the same market [23], [24]. The central question is therefore how regional economic disparities have evolved since 2017 and what role Tashkent has played in these changes. This question also concerns the ability of households and firms to adjust to regional differences in opportunity. In principle, internal migration can redistribute labour toward more productive regions, while housing costs and institutional barriers to residential mobility may limit this adjustment.

Research on Uzbekistan has documented regional differences in output, investment, wages, industrial structure, and demographic change [2], [8], [10]. International research provides broader explanations based on agglomeration, market access, regional development traps, worker and firm sorting, and place-based policy [4], [15] - [19], [21]. However, these perspectives have rarely been brought together to examine whether different dimensions of regional economic performance in Uzbekistan have converged since 2017 and whether the observed patterns differ across major regional economic centres.

The empirical analysis focuses on five dimensions of regional economic performance: output, wages, services, industrial activity, and investment. Internal migration and housing are not treated as additional outcome indicators; instead, existing evidence on these factors is used to contextualise the mechanisms through which regional disparities may persist.

The study makes two contributions. First, it provides a multidimensional assessment of regional economic dispersion in Uzbekistan across five indicators rather than relying on GRP alone. Second, it tests the sensitivity of

national dispersion patterns to Tashkent and Navoi through a leave-out approach, distinguishing capital-driven disparities from those associated with other regional specialisation. The findings are interpreted in the broader context of spatial adjustment, including existing evidence on internal mobility and housing constraints.

Literature Review.

Urban concentration can support economic growth through agglomeration, although the literature identifies several mechanisms behind this relationship. Glaeser argues that cities in poorer countries can expand economic opportunity through dense labour and product markets, while weak institutions and inadequate infrastructure can increase the costs of urban concentration [23]. Duranton and Puga identify productivity gains from urban density through input sharing, improved worker-firm matching, and knowledge exchange [24]. Allen and Arkolakis show how market access and transport costs influence the spatial distribution of economic activity [16], while Capello places these mechanisms within a broader regional framework in which agglomeration interacts with accessibility and local productive capacity [14]. Together, this literature explains why economic activity may become concentrated in major urban centres, but it does not imply that the benefits of concentration will be distributed evenly across regions.

Research also shows that urban growth need not produce balanced regional development. Urbanisation can occur without industrialisation [15], and agglomeration may coexist with high regional inequality [20]. Inter-regional inequality can be reinforced by the concentration of skilled workers, firms, digital technologies, and global linkages [17]. Once disparities emerge, regional development traps may make weak productivity, employment, or income persistent [4], while spatial differences in human-capital accumulation can reinforce these patterns [5]. Institutional quality also shapes whether regions can translate new technologies and investment into broader development [3], [12]. These findings suggest that aggregate growth alone provides limited evidence of convergence because regions differ in productive capacity, human capital, and institutional conditions.

The possibility of adjustment through internal migration provides another perspective on regional convergence. Comparative evidence shows that migration responds to regional differences in income and employment opportunities, while high housing costs can reduce movement towards high-opportunity regions [26]. Ganong and Shoag similarly link weaker regional income convergence in the United States to declining migration towards high-income areas and rising housing costs [11]. These mechanisms are particularly relevant to Uzbekistan, where Seitz identifies historically low internal mobility associated with the Soviet-inherited propiska system and high urban housing costs [25]. Although registration restrictions have since been relaxed, housing affordability represents an additional potential constraint on mobility towards higher-opportunity cities such as Tashkent. Connectivity can reduce spatial barriers, but its effects depend on local productive capacity and market access [7], [16].

The policy literature reflects a related debate. Grover argues that attempts to relocate activity or rely on spatial transfers can reduce efficiency when policy ignores agglomeration, market access, skills, and institutional capacity [6]. Gaubert and co-authors show that limited mobility and differences in locational preferences can create a rationale for place-based redistribution [18]. McCann argues against a simple choice between supporting people and supporting places, proposing instead that place-based policy should respond to the constraints and assets of individual regions [19]. These arguments suggest that

regional policy should account for differences in economic structure rather than seek uniformity across regions.

Evidence on Uzbekistan remains comparatively fragmented. National studies and official statistics identify differences in gross regional product, wages, industrial production, investment, services, and demographic structure [1], [2], [8], [10]. District-level estimates by Seitz also show that regional averages can conceal substantial local differences in poverty and consumption [9]. Existing evidence generally examines individual dimensions of regional performance rather than whether these dimensions move together over time. This leaves an important distinction unresolved: regions may narrow their gap in output while differences in wages, services, investment, or other economic opportunities remain persistent. Examining these dimensions together therefore provides a clearer basis for assessing regional convergence and the continuing economic concentration of Tashkent, while the literature on migration and housing provides relevant context for understanding the possible persistence of these spatial differences.

The present study addresses this gap by examining whether five dimensions of regional economic performance converged between 2017 and 2025 and whether the observed patterns are sensitive to the exceptional positions of Tashkent City and Navoi. Migration, housing, and institutional constraints are treated as contextual mechanisms rather than variables in the empirical analysis.

Research Methodology.

This study examines regional economic inequality in Uzbekistan between 2017 and 2025 using annual statistics for all 14 first-level regional units: Tashkent City, the Republic of Karakalpakstan, and the 12 regions of Uzbekistan. Annual observations are used for each year from 2017 through 2025, providing nine observations for each regional indicator.

Regional data were obtained from the National Statistics Committee of the Republic of Uzbekistan and its SIAT data portal [8]. Five indicators were selected: gross regional product (GRP) per capita, average nominal wages, industrial production per capita, market services per capita, and fixed-capital investment per capita. The first four indicators capture differences in regional output, earnings, industrial activity, and service provision, while investment provides a measure of the spatial distribution of new capital formation. The analysis uses consistent annual SIAT series. For industrial production and fixed-capital investment, the 2025 observations correspond to the official January-December and fourth-quarter cumulative releases, respectively, because the corresponding historical annual SIAT series had not yet incorporated 2025 at the time of data collection. National values are reported for descriptive context but are excluded from calculations of regional dispersion.

Regional inequality was measured using the coefficient of variation (CV):

$$CV_t = \frac{\sigma_t}{\mu_t} \quad (1)$$

where σ_t is the population standard deviation across the regional units and μ_t is their mean in year t.

Because the analysis covers all 14 first-level regional units rather than a sample of regions, the population standard deviation was used. A higher CV indicates greater dispersion between regions, while a lower value indicates a more even regional distribution.

Changes in the CV over time were used to assess σ-convergence. A decline in regional dispersion was interpreted as evidence of σ-convergence, while an increase was interpreted as σ-divergence. Annual observations were examined rather than relying only on the difference between 2017 and 2025, allowing temporary changes in the direction of

inequality to remain visible. The analysis was conducted separately for all five indicators because convergence in regional output does not necessarily imply convergence in wages, services, industrial activity, or investment.

As a robustness check, regional inequality was also measured using the Theil T index:

$$T_t = \frac{1}{N}\sum_{i=1}^{N}\left(\frac{x_{it}}{\bar{x}_t}\right) ln\left(\frac{x_{it}}{\bar{x}_t}\right) \quad (2)$$

where x_{it} is the value of the relevant indicator for region i in year t, $\bar{x}_t$ is the unweighted regional mean, and N is the number of regional units.

A Theil value of zero indicates equality, while larger values indicate greater regional inequality. Consistent with the CV analysis, the regions were treated as equally weighted observational units. The Theil index is used as an alternative measure of regional inequality rather than as a separate convergence framework: the main conclusions are considered robust where the direction of change between 2017 and 2025 is consistent across the CV and Theil measures.

A leave-out robustness test was used to examine how strongly the CV results were affected by Tashkent City and Navoi. The CV was recalculated for 2017 and 2025 after excluding Tashkent City, after excluding Navoi, and after excluding both. Tashkent was examined because of its exceptional position in wages and market services, while Navoi was examined because of its unusually high GRP and industrial production. This comparison distinguishes broad changes in regional dispersion from patterns that are strongly amplified by the two most economically distinctive regional units.

Analysis and Discussion of Results.

Based on the underlying regional data [8], Navoi recorded the highest GRP per capita (152.2 million soums), industrial production per capita (176.9 million soums), and fixed-capital investment per capita (39.1 million soums), while Tashkent City recorded the highest average nominal wage (8.7 million soums) and market services per capita (126.3 million soums). Navoi's industrial production per capita was approximately 2.7 times the level in Tashkent City, while Tashkent's market services per capita exceeded Navoi's by more than fivefold. These contrasts already suggest that regional inequality cannot be represented by GRP alone.

To examine how these disparities evolved over time, the coefficient of variation was calculated annually for each indicator across the 14 regional units from 2017 to 2025. The results are reported in Table 1.

Table 1

Coefficient of variation across Uzbekistan's regions, 2017-2025

Indicator	2017	2018	2019	2020	2021	2022	2023	2024	2025	2017-2025 pattern
GRP per capita	0.471	0.500	0.581	0.682	0.655	0.636	0.643	0.751	0.792	σ-divergence
Average monthly wage	0.188	0.183	0.186	0.210	0.248	0.234	0.265	0.283	0.297	σ-divergence
Industrial production per capita	0.805	0.858	1.051	1.237	1.166	1.114	1.101	1.154	1.202	σ-divergence
Market services per capita	0.903	0.936	0.939	0.981	0.972	0.994	1.060	1.091	1.112	σ-divergence
Fixed-capital investment per capita	0.713	0.712	0.726	0.691	0.654	0.616	0.610	0.583	0.546	σ-convergence

Four of the five indicators showed greater regional dispersion in 2025 than in 2017. The CV increased from 0.471 to 0.792 for GRP per capita, from 0.188 to 0.297 for wages, from

0.805 to 1.202 for industrial production, and from 0.903 to 1.112 for market services. Fixed-capital investment moved in the opposite direction, declining from 0.713 to 0.546.

Annual trajectories were non-linear. GRP and industrial dispersion rose sharply through 2020, declined moderately thereafter, and widened again by 2025. Wage dispersion was broadly stable through 2019 before rising, while market-service dispersion increased more steadily. Fixed-capital investment followed the opposite pattern, with its CV declining after 2019 to 0.546 in 2025.

Tashkent's relative position also changed differently across the five indicators. In 2017, GRP per capita in the capital was 2.85 times the median of the other regions; by 2025, this ratio had increased to 3.80. The corresponding wage ratio increased from 1.57 to 2.18. Market services showed the strongest metropolitan concentration: Tashkent stood at 5.89 times the median of the other regions in 2017 and 7.33 times the median in 2025. Its industrial-production ratio also increased, from 3.60 to 3.94.

Investment again followed a different pattern. Tashkent's fixed-capital investment per capita declined from 3.89 times the median of the other regions in 2017 to 2.54 times the median in 2025. This is consistent with the broader decline in investment dispersion and shows that the capital's relative concentration did not increase across every dimension of regional economic activity.

Navoi remained an important exception to a simple capital-province ranking. Despite exceeding Tashkent in GRP, industrial production, and fixed-capital investment per capita, its wages and especially market services remained substantially lower. This reinforces the distinction between the spatial concentration of production and the concentration of earnings and services.

The leave-out analysis shows how strongly national dispersion is affected by Tashkent City and Navoi. Table 2 compares the CV in 2017 and 2025 for the full set of regions and after excluding the two regional outliers.

Table 2

Leave-out robustness test of regional dispersion, 2017-2025

Indicator	All regions	Without Tashkent	Without Navoi	Without Tashkent and Navoi
GRP per capita	0.471 → 0.792	0.353 → 0.794	0.448 → 0.619	0.181 → 0.281
Average monthly wage	0.188 → 0.297	0.157 → 0.166	0.161 → 0.293	0.091 → 0.068
Industrial production p.c.	0.805 → 1.202	0.786 → 1.309	0.733 → 0.686	0.512 → 0.583
Market services p.c.	0.903 → 1.112	0.165 → 0.174	0.931 → 1.147	0.160 → 0.156
Fixed-capital investment p.c.	0.713 → 0.546	0.707 → 0.535	0.751 → 0.480	0.737 → 0.395

GRP per capita continued to show higher dispersion in 2025 under all four specifications. Its divergence therefore cannot be attributed solely to Tashkent or Navoi. Fixed-capital investment showed the opposite pattern: its CV declined under every specification, making investment convergence the most robust result of the leave-out analysis.

The effects of Tashkent were strongest for wages and market services. Wage dispersion increased from 0.188 to 0.297 with all regions included, but only from 0.157 to 0.166 when Tashkent was excluded. Similarly, market-service dispersion increased from 0.903 to 1.112 in the full sample but only from 0.165 to 0.174 without the capital. When both Tashkent and Navoi were excluded, wage dispersion declined from 0.091 to 0.068 and market-service dispersion declined slightly from 0.160 to 0.156. Tashkent therefore does not account for the entire direction of change when Navoi remains in the sample, but it

substantially amplifies the scale of wage and especially service disparities.

Industrial production displays a different pattern. With Navoi included, industrial dispersion increased substantially. When Navoi alone was excluded, however, the CV declined from 0.733 to 0.686. This identifies Navoi's increasingly exceptional industrial position as a major contributor to full-sample industrial divergence. When both Navoi and Tashkent were excluded, industrial dispersion increased moderately from 0.512 to 0.583, indicating that some divergence was also present among the remaining regional economies.

As an additional robustness check, Table 3 reports the unweighted Theil T index for all 14 regions.

Table 3

Theil T index across Uzbekistan's regions, 2017-2025

Indicator	2017	2018	2019	2020	2021	2022	2023	2024	2025
GRP per capita	0.092	0.103	0.136	0.177	0.168	0.160	0.163	0.214	0.234
Average monthly wage	0.016	0.016	0.016	0.020	0.027	0.024	0.030	0.034	0.037
Industrial production per capita	0.270	0.307	0.401	0.507	0.467	0.437	0.425	0.448	0.469
Market services per capita	0.245	0.260	0.262	0.282	0.277	0.288	0.320	0.336	0.346
Fixed-capital investment per capita	0.221	0.213	0.218	0.201	0.181	0.172	0.170	0.163	0.136

The Theil index confirms the qualitative conclusions obtained from the coefficient of variation. Between 2017 and 2025, the Theil index increased from 0.092 to 0.234 for GRP per capita, from 0.016 to 0.037 for wages, from 0.270 to 0.469 for industrial production, and from 0.245 to 0.346 for market services. Fixed-capital investment moved in the opposite direction, with its Theil index falling from 0.221 to 0.136. The principal convergence and divergence findings are therefore not specific to the use of the coefficient of variation.

The results reveal a multidimensional pattern of regional inequality rather than a uniform centre-periphery divide. GRP divergence and investment convergence are robust to both the alternative inequality measure and leave-out specifications, while Tashkent primarily amplifies wage and service disparities and Navoi industrial dispersion.

The pattern is consistent with the uneven effects of agglomeration described in the literature. Dense urban markets can raise productivity through worker-firm matching, shared inputs, and knowledge exchange [23], [24]. Tashkent's widening advantages in wages and especially market services are consistent with these mechanisms, suggesting that some metropolitan advantages strengthened alongside national economic growth rather than being gradually matched across the regional system.

At the same time, the results do not support a simple division between a dominant capital and uniformly weaker provinces. Navoi remained above Tashkent in industrial production and GRP per capita in 2025, while also recording higher fixed-capital investment per capita. Its wages and market services, however, remained considerably below those of the capital. This difference supports treating production and economic opportunity as separate dimensions of regional inequality. A specialised industrial region can generate high output without developing the same range of services and labour-market opportunities found in a diversified metropolitan economy. This is consistent with research showing that industrial capacity does not necessarily produce locally anchored higher-value functions [13] and with the distinction between output growth and broader structural transformation [15].

Investment provides an important contrast: its regional dispersion declines under both inequality measures and every leave-out specification even as inequality increases in output, wages, industry, and services. A more even spatial distribution of capital formation has therefore not yet translated into comparable convergence in economic outcomes. The data do not establish why; differences in the composition, productivity, timing, and local effects of investment are possible explanations requiring more detailed evidence.

The non-linear annual trajectories also show that endpoint comparisons alone would conceal substantial intermediate changes in regional dispersion.

Human-capital mobility offers one possible mechanism through which wage and service disparities may persist. International evidence shows that migration can respond to regional economic opportunities but may be constrained by housing costs [11], [26], while Seitz documents historically low internal mobility and institutional and housing barriers in Uzbekistan [25]. These mechanisms are consistent with persistent spatial disparities but are not directly tested here and should not be interpreted as causal explanations of the observed patterns.

Uzbekistan's convergence in investment alongside divergence in several economic outcomes suggests that improved access to capital or infrastructure need not produce convergence where regional capacities to translate these resources into productive activity differ. This is consistent with evidence that the effects of connectivity and digitalisation depend on market access and surrounding institutional conditions [3], [16].

These patterns have implications for regional policy. The evidence does not support weakening Tashkent's agglomeration advantages or attempting to reproduce the capital's economic structure in every region. Regional policy can instead focus on the constraints associated with different productive structures. Navoi, for example, illustrates the difference between strong industrial output and a broader service and labour-market base. Other regions face different combinations of lower output, wages, services, industrial activity, or investment. This is consistent with place-based approaches that adapt policy to local capabilities and market access rather than applying the same intervention across regions [6], [18], [19]. Where large regional differences persist, reducing barriers to mobility and housing access may complement such place-based measures.

For regions where weak private investment demand is itself an important constraint, one possible place-based instrument is the more effective use of underutilised public assets. In particular, where rights to non-agricultural land remain unsold through open auctions for an extended period even after successive reductions in the starting price, a different approach is required to make such land available to investors. For example, a 0.717-hectare land plot in the Saykhon mahalla of Jizzakh Region had been offered through electronic auctions 143 times. Despite a 50 percent reduction in its starting price, the plot remained unsold at a starting price of UZS 280 million [27]. This example illustrates how repeated auctions and substantial price reductions may still fail to generate sufficient demand for some land assets. An alternative mechanism would be to allow the rights to such land to be contributed as a state equity share to the charter capital of a legal entity on the condition that an investment project is implemented on the site, with the private investor having the right to subsequently purchase the state's equity share under agreed conditions. This would convert an underutilised public land asset into an equity stake in an enterprise while reducing the investor's initial cost of acquiring land rights and allowing a larger share of private capital to

be directed towards the project itself. Such a mechanism may be particularly relevant in remote areas where weak market demand limits the productive use of available land, although its effects on investment activity and regional economic outcomes would require separate empirical evaluation.

The analysis has four limitations. First, the annual data identify changes in regional dispersion but do not establish causal relationships among investment, agglomeration, migration, housing, and regional outcomes. Second, the indicators are nominal; within-year inequality measures reduce sensitivity to nationwide inflation, but regional price differences remain unobserved. Third, first-level regional aggregates cannot capture within-region disparities or identify sector- and project-level mechanisms. Finally, some 2025 statistics are preliminary and may be revised. The results should therefore be interpreted as evidence on the evolution and structure of regional inequality rather than as causal estimates of its determinants.

Conclusion and Recommendations.

Between 2017 and 2025, regional dispersion increased in GRP per capita, wages, industrial production, and market services, while fixed-capital investment converged. The CV and Theil measures produce the same qualitative pattern. Leave-out tests show that Tashkent strongly amplifies wage and service disparities, Navoi drives much of industrial dispersion, and GRP divergence and investment convergence persist beyond either region.

The contrast between more even investment and widening disparities in several economic outcomes suggests that capital formation alone has not produced comparable convergence in regional performance. Existing evidence on mobility and housing provides relevant context for the persistence of these differences, although these mechanisms are not tested directly here.

Regional policy should therefore account for differences in regional economic structure rather than treating all disparities as expressions of the same centre-periphery divide. One possible instrument in areas with weak private investment demand is to use long-unsold public land rights as a state equity contribution to enterprises established jointly with private investors intending to implement investment projects in those areas, with the private investor having the right to subsequently purchase the state's equity share. Further research using sector-level data and direct measures of mobility, housing affordability, productivity, and investment composition could identify the mechanisms underlying the convergence and divergence patterns documented here.

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