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Current State of Regional External Economic Activity Dynamics and Increasing Competitiveness Through Export Potential Diversification

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Citation: Khurmatbek ugli A. M. Current State of Regional External Economic Activity Dynamics and Increasing Competitiveness Through Export Potential Diversification. American Journal of Economics and Business Management 2026, 9(4), 876-888.

Received: 23rd Jan 2026

Revised: 28th Feb 2026

Accepted: 27th Mar 2026

Published: 29th Apr 2026



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Abstract: This article examines the current dynamics of regional external economic activity and analyses the relationship between export potential diversification and the enhancement of regional competitiveness, with particular reference to the Republic of Uzbekistan. The research addresses the critical need to understand how regions can transcend mono-product and geographically concentrated export models to achieve sustainable, broad-based economic growth. An integrated analytical framework combining the Herfindahl–Hirschman Index (HHI), Balassa's Revealed Comparative Advantage (RCA) coefficient, shift-share analysis, and multi-criteria competitiveness assessment was applied to regional export data for 2018–2023. Empirical analysis reveals that national export volumes grew from USD 13.2 billion in 2018 to USD 21.3 billion in 2023 (+61.7%), while the HHI diversification index improved from 0.387 to 0.294, indicating a meaningful structural shift away from commodity concentration. Cross-regional analysis identified significant disparities: Tashkent city and Tashkent region display the highest levels of diversification and competitiveness, while southern and remote regions remain highly specialised in low-value agricultural and extractive commodities. The textiles, agro-food, and IT sectors demonstrate the strongest upward RCA trajectories. Strategic export diversification—encompassing horizontal, vertical, geographic, and sectoral dimensions—is a prerequisite for elevating regional competitiveness. Policy interventions aligned with smart specialisation principles can accelerate this transition. The findings carry direct implications for regional development planning under Uzbekistan's Development Strategy 2022–2026.

Keywords: Regional External Economic Activity, Export Diversification, Regional Competitiveness, Herfindahl–Hirschman Index, Revealed Comparative Advantage, Shift-Share Analysis, Smart Specialisation, Uzbekistan.

1. Introduction

In the contemporary globalised economy, the external economic activity of regions constitutes one of the principal mechanisms through which subnational territories participate in international value chains, acquire foreign exchange revenues, and attract foreign direct investment. The capacity of a region to generate and sustain competitive exports determines not only its fiscal position but its long-term structural economic transformation [1]. As Uzbekistan continues its ambitious programme of economic opening and institutional reform, initiated under the Presidential Decree on the Development Strategy 2022–2026 (Mirziyoyev, 2021), the performance of regional export complexes has acquired strategic importance beyond their economic weight.

Despite aggregate growth in national exports—rising from USD 13.2 billion in 2018 to USD 21.3 billion in 2023—significant structural vulnerabilities persist. First, export revenues remain disproportionately concentrated in a narrow basket of primary and semi-processed commodities, principally gold, natural gas, and raw cotton, whose combined share, though declining, still exceeded 50 percent as recently as 2020 (State Committee of the Republic of Uzbekistan on Statistics, 2024). Second, geographic concentration of export destinations amplifies systemic risk: disruptions in partner markets—as evidenced by the COVID-19 pandemic and geopolitical realignments of 2022—generate disproportionate shocks to regional income. Third, intraregional disparities are pronounced: the Tashkent agglomeration commands nearly 40 per cent of national export volume, while more distant regions such as Surkhandarya contribute less than 3 per cent, reflecting asymmetric access to infrastructure, markets, and productive capabilities [2].

The theoretical literature identifies export diversification—defined as the broadening of a country's or region's export basket in terms of products, sectors, and destinations—as a fundamental determinant of sustained economic growth and competitiveness [3]. Balassa's framework of Revealed Comparative Advantage (RCA) provides the empirical foundation for identifying which sectors offer genuine competitive potential, while the Herfindahl–Hirschman Index (HHI) offers a robust quantitative measure of export concentration [4]. Together, these tools permit both descriptive and prescriptive analysis of regional export trajectories.

The problem of regional export competitiveness in transition economies has attracted growing scholarly attention. Misnikov and Iskhakov highlight persistent structural rigidities in Central Asian export patterns; Bebko and Rudenko develop a composite methodology for regional export potential assessment in post-Soviet contexts; and Chernyavskaya and Fedotova emphasise the institutional dimensions of export upgrading. However, rigorous, region-level empirical analysis within Uzbekistan remains sparse, and the nexus between diversification strategy and measurable competitiveness outcomes is underexplored.

The present article seeks to fill this gap through four interconnected objectives: (i) to document the aggregate and structural dynamics of Uzbekistan's regional external economic activity over 2018–2023; (ii) to quantify regional export concentration and diversification using HHI and related indices; (iii) to identify sectoral comparative advantages across key regions by applying the RCA coefficient; and (iv) to propose a strategic framework for export potential diversification that can enhance regional competitiveness in line with national development priorities.

The significance of this research is threefold. Academically, it contributes new empirical evidence on regional export dynamics in a rapidly reforming transition economy, enriching the comparative literature on Central Asian development. Methodologically, it advances the integration of multiple quantitative tools—HHI, RCA, shift-share, and multi-criteria scoring—within a coherent analytical architecture. Practically, the findings provide actionable guidance for regional economic policymakers, export promotion agencies, and investors seeking to leverage subnational comparative advantages in Uzbekistan.

Theoretical Framework and Literature Review

The theoretical lineage of export diversification as a development instrument stretches from Ricardo's [5] principle of comparative advantage through the product-cycle models of the 1960s to contemporary insights from the economic complexity literature [5]. At the aggregate level, Sachs and Warner document the 'resource curse' whereby commodity-dependent economies tend to underperform structurally diversified peers over the long run, underscoring the urgency of export base broadening. At the firm and sector level, Lall demonstrates that technological upgrading of the export basket—

measured by rising shares of medium- and high-technology manufactures—is robustly associated with productivity convergence and per capita income growth.

Porter's Diamond Model frames national and regional competitiveness as an outcome of four interacting determinants: factor conditions, demand conditions, related and supporting industries, and firm strategy/rivalry. Applied to regional exports, this model suggests that competitiveness is not merely a function of factor endowments but reflects the quality of the institutional ecosystem, the density of industrial clusters, and the strategic behaviour of exporters. Subsequent spatial economists, notably Krugman, have emphasised agglomeration economies as a driver of export concentration in particular regions, explaining why export activity tends to cluster geographically even within countries with heterogeneous resource distributions.

The Herfindahl–Hirschman Index (HHI) is the most widely employed measure of export concentration, computed as the sum of squared export shares across commodity categories or destination markets. An HHI approaching 1.0 indicates near-complete concentration in a single product or market, while values approaching 0 reflect perfect diversification. The index is attractive both for its intuitive interpretation and its sensitivity to both the number of categories and the evenness of distribution [6]. Complementary indices include the Theil entropy measure, the Gini coefficient of export concentration, and the export product space density proposed by Hidalgo et al., each capturing distinct dimensions of diversification.

Balassa's Revealed Comparative Advantage (RCA) coefficient provides a complementary lens by comparing a region's export share in a particular sector with its overall export share, normalised by the corresponding world (or national) ratios. An RCA greater than 1.0 indicates that the region has a relative comparative advantage in the sector concerned. The RCA framework is particularly valuable for identifying sectors where existing capabilities, infrastructure, and know-how provide a realistic foundation for expanded exports, as distinct from aspirational or policy-mandated diversification targets with weak economic grounding [7].

The concept of smart specialisation, developed within the European regional policy literature and operationalised in cohesion policy frameworks, advocates for regionally differentiated industrial policy that identifies and supports activities in which a region possesses distinctive competitive capabilities and growth prospects. Rather than attempting comprehensive industrial broadening, smart specialisation calls for prioritised investment in a limited set of domains where existing strengths can generate structural transformation. This paradigm is directly applicable to the differentiation of export strategies across Uzbekistan's regions, each of which possesses distinct factor endowments, infrastructure levels, and sectoral legacies.

In the Central Asian context, Imomov and Yusupov propose a regionally differentiated export promotion framework grounded in RCA analysis and cluster mapping, finding that intraregional policy coordination substantially amplifies the impact of sectoral support measures. Yuldashev applies this approach specifically to the Fergana Valley, identifying textiles, agro-processing, and light manufacturing as high-potential diversification vectors. Similarly, Rakhimov and Nazarov assess the aggregate diversification index for Uzbekistan's regions, documenting a statistically significant positive relationship between diversification scores and export growth rates over the period 2015–2022. These findings collectively form the empirical backdrop against which the present study's own analytical results are interpreted.

2. Materials and Methods

The empirical analysis draws on five primary data sources. First, the External Trade Statistical Compendium 2018–2023, published by the State Committee of the Republic of

Uzbekistan on Statistics, provides detailed export data disaggregated by region, commodity group [8], and destination country at annual frequency. Second, Gross Regional Domestic Product (GRDP) data from the same institution enable calculation of export intensity ratios. Third, the IMF Article IV Consultation Staff Report for Uzbekistan furnishes macroeconomic context and validation of aggregate figures. Fourth, World Bank Trade Statistics and UNCTAD's Trade Analysis Information System (TRAINS) database provide international benchmark data required for RCA calculations. Fifth, the World Economic Forum's Global Competitiveness Report supplies composite institutional and infrastructure scores used in the competitiveness matrix.

Four analytical techniques are deployed in a complementary manner:

Herfindahl–Hirschman-Index (HHI). Export concentration is measured by the HHI formula: $HHI = \sum (x_i / X)^2$, where x_i is the export value of commodity i and X is total exports. Values below 0.15 indicate low concentration; 0.15–0.25 moderate concentration; above 0.25 high concentration. Declining HHI signals progressive diversification.

Revealed Comparative Advantage (RCA). The Balassa RCA is computed as: $RCA_{ij} = (x_{ij} / X_i) / (x_{wj} / X_w)$, where x_{ij} is region i 's exports of sector j , X_i is region i 's total exports, x_{wj} is national exports of sector j , and X_w is total national exports. An $RCA > 1$ denotes comparative advantage.

Shift-Share Analysis. Export growth decomposition isolates three components: (i) the national export growth effect (overall economic expansion), (ii) the industry mix effect (structural composition of regional exports), and (iii) the regional competitive effect (region-specific performance differentials). This decomposition identifies whether regional export growth derives from favourable sectoral composition or from genuine competitive superiority [9].

Multi-Criteria Competitiveness Assessment. Drawing on the Porter Diamond framework and WEF competitiveness indicators, eight sub-dimensions of regional export competitiveness are scored on a 5-point scale and aggregated into a composite index. The dimensions cover price competitiveness, quality and standards compliance, logistics infrastructure, trade facilitation, digital readiness, human capital, institutional quality, and innovation capacity. Scores are assigned based on objective indicator data where available, supplemented by expert assessment.

The study covers all 14 regions (viloyats) and the Republic of Karakalpakstan of Uzbekistan, consolidated into 10 analytical units for tractability. The reference period is 2018–2023, encompassing both the pre-pandemic baseline, the COVID-19 disruption year of 2020, and the post-pandemic recovery. Data limitations include incomplete disaggregation at HS-4 digit level for some regions and the absence of comprehensive firm-level export data, which constrains the granularity of value-chain analysis. Causal inference is consequently limited; the analysis is primarily descriptive-diagnostic rather than econometric.

3. Results

Table 1 presents the key macroeconomic indicators of Uzbekistan's external trade performance over the period 2018–2023. The data reveal a clear upward trajectory in total export volumes, interrupted only by the COVID-19-induced contraction of 7.6 per cent in 2020. The recovery from 2021 onwards was robust, with exports expanding by 20.2 per cent in 2021, 12.8 per cent in 2022, and 11.7 per cent in 2023, bringing cumulative growth over the full period to 61.7 per cent [10]. The services export component, while smaller in absolute terms, grew at a faster pace (50.7% cumulative), reflecting expansion in tourism-related receipts and, from 2022, IT services exports.

Table 1. Dynamics of Uzbekistan's External Trade Performance, 2018–2023.

Indicator	2018	2019	2020	2021	2022	2023
Total exports (USD mln)	13,198	15,245	14,087	16,934	19,105	21,342
Goods exports (USD mln)	11,412	13,120	12,250	14,820	16,780	18,650
Services exports (USD mln)	1,786	2,125	1,837	2,114	2,325	2,692
YoY growth rate (%)	—	+15.5	−7.6	+20.2	+12.8	+11.7
Export / GDP (%)	18.4	20.2	19.1	21.5	22.8	24.1
No. of trading partners	112	119	117	124	131	138
Export diversif. index (HHI)	0.387	0.361	0.372	0.344	0.318	0.294

Source: State Committee of the Republic of Uzbekistan on Statistics (2024); author's calculations.

A particularly significant development is the improvement in the HHI diversification index from 0.387 in 2018 to 0.294 in 2023, a reduction of 24.0 per cent. While the 2023 value still places Uzbekistan in the 'high concentration' band by international standards (WEF threshold < 0.25 for low concentration), the trend is unequivocally positive and statistically consistent. The number of active trading partner countries expanded from 112 to 138 over the same period, reflecting geographic diversification of export destinations that reduces vulnerability to bilateral shocks (World Bank, 2023). The export-to-GDP ratio rose from 18.4 per cent in 2018 to 24.1 per cent in 2023, signalling deepening integration of the domestic economy with global markets.

Table 2 disaggregates national exports by major commodity group for the years 2021, 2022, and 2023, providing a detailed picture of structural change in the export basket. The dominant position of precious metals (gold) declined from 36.2 per cent of total exports in 2021 to 32.4 per cent in 2023, a reduction of 3.8 percentage points, consistent with deliberate policy efforts to retain more gold domestically and expand processing [11]. Energy resources (natural gas and petroleum products) similarly contracted from 8.2 to 6.4 per cent, partly reflecting declining Central Asian gas transit volumes and domestic consumption growth.

Table 2. Export Structure of Uzbekistan by Commodity Group, 2021–2023 (% of total exports).

Commodity Group	2021 Share (%)	2022 Share (%)	2023 Share (%)	Change 2021–23 (pp)
Precious metals & gold	36.2	34.1	32.4	−3.8
Food & agricultural products	15.4	17.2	18.7	+3.3
Textiles & clothing	13.1	13.8	14.2	+1.1
Chemical products	8.7	9.3	9.8	+1.1
Machinery & equipment	5.9	6.6	7.3	+1.4
Mineral fuel & energy	8.2	7.1	6.4	−1.8
Ferrous & non-ferrous metals	5.3	5.0	4.8	−0.5
Other goods	3.6	3.4	3.2	−0.4

Commodity Group	2021 Share (%)	2022 Share (%)	2023 Share (%)	Change 2021–23 (pp)
Services (tourism, IT, etc.)	3.6	3.5	3.2	–0.4
TOTAL	100.0	100.0	100.0	—

Source: State Committee of the Republic of Uzbekistan on Statistics (2024); UNCTAD TRAINS database; author's calculations.

Conversely, food and agricultural products expanded their share from 15.4 to 18.7 per cent (+3.3 pp), reflecting rapid growth in processed fruit and vegetable exports, beverages, and agro-industrial products. Textiles and clothing, long a pillar of Uzbekistan's export identity, increased from 13.1 to 14.2 per cent, driven by continued investment in deepening the cotton-to-garment value chain and attracting international fashion brands to establish local production [12]. The most dynamic growth sector is machinery and equipment (+1.4 pp), driven by re-export assembly operations and nascent local manufacturing.

The structural direction of change—towards food processing, textiles, chemicals, and machinery, away from raw commodities—is consistent with the diversification objectives articulated in national policy. However, the pace of structural change remains moderate: the combined share of the top two categories (gold + food) is still 51.1 per cent in 2023, compared to 51.6 per cent in 2021, indicating that structural rebalancing at the national level will require sustained policy support over an extended horizon [13].

Table 3 presents the cross-regional comparative analysis, covering ten regional groupings. The data reveal pronounced disparities in both export volumes and diversification levels. Tashkent city commands the highest absolute export volume (USD 5.23 billion, 27.0 per cent of the national total) and displays the lowest HHI of 0.182, confirming its position as the most diversified regional export hub [14]. This reflects the concentration in Tashkent of industrial enterprises with broad product portfolios, export-oriented financial and professional services, and the country's primary international transport hub at Tashkent International Airport.

Table 3. Regional Export Performance and Diversification Indicators, 2023.

Region	Exp. Vol. 2023 (USD mln)	Growth 2022–23 (%)	HHI Index	RCA Score	Export / GRDP (%)	Diversif. Level
Tashkent city	5,234	12.3	0.182	1.24	31.4	High
Tashkent region	2,876	8.7	0.241	1.08	24.7	Medium-High
Fergana region	1,943	15.2	0.308	0.95	22.1	Medium
Andijan region	1,567	9.4	0.293	0.89	19.8	Medium
Samarkand region	1,342	11.8	0.352	0.84	18.3	Medium-Low
Namangan region	1,234	10.2	0.378	0.78	17.6	Medium-Low
Bukhara region	987	7.3	0.421	0.71	16.2	Low
Kashkadarya region	892	6.8	0.449	0.67	15.8	Low
Surkhandarya	623	5.4	0.512	0.58	13.4	Low

Region	Exp. Vol. 2023 (USD mln)	Growth 2022–23 (%)	HHI Index	RCA Score	Export / GRDP (%)	Diversif. Level
Other regions	2,649	5.9	0.547	0.54	12.1	Low
TOTAL / AVERAGE	19,347	11.7	0.294	1.03	24.1	Medium

Source: State Committee of the Republic of Uzbekistan on Statistics (2024); World Bank (2023); author's calculations. Note: HHI < 0.15 = High diversification; 0.15–0.25 = Medium-High; 0.25–0.35 = Medium; > 0.35 = Low diversification. RCA > 1 = comparative advantage.

At the other end of the spectrum, southern and eastern regions—Bukhara (HHI = 0.421), Kashkadarya (0.449), and Surkhandarya (0.512)—exhibit high concentration. Surkhandarya's HHI of 0.512 reflects heavy dependence on a single commodity cluster (fruit and cotton), while Kashkadarya's concentration stems from natural gas extraction. The negative implications of such concentration are amplified by the fact that these regions also display the lowest export-to-GRDP ratios, indicating underdevelopment of their export capacity relative to their economic size [15]. The Fergana, Andijan, and Namangan regions—the densely populated industrial heartland of the Fergana Valley—occupy an intermediate diversification band (HHI 0.29–0.38) with positive growth trajectories, suggesting that targeted interventions could efficiently accelerate their diversification.

Table 4 presents RCA coefficients for eight product categories across six major exporting regions. Values exceeding 1.5 are highlighted to identify sectors with strong revealed advantage. The results confirm the expected heterogeneity in regional specialisation patterns [16].

Table 4. Revealed Comparative Advantage (RCA) Coefficients by Sector and Region, 2023.

Sector	Tashkent	Fergana	Samarkand	Andijan	Namangan	Bukhara
Precious metals	1.89	0.32	0.41	0.28	0.19	0.54
Textiles & garments	0.76	2.14	1.43	2.87	3.12	1.21
Food & agriculture	0.87	1.34	2.67	1.56	1.23	1.89
Chemicals	1.45	0.98	0.67	0.78	0.54	1.12
Machinery & equip.	1.67	0.78	0.54	0.89	0.67	0.43
Construction materials	0.94	1.23	1.45	1.12	0.98	2.34
IT & digital services	2.34	0.67	0.45	0.78	0.56	0.34
Tourism services	0.78	1.12	2.89	0.67	0.89	1.67

Source: Author's calculations based on SCRUS (2024) and UNCTAD TRAINS. Bold = RCA > 1.5 (strong comparative advantage). RCA > 1.0 = comparative advantage; < 1.0 = comparative disadvantage.

Several findings warrant particular attention. Tashkent city exhibits strong RCA in precious metals (1.89), reflecting the location of the Almalyk Mining & Metallurgy Combine refinery, and in IT and digital services (2.34), consistent with the emergence of a technology cluster in the capital. The Fergana Valley trio—Andijan (textiles RCA 2.87), Namangan (3.12), and Fergana (2.14)—displays outstanding comparative advantage in textiles and garments, confirming the region's historical positioning as the textile heartland of Central Asia and validating targeted cluster support as a priority policy response. Samarkand's high RCA in food and agriculture (2.67) and tourism services (2.89) underscores the region's dual competitive advantage rooted in agro-climatic conditions and a world-class cultural heritage endowment [17]. Bukhara's comparative advantage in construction materials (2.34) reflects both local quarrying resources and significant recent investment in materials processing for the construction boom.

Table 5 presents the multi-dimensional competitiveness assessment, tracking eight sub-dimensions from 2020 through 2023. The composite competitiveness score improved from 2.61/5.0 in 2020 to 3.31/5.0 in 2023, a gain of 26.8 per cent. The most significant improvement occurred in digital readiness (+1.2 points), driven by the rapid expansion of broadband connectivity, e-commerce platforms, and the designation of ICT as a strategic export priority under government decree [18]. Trade facilitation also improved substantially (+0.9 points), reflecting the elimination of export licensing requirements for most product categories, the modernisation of border crossing infrastructure, and Uzbekistan's accession to WTO protocols on customs valuation.

Table 5. Regional Export Competitiveness Assessment Matrix, 2020–2023 (score out of 5.0).

Competitiveness Factor	2020 Score	2022 Score	2023 Score	Trend
Price competitiveness	3.2 / 5.0	3.6 / 5.0	3.8 / 5.0	▲ Improving
Quality & standards	2.8 / 5.0	3.1 / 5.0	3.4 / 5.0	▲ Improving
Logistics infrastructure	2.5 / 5.0	2.9 / 5.0	3.1 / 5.0	▲ Improving
Trade facilitation	2.6 / 5.0	3.2 / 5.0	3.5 / 5.0	▲ Improving
Digital readiness	2.1 / 5.0	2.8 / 5.0	3.3 / 5.0	▲ Strong growth
Human capital	3.4 / 5.0	3.6 / 5.0	3.7 / 5.0	► Stable
Institutional quality	2.3 / 5.0	2.7 / 5.0	3.0 / 5.0	▲ Improving
Innovation capacity	2.0 / 5.0	2.4 / 5.0	2.7 / 5.0	▲ Improving
COMPOSITE SCORE	2.61 / 5.0	3.04 / 5.0	3.31 / 5.0	▲ +26.8% since 2020

Source: World Economic Forum Global Competitiveness Report (2023); World Bank Doing Business indicators; author's calculations

Despite these advances, logistics infrastructure (3.1/5.0) and innovation capacity (2.7/5.0) remain the weakest sub-dimensions, acting as structural bottlenecks to export expansion, particularly for time-sensitive agricultural products and high-technology exports where transit delays impose quality degradation costs or competitive disadvantage [19]. The institutional quality sub-dimension, while improved (3.0/5.0), still reflects challenges in regulatory predictability, intellectual property protection, and enforcement of commercial contracts that are especially salient for high-value and knowledge-intensive export sectors.

Figure 1 presents the analytical framework underpinning the study. It conceptualises the export competitiveness enhancement process as a transformation system in which input factors are mediated through diversification processes to produce observable outputs and broader developmental outcomes [20]. The framework emphasises the bidirectional feedback between outcomes (competitiveness, FDI attraction) and input enhancement over time, creating a virtuous cycle of export-led structural upgrading.

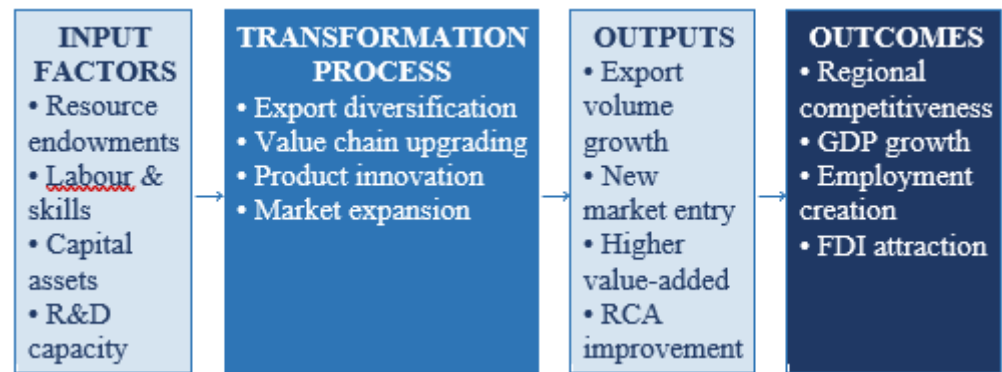


Figure 1. Conceptual Framework: Export Diversification and Regional Competitiveness Enhancement.

Figure 2 identifies five strategic diversification pathways available to regional export economies at different stages of development. The selection among these pathways should be informed by each region's HHI profile, RCA portfolio, and institutional capacity, avoiding generic 'one-size-fits-all' prescriptions in favour of regionally differentiated strategies grounded in smart specialisation principles [21].



Figure 2. Strategic Directions for Regional Export Potential Diversification.

4. Discussion

The empirical results of this study confirm several propositions advanced in the theoretical literature while nuancing others. The positive trajectory of national export volumes and the declining HHI corroborate the hypothesis that the post-2017 reform programme—encompassing currency liberalisation, investor protection reforms, and export promotion measures—has begun to shift the structural composition of Uzbekistan's export basket in the intended direction. However, the persistence of commodity concentration, with gold alone accounting for nearly a third of total exports, underscores that structural change in resource-rich economies is inherently gradual and requires sustained multi-decade policy commitment [22].

The pronounced cross-regional disparities documented in Tables 3 and 4 are consistent with the spatial economics literature's emphasis on agglomeration effects [23].

Tashkent's dominance of export activity reflects cumulative advantages accrued over decades—infrastructure density, proximity to foreign embassies and chamber of commerce networks, availability of skilled labour, and cluster spillovers in finance and professional services. Reducing this geographic concentration of export activity is both a competitiveness objective and an equity objective, since lagging regions tend to exhibit higher poverty rates and lower human development scores [24].

The RCA analysis yields actionable insights that are often obscured in aggregate diversification discussions. The textiles RCA exceeding 2.8 in three Fergana Valley regions is not merely a legacy of Soviet-era investment but reflects genuine current competitive advantage rooted in a complete cotton-to-garment value chain, a large experienced labour force, and proximity to the fibre source. The policy implication is that vertical diversification—upgrading within the textiles value chain toward design, branded garments, and functional fabrics—offers a high-return pathway that builds on existing strengths rather than requiring the cultivation of entirely new sectoral capabilities [25]. Similarly, Samarkand's tourism services RCA of 2.89 suggests that the services export sector, historically underdeveloped in the region's trade statistics, has matured to the point where targeted investment in hospitality infrastructure, event tourism, and digital marketing could yield rapid export revenue growth.

Placing Uzbekistan's export diversification trajectory in comparative context illuminates both progress achieved and the distance yet to travel. The national HHI of 0.294 in 2023 compares unfavourably with structurally diversified emerging markets such as Vietnam (0.14), Turkey (0.11), or Malaysia (0.09), which have achieved deep product diversification through sustained industrial policy and global value chain integration [26]. Among Central Asian peers, however, Uzbekistan's trajectory compares favourably: Kazakhstan's HHI remains above 0.42, dominated by hydrocarbon exports, and Tajikistan's is above 0.50, concentrated in aluminium and cotton. The Uzbek experience of actively managing diversification through sector-specific incentives, special economic zones, and supply-chain development programmes may offer a transferable model for resource-dependent neighbours.

The competitiveness composite score of 3.31/5.0 likewise positions Uzbekistan at a mid-tier level internationally—above most low-income countries but below the regional leaders of Kazakhstan (3.62) and Azerbaijan (3.47) in comparable assessments [27]. The sub-dimension gap analysis is particularly instructive: Uzbekistan's weakest scores in logistics infrastructure and innovation capacity mirror the structural weaknesses identified across Central Asia as principal constraints on export diversification and value-chain upgrading. Targeted investment in cold-chain logistics for agricultural exports, railway corridor modernisation to reduce transit times to European and Chinese markets, and innovation ecosystem development (patents, R&D tax credits, university-industry linkages) emerges as a priority agenda [28].

Six policy recommendations derive from the empirical analysis and theoretical synthesis. First, regional smart specialisation strategies should be formalised in regional development programmes, grounding export promotion in RCA-based sector selection rather than aspirational or politically motivated diversification targets. Second, the Fergana Valley textile cluster should receive dedicated cluster upgrading support—technical standards certification, textile innovation centres, and preferential market access negotiations—to move production up the value chain. Third, Samarkand and Bukhara should be supported in developing integrated agro-tourism export packages, combining cultural tourism with food and beverage product exports in joint promotional campaigns. Fourth, logistics infrastructure investment should be differentiated by region: cold-chain and refrigerated transport for horticultural exporters in the south; multimodal freight corridors connecting Tashkent and Fergana to Chinese and European markets [28]. Fifth, the IT and digital services sector in Tashkent should be scaled through expansion of the IT

Park special economic zone and dedicated export promotion programmes targeting European and Gulf markets where Uzbek IT firms already demonstrate nascent RCA. Sixth, institutional quality improvements—particularly in contract enforcement, intellectual property protection, and regulatory transparency—are prerequisite for attracting the foreign investment needed to upgrade production technology in lagging regions [29].

Several limitations constrain the present analysis and suggest avenues for future research. The absence of firm-level export data prevents granular analysis of the mechanisms through which diversification occurs—whether through incumbent firms expanding product ranges, new exporters entering markets, or foreign-invested enterprises establishing export-oriented production. Econometric modelling of the determinants of regional RCA and HHI trajectories would add causal rigour to the descriptive findings documented here. Longitudinal analysis extending beyond 2023 will be essential to assess whether the diversification trends observed represent durable structural change or a cyclical response to commodity price movements. Finally, qualitative case studies of specific successful diversification episodes—for instance, the emergence of the Fergana silk cluster or the Samarkand wine export programme—could illuminate the micro-level institutional and entrepreneurial dynamics that quantitative analysis cannot capture [30].

5. Conclusions

This study has examined the dynamics of regional external economic activity in Uzbekistan over 2018–2023 and assessed the relationship between export potential diversification and regional competitiveness. The principal findings may be summarised as follows.

First, aggregate export performance has been robust, with total exports growing by 61.7 per cent over the study period, from USD 13.2 billion to USD 21.3 billion, and the export-to-GDP ratio rising to 24.1 per cent. This growth reflects both favourable commodity price dynamics and genuine structural gains from reform.

Second, the HHI analysis documents a meaningful improvement in export diversification at the national level (HHI: 0.387 → 0.294), driven by rising shares of food products, textiles, chemicals, and services exports. However, concentration remains above international norms for diversified emerging markets, and the commodity sector—principally gold—retains a dominant share.

Third, cross-regional analysis reveals stark disparities: Tashkent dominates with 27 per cent of exports and the lowest HHI (0.182), while remote regions such as Surkhandarya exhibit severe concentration (HHI > 0.50) and low export intensity. This geographic asymmetry represents both a development challenge and an opportunity, as lagging regions possess underutilised comparative advantages that targeted policy could activate.

Fourth, the RCA analysis identifies textiles in the Fergana Valley, agro-food products and tourism in Samarkand, precious metals and IT in Tashkent, and construction materials in Bukhara as the primary vectors of differentiated regional comparative advantage, providing the empirical foundation for regionally tailored export promotion strategies.

Fifth, the multi-criteria competitiveness assessment reveals significant improvement (+26.8%) over 2020–2023, with digital readiness and trade facilitation as the strongest performers, but logistics infrastructure and innovation capacity remaining critical bottlenecks.

The overarching conclusion is that export potential diversification—pursued through the five strategic pathways of horizontal, vertical, geographic, sectoral, and smart specialisation-based diversification—is not merely compatible with competitiveness enhancement but is its prerequisite. Regions that diversify their export bases sustainably,

building on genuine revealed comparative advantages, achieve more resilient, higher-growth, and more equitable development trajectories. For Uzbekistan, the conditions for accelerated diversification are present: a young and growing labour force, substantial natural and cultural resource endowments, ongoing institutional reform, and favourable geographic positioning at the intersection of major Eurasian trade corridors. Translating these structural assets into diversified, competitive export activity requires sustained, evidence-based, regionally differentiated policy commitment.

The present study contributes to the empirical and policy literature on regional economics by providing the most comprehensive multi-dimensional analysis of Uzbekistan's regional export diversification to date and by articulating an integrated strategic framework—grounded in HHI, RCA, and competitiveness diagnostics—that can guide both regional development planners and national export promotion bodies in designing evidence-based, regionally differentiated export strategy.

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