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From Cotton Exporter to Garment Manufacturer: Uzbekistan's Textile Industrialization Amid the Cotton Boycott, 2019–2024

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Abstract

Uzbekistan was for decades the world's sixth-largest cotton exporter, notorious for state-orchestrated forced labor in the annual cotton harvest. An international boycott on Uzbek cotton, led by the Cotton Campaign and backed by major apparel brands, ran from 2008 until its formal termination in March 2022. Yet by the time the boycott was lifted, Uzbekistan had already undergone a structural transformation in its textile export profile: apparel exports (HS 61+62) surged from USD 354.5 million in 2019 to USD 1,250.6 million in 2023, a 3.5-fold increase, while exports of cotton and cotton products (HS 52, the cotton chapter covering raw fiber, yarn, and fabric) rose only 31% over the same period. The apparel-to-cotton export ratio climbed from 0.27 to 0.74, indicating a genuine shift from primary commodity toward processed manufacture. This paper documents that transformation using UN Comtrade data, identifies knitted apparel (HS 61) as the dominant segment at 88% of apparel exports, highlights Russia's 61% share as both the growth engine and the principal concentration risk, and argues that the observed transformation coincided with Uzbekistan's industrial policy push — including special economic zones, tax incentives, and mandatory domestic processing requirements — and was driven primarily by Russian market demand, rather than by a boycott-created processing incentive.

Keywords: Uzbekistan; cotton boycott; textile industrialization; apparel exports; Central Asia; forced labor; commodity upgrading; Comtrade

1. Introduction

For most of the post-Soviet era, Uzbekistan's integration into the global economy followed a simple script: grow cotton, harvest cotton, export cotton. The country was consistently the world's sixth-largest cotton exporter and the fifth-largest producer, and cotton fiber accounted for a dominant share of its non-gold, non-gas export earnings (World Bank, 2019). The cotton sector employed an estimated 2.2 million people during the harvest season, and the annual *hashar* mobilization — in which students, teachers, doctors, and public-sector workers were compelled to pick cotton under threat of dismissal or expulsion — was among the world's most systematic deployments of forced labor (International Labour Organization, 2020).

This system endured partly because the international community had limited leverage over a landlocked, authoritarian state, and partly because global textile supply chains had little reason to scrutinize

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the provenance of raw fiber. That changed in the late 2000s. A coalition of human rights NGOs, led by the Cotton Campaign and the Responsible Sourcing Network, began pressuring international apparel brands and retailers — H&M, Adidas, IKEA, and eventually over 300 companies — to pledge not to source Uzbek cotton (Cotton Campaign, 2021). The boycott, formalized in 2008 and sustained through the 2010s, was unusual in its scope: unlike most supply-chain activism, it targeted a single country of origin across all downstream products. By 2019, the *Uzbek Cotton Pledge* had become a de facto condition of market access for any brand seeking to avoid reputational risk.

The boycott's declared objective was straightforward: end forced labor in Uzbekistan's cotton harvest. Its implicit economic assumption was that export-market exclusion would impose costs sufficient to compel reform. But between the declaration of the boycott and its termination, a parallel process unfolded that the campaign's architects almost certainly did not anticipate. Uzbekistan began processing its own cotton.

Several forces converged to produce this outcome. First, the Cotton Campaign pledge prohibited signatory brands from knowingly sourcing Uzbek cotton for the manufacture of any products — a scope that covered processed textiles as well as raw fiber. The observed shift toward apparel exports therefore cannot be explained by a boycott-processing loophole; it instead reflects the Mirziyoyev government's deliberate industrial policy, which combined mandatory domestic processing requirements, tax incentives, and special economic zones (SEZs) oriented toward textile and garment investment. Second, the government of President Shavkat Mirziyoyev, who succeeded the late Islam Karimov in 2016, made textile industrialization a signature economic policy, coupling mandatory domestic processing requirements with tax incentives and the creation of special economic zones (SEZs) explicitly oriented toward textile and garment investment. Third, geopolitical shifts — particularly the imposition of Western sanctions on Russia after 2014 and their intensification after February 2022 — created a vacuum in Russia's apparel market that Uzbek manufacturers, with preferential access through the Commonwealth of Independent States (CIS) free-trade framework and Uzbekistan's observer status in the Eurasian Economic Union (EAEU), were uniquely positioned to fill.

This paper examines the structural transformation in Uzbekistan's textile trade between 2019 and 2024 using UN Comtrade data, with the reporter code 860 (Uzbekistan) and HS chapters 52 (cotton), 61 (knitted apparel), and 62 (woven apparel). It documents the growth trajectory, the composition of apparel exports, the partner-country structure, and the concentration risks that accompany the shift. It then evaluates the thesis that Uzbekistan's textile industrialization — driven by domestic industrial policy and Russian market demand, and coinciding with rather than caused by the boycott — achieved in a short period what decades of Soviet and post-Soviet central planning had failed to deliver: a genuine shift from primary commodity to manufactured export.

2. Background: Cotton, the Boycott, and Industrial Policy

2.1. The Soviet Legacy

Uzbekistan's relationship with cotton is a product of Soviet central planning. From the 1960s onward, Moscow designated the Uzbek Soviet Socialist Republic as the Union's primary cotton supplier, enforcing a monoculture that transformed the Central Asian landscape. The cotton hectarage expanded at the expense of food crops, and the irrigation demands of cotton cultivation — drawing primarily from the Amu Darya and Syr Darya rivers — progressively desiccated the Aral Sea, once the world's fourth-largest inland water body, into a fraction of its former extent (Micklin, 2016). By the time of the Soviet collapse in 1991, Uzbekistan produced over 4 million tons of raw cotton annually and had one of the world's highest per-hectare chemical-input intensities, with corresponding consequences for soil salinization and rural public health (Spoor, 1998).

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Independence did not dismantle the cotton system; it entrenched it. The Karimov government (1991–2016) maintained the state monopoly on cotton procurement through the state-owned *Uzpakhtasanoat* holding, setting production targets, controlling ginning and marketing, and extracting the difference between the low fixed price paid to farmers and the world market price as a fiscal rent (Pomfret, 2008). The forced-labor system was integral to this model: because the state procurement price was below the market-clearing wage, voluntary labor supply was insufficient, and the state filled the gap through administrative mobilization. The harvest routinely drew 1.5 to 2 million conscripts from the education and health sectors, a practice documented in detail by human rights organizations and eventually by the ILO itself (International Crisis Group, 2016).

2.2. The Cotton Boycott

The international response coalesced gradually. The Environmental Justice Foundation published early exposés of child and forced labor in the Uzbek cotton harvest in the mid-2000s. In 2007, the Responsible Sourcing Network launched the ”Company Pledge Against Uzbek Cotton,” and by 2008 the Cotton Campaign — a coalition including Human Rights Watch, the International Labor Rights Forum, and Anti-Slavery International — had built a critical mass of signatory brands. The campaign’s logic drew on a simple premise: if international brands refused to buy products containing Uzbek cotton, the reputational and commercial cost to the Tashkent government would eventually exceed the fiscal benefit of the forced-labor system.

The boycott was partially effective. By the early 2010s, major European and American retailers had signed the pledge, and the reputational stigma attached to Uzbek cotton was sufficient to deter its use in products destined for Western consumer markets. However, the boycott’s effect on aggregate Uzbek cotton exports was attenuated by continued demand from China, Bangladesh, Turkey, and other textile-processing countries where brand-facing sourcing restrictions were less binding (Van Kesteren, 2017). Raw cotton exports declined from their pre-boycott peaks but never collapsed.

2.3. Reform and Boycott Termination

The reform process began in earnest after Mirziyoyev’s accession (Bhat, 2021). In 2017, the government formally abolished the use of child labor in the cotton harvest — the most visible and politically damaging dimension of the system — and invited the ILO to conduct systematic monitoring of the harvest. The ILO’s Third-Party Monitoring reports, published annually from 2019, documented a progressive decline in the incidence of forced and child labor, from ”systematic and systemic” in the 2015–2017 period to ”isolated” by the 2021 harvest (International Labour Organization, 2022). In parallel, the state procurement monopoly was partially dismantled: direct contracting between farmers and textile clusters replaced the old *Uzpakhtasanoat* system, and procurement prices were raised toward market levels (World Bank, 2022).

In March 2022, the Cotton Campaign formally lifted the Uzbek Cotton Pledge, citing the ILO’s verification of systemic reform. The timing is important for this paper’s argument: the boycott’s termination postdates the bulk of Uzbekistan’s apparel-export surge, meaning that the growth documented below cannot be attributed to the lifting of restrictions on Uzbek raw cotton. If anything, the opposite causal direction — that the boycott created the *conditions* for apparel growth — is the more plausible inference.

2.4. Industrial Policy and the EAEU Factor

The Mirziyoyev government’s textile industrialization policy (Mirziyoyev, 2017) combined three instruments. First, **mandatory domestic processing**: from 2020, cotton fiber exports were formally restricted, with an increasing share of the annual harvest required to be processed domestically — first into

yarn, then into fabric and finished garments — before any surplus fiber could be exported (UzTextileProm, 2021). Second, **investment incentives**: tax holidays, subsidized credit, and utility-rate reductions were offered to textile investors in designated SEZs, including the Navoi Free Industrial Economic Zone, the Angren SEZ, and the Jizzakh SEZ. Turkish firms — including major integrated textile groups such as *Akkon* and *Eren Holding* — and Chinese manufacturers established spinning, knitting, and garment-assembly operations in these zones. Third, **trade preferences**: Uzbekistan's participation in the CIS free-trade area and its 2020 observer status in the EAEU gave its manufactured textile exports preferential or duty-free access to the Russian, Kazakh, and Kyrgyz markets — a structural advantage unavailable to competitors such as Bangladesh or Vietnam, which face full MFN tariffs in those markets.

The confluence of these policies with Russia's post-2014 and post-2022 sanctions regimes created a powerful demand-side pull. As Western brands withdrew from or reduced their exposure to the Russian market, Russian retailers sought alternative supply sources. Uzbekistan, with geographic proximity, rail connectivity, a shared language of commerce, and preferential trade terms, became the natural substitute supplier for basic and mid-range apparel categories.

3. Data and Methods

3.1. Data Source

All trade data were extracted from the UN Comtrade Database via the public API (public/v1/preview/C/A/HS), with Uzbekistan as the reporter (code 860) and the Harmonized System chapters 52 (cotton), 61 (articles of apparel and clothing accessories, knitted or crocheted), and 62 (articles of apparel and clothing accessories, not knitted or crocheted) for the years 2019–2024. Values are reported in nominal US dollars, FOB. Partner-country breakdowns were obtained for HS 61 (knitted apparel) at the 2023 level; partner data for HS 62 and HS 52 were pending at the time of extraction due to API quota constraints.

3.2. Estimation and Quality Caveats

Three caveats are material to the interpretation of results. First, the majority of Uzbek trade flows in the Comtrade database carry a legacyEstimationFlag value of 4, indicating that values are Comtrade-estimated — typically mirror data, constructed from partner countries' import declarations rather than from Uzbekistan's own customs reporting. This is standard for countries with limited direct reporting to the UN Statistics Division, but it introduces two potential biases: partner import values may be CIF rather than FOB (inflating values by the transport and insurance margin), and partner-country under-reporting or misclassification propagates into the "Uzbek" export series. Second, 2024 data are almost certainly incomplete: the apparent 33% year-on-year decline in HS 61 exports from USD 1,105 million (2023) to USD 735 million (2024) is more consistent with reporting lag — Uzbekistan typically has a 9–12 month reporting cycle — than with a genuine trade collapse, though the possibility of a real demand-side softening (particularly in the Russian market) cannot be excluded. Third, physical volume data (kilograms and supplementary units) are unreliable for these queries: the net-weight field is flagged as estimated across most observations, and quantity-in-units data are inconsistently reported, precluding reliable unit-value calculations at the aggregate level. Where unit values are discussed, they are drawn from partner-reported data where available and should be treated as indicative.

3.3. Analytical Approach

The analysis proceeds in four steps. First, the absolute and relative trajectories of apparel (HS 61+62) and cotton-chapter (HS 52, covering raw fiber, yarn, and fabric) exports are charted for 2019–2024, and the apparel-to-cotton ratio is tracked as a structural-change indicator. Second, the composition of apparel exports between knitted (HS 61) and woven (HS 62) categories is examined for evidence about Uzbek-

istan's position on the manufacturing value chain. Third, the partner structure of knitted-apparel exports is mapped to identify demand drivers and concentration risks. Fourth, the timing of the export surge is compared against the chronology of the boycott, the reform process, and the evolution of Russia's sanctions environment to assess competing causal narratives.

4. Results

4.1. Cotton vs. Apparel Trajectories: The Crossing-Over Story

Table 1 presents the annual export values for cotton (HS 52), knitted apparel (HS 61), woven apparel (HS 62), total apparel, and the apparel-to-cotton ratio for the period 2019–2024.

Table 1. Uzbekistan Exports: Cotton vs. Apparel, 2019–2024 (Million USD FOB)

Year	HS 52 Cotton (chapter)	HS 61 Knitted Apparel	HS 62 Woven Apparel	Apparel Total	Apparel / Cotton Ratio
2019	1,293.4	323.4	31.1	354.5	0.27
2020	1,200.8	459.4	46.8	506.2	0.42
2021	1,926.4	578.1	67.6	645.7	0.34
2022	1,606.8	837.7	84.1	921.8	0.57
2023	1,687.9	1,105.3	145.4	1,250.6	0.74
2024	1,391.0	735.2	107.9	843.2	0.61

Source. UN Comtrade, reporter 860. 2024 values are provisional and likely incomplete.

The headline finding is unambiguous. Apparel exports grew from USD 354.5 million in 2019 to USD 1,250.6 million in 2023 — a 253% increase, or a compound annual growth rate of approximately 37%. Over the same period, cotton exports grew from USD 1,293.4 million to USD 1,687.9 million — a 31% increase, or a CAGR of roughly 7%. The apparel-to-cotton ratio rose from 0.27 to 0.74, meaning that by 2023, manufactured apparel exports had reached nearly three-quarters the value of cotton-chapter exports, compared with barely one-quarter four years earlier.

The divergence in growth rates is the central fact. HS 52 cotton-chapter exports were volatile — spiking to USD 1,926 million in 2021 (a year of elevated global commodity prices) before retreating — but showed no sustained upward trend. Apparel exports, by contrast, grew in every year except the provisional 2024 figure, and the growth accelerated: the absolute increment from 2021 to 2022 (USD 276 million) approached the total apparel export value in 2019 (USD 354.5 million), and the increment from 2022 to 2023 (USD 329 million) was larger still. This acceleration is consistent with a sector undergoing capacity build-out, where each year's new production lines add to the previous year's base.

The 2024 figure warrants caution. The USD 843 million apparel total represents a 33% decline from 2023, which, if real, would be a severe contraction. However, Uzbekistan's trade data for the most recent year are routinely incomplete when first published through Comtrade; the country's customs administration reports to the UN with a significant lag, and mirror-data estimation requires partner countries to have filed their own import declarations — a process that is typically incomplete for the most recent calendar year. The 2024 decline should therefore be treated as a provisional artifact rather than a confirmed trend until subsequent data releases confirm or refute it. However, even if the true 2024 value were, say, USD 1,100 million — a 12% decline — the structural shift documented above would remain intact.

4.2. Apparel Composition: Knitted Dominance

Table 1 further reveals a striking asymmetry within apparel: knitted garments (HS 61) accounted for USD 1,105.3 million of the USD 1,250.6 million apparel total in 2023, or 88.4%. Woven garments (HS 62) contributed USD 145.4 million, or 11.6%.

This composition is informative about Uzbekistan's manufacturing capability. Knitted garments — t-shirts, polo shirts, sweatshirts, sportswear, basic pullovers — are generally lower in technology, capital intensity, and unit value than woven garments. Knitting machines are cheaper and faster to commission than weaving looms; knitted-fabric construction requires fewer preparatory processes (no warping, sizing, or drawing-in); and the sewing operations for knitted garments are simpler (fewer seams, no interlining, tolerances more forgiving). A country entering garment manufacturing typically begins with knitted products and, as skills, capital, and supply-chain depth accumulate, graduates toward woven products — shirts, trousers, jackets, formalwear — which command higher unit values and require more sophisticated cutting, sewing, and finishing.

Uzbekistan's 88:12 knitted-to-woven ratio places it firmly in the entry-level manufacturing tier. This is not a criticism but a diagnostic: the country's garment sector is currently positioned where Bangladesh's was in the early 1990s and where Cambodia's was in the early 2000s. The relevant question — addressed in the Discussion — is whether Uzbekistan can replicate the upgrading trajectories that those comparators achieved.

4.3. Partner Structure: The Russia Dependency

Table 2 presents the partner-country breakdown for Uzbekistan's HS 61 (knitted apparel) exports in 2023, the only category for which disaggregated partner data were available at the time of extraction.

Table 2. Top Buyers of Uzbek Knitted Apparel (HS 61), 2023

Rank	Partner	Value (Million USD)	Share (%)
1	Russia	670.1	60.6
2	Kyrgyzstan	153.3	13.9
3	Kazakhstan	56.8	5.1
4	China	40.8	3.7
5	Belarus	26.5	2.4
6	Turkey	19.0	1.7
—	Other / Unallocated	139.3	12.6
Total		**1,105.3**	**100.0**

Source. UN Comtrade, reporter 860, HS 61, 2023. Partner shares are of total reported value.

Russia alone absorbs 60.6% of Uzbekistan's knitted apparel exports. When the other CIS/EAEU members — Kyrgyzstan (13.9%), Kazakhstan (5.1%), and Belarus (2.4%) — are added, the bloc accounts for 82.0% of identified exports. China, the world's largest apparel market, takes 3.7%, and Turkey — a major textile producer in its own right, and a significant investor in Uzbekistan's textile sector — takes a modest 1.7%, likely reflecting intra-firm transfers of semi-finished goods.

The Kyrgyzstan figure warrants a note. Kyrgyzstan is a country of 7 million people with limited domestic purchasing power. The USD 153.3 million in knitted apparel imported from Uzbekistan almost certainly represents re-export trade: goods that enter Kyrgyzstan (often through Bishkek's *Dordoi Bazaar*, the region's largest wholesale market) and are then re-exported, formally or informally, to Russia and Kazakhstan. If even half of the Kyrgyzstan-bound exports are ultimately destined for Russia, the Russian market's effective share of Uzbek knitted apparel exports approaches 68%.

This partner concentration is extreme by international standards. For comparison, Bangladesh — the world's second-largest apparel exporter — ships approximately 18% of its apparel exports to its largest single market (the United States), and Vietnam ships approximately 23% to its largest market (also the United States). Uzbekistan's 61% single-market dependency is a vulnerability that merits close attention in any risk assessment of the country's textile trajectory. It also colors the causal interpretation of the

export surge: to what extent is Uzbekistan's textile boom an industrialization story, and to what extent is it a Russia-demand story?

4.4. The 2024 Dip: Real or Artifact?

The provisional 2024 apparel figure of USD 843 million is the single largest uncertainty in this analysis. The 33% decline from 2023's USD 1,251 million, if confirmed, would represent a severe reversal. Four interpretations are possible:

1. **Reporting lag**: Uzbekistan's data submission to the UN is incomplete for 2024, and partner-country mirror data are not yet filed for all trade flows. This is the most benign interpretation and is consistent with Uzbekistan's historical reporting pattern.
2. **Russian demand softening**: The Russian economy faced headwinds in 2024 — including elevated inflation, monetary tightening, and the cumulative effects of sanctions on consumer purchasing power — that may have reduced apparel import demand. If this is the primary driver, it would confirm the vulnerability implied by the partner-concentration data.
3. **Sanctions-related trade disruption**: Secondary sanctions on financial intermediaries, logistics providers, or payment channels may have complicated Uzbek–Russian trade settlement, even if the goods themselves are not sanctioned.
4. **Competitive displacement**: Other low-cost suppliers — notably Bangladesh, which has been expanding its CIS-market presence, and Chinese firms operating in Central Asia — may have eroded Uzbekistan's Russian market share.

The available data do not permit discrimination among these hypotheses. Disaggregated 2024 partner data and downstream revisions will be needed for a definitive assessment. For the purposes of this paper, the 2024 figure is treated as provisional, and the analytical weight rests on the 2019–2023 period, for which the data are substantially complete and consistent.

4.5. Unit Values and Value-Chain Position

Reliable unit-value calculations are hampered by inconsistent quantity reporting in the Comtrade database for these Uzbek flows. However, indicative unit values derived from Russian import data (the most complete mirror dataset) suggest that Uzbek knitted apparel exports to Russia average in the range of USD 3–7 per unit, consistent with basic product categories: t-shirts, singlets, sweatshirts, and simple pullovers. Woven-apparel unit values appear somewhat higher, but the small absolute volume of HS 62 exports limits the reliability of the estimate.

The relevant benchmark is that basic knitted garments in the global market typically carry FOB unit values of USD 2–6 per piece for the lowest-cost producers (Bangladesh, Cambodia) and USD 6–12 for mid-range producers (Turkey, China for non-basic categories). Uzbekistan's implied unit values place it at the lower end of that spectrum — competitive with the lowest-cost Asian producers but not yet moving into higher-value categories.

4.6. Timeline Analysis: Boycott Lift vs. Export Surge

A central question of this paper is temporal: did the surge in apparel exports follow or precede the lifting of the cotton boycott in March 2022? The data show that apparel exports were growing rapidly well before March 2022. From 2019 to 2021, apparel exports rose from USD 354.5 million to USD 645.7 million — an 82% increase over two years, entirely within the boycott period. The growth continued through 2022 (USD 921.8 million, +43% year-on-year) and accelerated in 2023 (USD 1,250.6 million, +36%).

This timeline is inconsistent with a narrative in which the boycott's termination *unleashed* apparel growth by restoring Uzbekistan's access to raw-material export markets. On the contrary: the growth

was established while the boycott was still in force, and if anything, the boycott created the incentive to process cotton domestically rather than export it raw. The 2023 acceleration may partly reflect post-boycott normalisation — brands that had previously avoided all Uzbek-content products may have begun to reconsider — but the structural shift was already entrenched.

5. Discussion

5.1. Industrial Policy, Not a Boycott Loophole

The data presented above document a rapid shift from cotton exports toward apparel manufacturing. The causal interpretation of this shift, however, requires care. An earlier version of this paper's thesis proposed that the cotton boycott inadvertently functioned as industrial policy by closing the raw-cotton export channel while leaving processed-textile channels open — but this mechanism is inconsistent with the Cotton Campaign pledge, which prohibited signatory brands from knowingly sourcing Uzbek cotton for the manufacture of *any* products, including processed textiles.

A more evidence-consistent interpretation is that the boycott *coincided with* — rather than caused — Uzbekistan's industrial policy push. The Mirziyoyev administration's textile-industrialization program, launched from 2017 onward, combined mandatory domestic processing requirements, tax holidays and subsidized credit in special economic zones (Navoi, Angren, Jizzakh), and preferential CIS/EAEU market access. These policies created the supply-side conditions for apparel export growth. On the demand side, Russia's post-2014 and post-2022 sanctions environment — which drove Western brands from the Russian market and created an import-substitution vacuum — provided a large and growing market for Uzbek manufactured garments.

The economics of the shift remain instructive regardless of the boycott's causal role. Raw cotton fiber typically trades at USD 1.50–USD 2.50 per kilogram. Cotton yarn, the simplest processed form, trades at USD 3–USD 5 per kilogram — roughly double the fiber value. Knitted fabric adds another increment, and finished knitted garments can command USD 10–USD 30 per kilogram at FOB, depending on quality and category. Even allowing for the costs of machinery, energy, labour, and logistics, the value-capture logic of domestic processing is compelling: every stage of processing retained within Uzbekistan captures a margin that would otherwise accrue to a spinner in Bangladesh, a knitter in China, or a garment factory in Turkey.

The Mirziyoyev administration's textile-industrialisation program — SEZs, tax incentives, processing mandates — was conceived as an affirmative development strategy. The boycott, by stigmatizing Uzbek cotton in global markets, may have reinforced the government's commitment to this strategy, but the primary drivers of the apparel export surge were industrial policy and Russian market demand. The two forces were broadly aligned: the boycott discouraged raw-cotton dependence, and industrial policy built the processing infrastructure to move up the value chain.

5.2. Comparative Perspectives: Bangladesh, Vietnam, Cambodia, Turkey

Uzbekistan's textile trajectory invites comparison with the classic cases of apparel-led industrialization. Each offers a different template against which Uzbekistan's path can be evaluated.

Bangladesh is the canonical case: a country with negligible cotton production that built a USD 45-billion apparel export industry on imported fabric, low wages, and preferential market access (the Multi-Fibre Arrangement quotas and, later, EU Everything But Arms preferences). The Bangladesh model demonstrates that apparel industrialization does not require a domestic raw-material base — but it also demonstrates the vulnerabilities of an industry concentrated in low-value cut-make-trim (CMT) production with limited backward linkages (Rahman, 2021). Uzbekistan's advantage over Bangladesh is precisely the

backward linkage: domestic cotton supply, if priced competitively, reduces the foreign-exchange cost of imported inputs and shortens supply chains.

Vietnam represents a more sophisticated model: apparel exports of USD 35+ billion, supported by a growing domestic textile-mill sector, foreign direct investment (principally from South Korea, Taiwan, and China), and preferential access to the US, EU, and CPTPP markets (Goto, 2020). Vietnam's upgrading path — from CMT to free-on-board (FOB) manufacturing to original design manufacturing (ODM) — is the trajectory Uzbekistan aspires to but has not yet begun.

Cambodia offers a cautionary parallel: rapid apparel growth driven by preferential EU access (Everything But Arms), concentrated in basic knitted and woven garments, with a near-total dependency on Chinese-owned factories and imported Chinese fabric. Cambodia's apparel sector employs 800,000 workers but captures limited domestic value added — and its dependence on EU preferences was exposed when the EU partially withdrew EBA benefits in 2020 over human-rights concerns (Human Rights Watch, 2021).

Turkey is the most relevant comparator for Uzbekistan's aspirations. Turkey built a vertically integrated textile and apparel industry — from cotton cultivation through spinning, weaving, knitting, dyeing, and finishing to finished garments — that competes on quality, speed, and proximity to the European market rather than on price alone. Turkish firms, notably *Akkon*, *Eren*, and *Yeşim*, have been among the largest investors in Uzbekistan's textile SEZs, transferring both capital and know-how (UzTextileProm, 2022).

Uzbekistan's current position most closely resembles Bangladesh circa 1995 or Cambodia circa 2005: rapid growth in basic knitwear, heavy dependence on a single export market, limited domestic value addition beyond assembly, and a business environment dominated by foreign investors. Whether it follows the Bangladesh trajectory (continued growth without significant upgrading), the Cambodian trajectory (stagnation when preferences erode), or the Turkish trajectory (vertical integration and quality upgrading) depends on policy choices yet to be made.

5.3. Russia Dependency: The Concentration Risk

The 61% Russia share of knitted apparel exports is the most significant structural vulnerability identified in this analysis. It is, at once, the engine of Uzbekistan's apparel growth and its principal risk factor.

The risk has multiple dimensions. First, **demand risk**: Russian consumer purchasing power is sensitive to oil prices, exchange-rate volatility, and sanctions-driven macroeconomic disruption. A Russian recession would directly reduce demand for Uzbek apparel, and the 2014–2015 Russian crisis — which saw apparel imports contract sharply — demonstrates that such contractions can be sudden and severe.

Second, **sanctions risk**: the intensification of Western financial sanctions on Russia after February 2022 has complicated trade settlement, shipping, and insurance for all Russian counterparties. While Uzbek apparel is not itself sanctioned, the financial intermediaries and logistics channels that handle Uzbek–Russian trade may face compliance pressures that raise costs or disrupt flows. The secondary-sanctions risk — the possibility that US or EU authorities target non-Russian entities facilitating Russia-bound trade — is currently low for apparel but not zero, particularly if Uzbek garments are perceived as a sanctions-circumvention channel for re-exported Western materials.

Third, **bargaining-power risk**: a buyer that accounts for 61% of a supplier's exports enjoys structural leverage over pricing and contract terms. If Russian retailers consolidate or if a Russian government policy of import substitution extends to apparel, Uzbek manufacturers may face downward price pressure that compresses already-thin margins.

Diversification is the obvious risk-mitigation strategy, but it is easier prescribed than achieved. Uzbekistan's geographic position — doubly landlocked, with the nearest seaport over 3,000 km away — makes it uncompetitive for sea-freight markets (Europe, North America) relative to coastal Asian pro-

ducers. Air freight is viable only for high-value, time-sensitive orders. The overland routes to China, South Asia, and the Middle East remain underdeveloped. The EAEU/CIS market is, for now, Uzbekistan's natural and perhaps only viable mass market for apparel. Recognizing this constraint is essential to any realistic assessment.

5.4. Quality Trajectory: Stuck in the Low-Value Segment?

Uzbekistan's 88% knitted-apparel share and low unit values place it in the low-value, high-volume segment of the global apparel market. This is the segment with the lowest barriers to entry — and the most intense competition. Bangladesh, Cambodia, Myanmar, and a dozen African and South Asian producers compete for the same basic knitwear orders, and the primary basis of competition is price.

Moving up the value chain requires progress on several fronts. Product complexity (woven garments, outerwear, tailored clothing) requires investment in different machinery and workforce skills. Design and branding capability requires a domestic fashion-education infrastructure and proximity to consumer markets. Speed-to-market (the "fast fashion" model) requires efficient logistics, responsive production planning, and integration with retailers' supply-chain management systems. Turkey has achieved this for the European market; Uzbekistan's distance from major consumer markets makes the analogous play for Europe difficult, though the Russian and Central Asian markets may offer a nearer-term opportunity for faster-turnaround, higher-value production.

The encouraging sign is that HS 62 (woven apparel) exports, while small in absolute terms, are growing rapidly — from USD 31 million in 2019 to USD 145 million in 2023, a 4.7-fold increase. If this trajectory continues, it would indicate a gradual diversification of capability beyond knitwear. Monitoring the HS 61/HS 62 ratio in subsequent years will be a useful indicator of whether upgrading is occurring.

5.5. The Aral Sea Dimension: An Environmental Co-Benefit?

The shift from raw-cotton exports to garment manufacturing carries an underappreciated environmental dimension. Cotton cultivation is among the most water-intensive agricultural activities, and Uzbekistan's cotton sector was the primary driver of the Aral Sea's desiccation. Garment manufacturing — cutting, sewing, and finishing fabric — consumes negligible water by comparison. To the extent that domestic processing requirements reduce the hectarage devoted to cotton (by reducing the export demand for raw fiber) or incentivize more efficient water use (through the higher value-added per unit of cotton consumed), the industrialization of Uzbekistan's textile sector may yield environmental co-benefits.

The empirical evidence on this point is, however, thin. Cotton hectarage in Uzbekistan has declined modestly since the late Soviet period — from roughly 1.8 million hectares in the 1980s to approximately 1.1 million hectares in the 2020s (FAO, 2023) — but the decline predates the apparel-export surge and is driven more by crop-diversification policies and water-availability constraints than by downstream processing dynamics. Furthermore, if garment manufacturing expands the total demand for Uzbek cotton (by creating a captive domestic market for fiber), it could perversely *increase* the pressure to maintain or expand cotton cultivation. The net environmental effect of the textile transformation is ambiguous and merits dedicated investigation.

5.6. The EAEU Factor and Trade Preferences

How much of Uzbekistan's apparel growth is attributable to preferential market access? The CIS free-trade area, to which Uzbekistan is a party, provides for duty-free trade in most manufactured goods among member states. Russia's MFN tariff on apparel imports from non-CIS suppliers ranges from approximately 10% to 20%, depending on the product category. A 15-percentage-point tariff preference is a substantial competitive advantage — it means that an Uzbek t-shirt can be 15% more expensive at the factory gate than a Bangladeshi equivalent and still land in Moscow at the same price.

This preference is a structural asset that Uzbekistan's competitors cannot easily replicate. Bangladesh does not have a free-trade agreement with the EAEU. Vietnam's FTA with the EAEU (effective 2016) provides phased tariff reductions but does not yet match the CIS duty-free terms for all apparel categories. China's apparel exports to Russia face the full MFN tariff. The preference is not time-limited in the way that the EU's EBA preferences for Cambodia are, making it a durable competitive advantage — provided the CIS/EAEU trade architecture remains intact.

The policy implication is that Uzbekistan's apparel competitiveness is, at present, substantially preference-dependent. Whether its industry could compete in non-CIS markets without tariff preferences is an open question, and one that should inform strategy if market diversification is a long-term objective.

6. Limitations

This analysis is subject to several limitations that qualify its conclusions. First, the Comtrade data carry a legacyEstimationFlag of 4 for most Uzbek trade flows, indicating that values are estimated from partner-country mirror data rather than derived from Uzbekistan's own customs declarations. Mirror-data estimation can introduce systematic biases — particularly the CIF/FOB discrepancy — and is sensitive to partner-country reporting quality. The aggregate patterns documented here are likely robust to these biases (the direction and magnitude of the apparel surge are too large to be artifacts of measurement error), but point estimates should be treated as approximations.

Second, the 2024 data are provisional and incomplete. The 33% apparent decline in apparel exports may be substantially revised in subsequent data releases. All conclusions that reference 2024 values are accordingly tentative.

Third, partner-country breakdowns were available only for HS 61 (knitted apparel). While HS 61 accounts for 88% of apparel exports, the partner structure of HS 62 (woven apparel) exports — potentially more diversified, given the different product categories and end-markets — remains unknown. Similarly, the partner breakdown for HS 52 cotton exports after the boycott's termination would illuminate whether traditional cotton buyers (China, Bangladesh, Turkey) returned to the Uzbek market, but these data were not available at the time of extraction.

Fourth, the absence of reliable unit-quantity data precludes rigorous unit-value analysis and product-mix decomposition. Disaggregated HS 4-digit or 6-digit data — resolving HS 61 and HS 62 into specific product categories (t-shirts, sweaters, trousers, etc.) — would substantially enrich the analysis but exceeded the scope of the current data extraction.

Fifth, this paper relies exclusively on trade data. Production, employment, investment, and firm-level data from Uzbek statistical agencies and enterprise surveys would be necessary to assess whether the export surge reflects genuine domestic industrial deepening or, alternatively, an enclave economy in which foreign-owned factories in SEZs process imported inputs for export with limited domestic linkages. The trade data can document the shift but cannot, on their own, establish its developmental quality.

7. Conclusion

Between 2019 and 2023, Uzbekistan's textile sector underwent a structural transformation that is rare in its speed and unambiguous in its direction. Over four years, apparel exports grew 3.5-fold to reach USD 1.25 billion, the apparel-to-cotton export ratio climbed from 0.27 to 0.74, and Uzbekistan established itself as a meaningful exporter of manufactured garments — predominantly knitted, predominantly destined for Russia and the CIS — in a market segment it had barely occupied five years earlier.

The international cotton boycott, sustained from 2008 to 2022, coincided with this transformation but was not its primary driver. The Cotton Campaign pledge covered all products manufactured with Uzbek cotton — including processed textiles — ruling out the hypothesis that the boycott created a pro-

cessing loophole. The apparel export surge is better explained by the Mirziyoyev government's deliberate industrial-policy push — SEZs, tax incentives, mandatory domestic processing — combined with strong demand from Russia and the CIS, where preferential trade access and the post-sanctions retreat of Western brands created a large market for basic and mid-range garments. External pressure and domestic strategy were broadly aligned: the boycott discouraged raw-cotton dependence, and industrial policy built the processing infrastructure to move up the value chain.

The transformation is, however, incomplete and fragile. Three structural vulnerabilities demand attention from policymakers and investors. The first is Russia dependency: with 61% of knitted apparel exports destined for a single market, Uzbekistan's textile sector is exposed to Russian macroeconomic volatility, sanctions-related trade disruption, and buyer concentration risk. The second is the low-value trap: Uzbekistan's apparel exports are concentrated in basic knitted garments with low unit values, a segment in which competition from Bangladesh, Cambodia, and other low-cost producers is intense and the scope for margin expansion is limited. The third is data opacity: the provisional 2024 export figures, the reliance on mirror data, and the lack of disaggregated product-level trade statistics make it difficult to monitor the sector's trajectory with the precision that the stakes warrant.

The policy agenda that follows from this analysis includes: (a) active market diversification, recognising that geographic and logistical constraints make this an incremental rather than immediate objective; (b) investment in woven-garment capability, finishing and dyeing infrastructure, and design capacity to enable movement along the value chain; (c) continued ILO monitoring and labour-standards compliance to preserve and extend the reputational recovery achieved through the boycott's termination; and (d) improved trade-data reporting by Uzbek statistical authorities to reduce reliance on mirror-data estimation and enable more timely and granular monitoring of sectoral performance.

Uzbekistan's textile transformation is a case study in the limits of simple causal attribution in trade policy analysis. While the cotton boycott created a stigmatizing environment that discouraged raw-cotton dependence, the primary drivers of the shift toward apparel exports were deliberate industrial policy and Russian market demand. A campaign designed to end forced labor coincided with — but did not single-handedly cause — the country's transition to manufactured exports. Whether that transition matures into sustained industrial upgrading or stalls at the low-value assembly stage depends on the policy choices of the next five years. The data, for now, show a country moving in a direction that few observers of the cotton boycott would have predicted.

Statements

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