Observatoire ARGA

Report on Sanctions and Compliance for 2025

GLOBAL SUPPLY CHAINS IN THE ERA OF SANCTIONS PRESSURE

Geopolitics of Logistics, Route Reconfiguration, "Grey" Growth Nodes and the New Architecture of Risk

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Table of Contents

Executive Summary

Global supply chains are undergoing the largest structural shift since the establishment of the WTO, the container revolution, and the era of open markets. If the previous 30 years were marked by integration and the removal of barriers, the current stage is defined by deliberate de-globalization, managed fragmentation, and the creation of parallel trade ecosystems.

Supply chains are no longer a purely technical or logistical phenomenon — they have become a political category. A container, a cargo aircraft, a customs declaration, or an insurance contract today carries the same political meaning as diplomacy or sanctions. International trade is no longer neutral — every route now signifies a political stance.

The driving factors of the new Supply Chains 3.0 system:

1. **Sanctions and geoeconomic pressure**

   The restriction of technology, electronics, chips, and natural resources has become a key instrument of foreign policy.

   A single decision by a regulator (OFAC, the European Commission, BIS) can change global trade flows within 24 hours and halt multibillion-dollar supply chains.

2. **Growth of grey and semi-transparent routes**

   Parallel imports are no longer an exception — they have become a stable model.

   The UAE, Turkey, Kazakhstan, Georgia, Hong Kong, and Singapore are turning into the logistical "brains" of the new world system, enabling repackaging, re-export, simplified documentation schemes, and masking of product origin.

3. **Politicization of logistics hubs**

   Ports, special economic zones, warehouse hubs, and air corridors are becoming strategic instruments of influence — they determine access to import substitution, technology, raw materials, and defense components.

   Logistics brokers and customs intermediaries are gaining importance comparable to international banks and clearing systems.

4. **Digital supply-chain control and real-time regulation**

   AI scanning of declarations, IoT tags on containers, blockchain certification, automated export control — oversight is shifting from diplomacy to technological infrastructure.

   Legal decisions no longer wait for ratification — they are executed automatically by the system.

5. **Formation of parallel trade ecosystems**

   The world is moving toward the emergence of two or three distinct supply-chain blocs — Western-controlled routes, Asian routes, and neutral/grey corridors.

Companies are forced to build multilayered logistics networks in which the same product may pass through several countries, legal statuses, and financial schemes.

The ARGA Observatory report:

• maps the new trade corridors,

• identifies grey and parallel nodes,

• models sanctions risk,

• analyzes the impact of logistics on security, finance, and politics,

• provides recommendations for regulators, businesses, and the financial sector.

1. Methodology

The study is based on an interdisciplinary approach combining economic analysis, sanctions law, digital analytics, and field data on logistics. The report relies on several layers of source verification, which makes it possible to reconstruct the real structure of global supply chains and identify shadow routes.

The main methodological components include:

— **Analysis of global trade and logistics flows** using UN Comtrade, Eurostat, WITS, OECD Trade Statistics, enabling the tracking of import/re-export rotations by country, product category, HS codes, and abnormal spikes in deliveries;

— **Examination of sanctions and export control frameworks** of the EU, USA, Japan, and South Korea, including EAR rules, OFAC SDN listings, the EU Dual-Use Regulation, as well as secondary sanctions mechanisms affecting third-country intermediaries;

— **OSINT mapping of routes**, based on the analysis of maritime and railway tracks, port transshipment, intersections of aviation protocols, and re-export invoices, allowing identification of repackaging chains and circumvention corridors;

— **Research on "grey," transit, and repackaging hubs**, including the UAE, Turkey, Kazakhstan, Kyrgyzstan, Georgia, Armenia, Serbia, Singapore, and Hong Kong — with a focus on the re-export of electronics, automotive components, IT equipment, and dual-use parts;

— **Case analysis of parallel imports (2022–2025)** documenting real sanction-evasion routes such as China → Turkey → Georgia → Russia; UAE → Kazakhstan → Russia; Singapore → Serbia → Belarus, and others;

— **Study of digital monitoring platforms** for supply chains, including blockchain-based tracking systems, AI logistics algorithms, satellite AIS data, and customs API platforms;

— **ARGA Observatory materials** on shadow and mixed logistics contours, including FININT transaction analysis, intermediary risk-scoring, and mapping of high-risk deliveries.

The methodology combines quantitative analysis of trade data with qualitative case studies, enabling not only the identification of supply routes but also the interpretation of their geopolitical logic, economic incentives, and risk profiles.

2. Introduction: The New Geopolitics of Logistics

Global supply chains — once perceived as a technocratic element of the world economy — have, in the 2020s, become a central instrument of international politics and strategic competition. Control over logistics flows is no longer a matter of infrastructure but a mechanism of geopolitical influence, economic pressure, and sanctions architecture. States, corporations, and even private brokerage networks now seek to control transport corridors in the same way that oil, gas, and maritime straits were controlled in the 20th century.

Modern supply chains simultaneously perform several functions:

— **An instrument of foreign policy**, enabling states to restrict access to technology, raw materials, and financing, redirect trade flows, and influence national economic strategies;

— **A mechanism of economic security**, ensuring the resilience of domestic industries, critical infrastructure, and defense sectors;

— **A platform for sanctions enforcement**, where logistics is used to block deliveries, freeze export segments, and pressure state and private actors;

— **A regulatory channel of digital governance**, through batch tracking, product tagging, export licenses, AI route monitoring, and customs analytics;

— **A tool of global power redistribution**, where influence derives not only from resources but also from the ability to control how those resources move.

Thus, logistics has ceased to be auxiliary infrastructure and has transformed into a political-economic architecture of power. The influence of states is now measured not only by territory, population, and military assets but also by access to ports, railway corridors, transshipment hubs, “grey” transit zones, and parallel-import routes. Whoever controls supply chains controls the effects of sanctions, the direction of capital flows, and the pace of technological development.

3. Architecture of Global Supply Chains in 2025

Modern global logistics systems—shaped by sanctions escalation and the restructuring of world trade—are divided into four functional layers. Each layer differs in transparency, compliance methods, depth of digital control, transaction speed, and resilience to sanctions pressure. Their interaction defines the economic geography of 2025.

3.1. “White” Routes (Fully Compliant Supply Chains)

White supply chains are officially certified, fully traceable logistics circuits operating in accordance with the regulations of the EU, USA, UK, Japan, South Korea, and other highly regulated jurisdictions.

Their key characteristics include:

— strict control of the origin of goods and components (Rules of Origin, HS codes, export certificates);

— real-time AI and blockchain monitoring, including IoT tagging of containers;

— mandatory compliance screening at the level of banks and transport operators (OFAC, FinCEN, EU AML);

— refusal of any deal involving even minimal sanctions risk, regardless of proven violations.

These are the most expensive but also the most stable routes, relying on official corridors (EU–USA–Japan–Korea–Singapore) and serving as the benchmark for detecting deviations.

3.2. "Grey" Routes (Re-Routing & Re-Packaging Model)

Grey supply chains represent the adaptive zone of global trade under sanctions pressure. They are used for re-export, repackaging, changing the declared country of origin, and minimizing regulatory visibility.

Key features include:

— transit through third countries with soft export controls (UAE, Turkey, China, Kazakhstan, Kyrgyzstan, Serbia);

— re-labelling → re-packing → re-export as standard practice;

— use of mixed payment systems: SWIFT + fintech + cryptocurrencies;

— creation of shell companies and short-lived SPVs as intermediaries.

Grey routes became the backbone of parallel imports in 2022–2025 and increased shadow foreign trade in Eurasia by 40–70% in certain categories.

3.3. "Black" Routes (Sanctions Evasion & Illicit Trade)

Black routes constitute the lower tier of the logistics ecosystem, involving smuggling, illicit circulation of dual-use goods, export-control evasion, and criminal transport networks.

Characteristic elements include:

— movement of sanctioned goods through illegal corridors in the Caucasus, Central Asia, and the Middle East;

— participation of criminal groups, PMCs, and hybrid security services;

— payments via USDT, P2P-OTC channels, and cash-outs in offshore zones;

— parallel logistics not reflected in official customs statistics.

Black routes are most prevalent in electronics, microchips, chemicals, drones, pharmaceuticals, and rare-earth metals.

3.4. Digital Routes (Fintech + Blockchain Supply Chains)

A new layer emerges: logistics without physical movement, where what circulates is not the product itself but the rights to it, documentation, and payments. These routes rely on digital control mechanisms and anonymized financial settlements.

Key features:

— cross-border trade without classical physical transportation;

— tokenization of warehouse stock, export licenses, and contracts;

— cryptocurrency payments and fintech masking of product origin;

— use of blockchain warehouses, NFT-embedded contracts, and smart documentation.

Digital routes are becoming the foundation of Supply Chain 4.0, where the speed of transactions exceeds the speed of physical movement of goods.

4. Geography of Key Logistics Hubs

Below is an expanded overview of five macro-regional centers that shape the architecture of global supply chains in the era of sanctions turbulence. Each performs a specific strategic function — from repackaging electronics to facilitating cryptocurrency settlements and re-export transit corridors.

4.1. United Arab Emirates (UAE)

The UAE has become the largest logistics hub in Eurasia and the main redistribution center for sanction-sensitive goods. Dubai and Abu Dhabi simultaneously support official commercial channels and grey parallel routes, enabling shipments to change their declared country of origin and legal status.

Key infrastructure elements:

— re-export of electronics, machinery, IT equipment and chips without direct traceability to the manufacturer;

— a network of free economic zones (JAFZA, DMCC, DAFZA) where company registration takes 1–3 days;

— major OTC cryptocurrency hubs enabling USDT-based payments for shipments without banking traces;

— trade documentation centers specializing in re-issuing invoices and certificates of origin.

The UAE is the heart of global parallel logistics, linking supply flows from China, Turkey, South Korea, and the EU.

4.2. Turkey

Turkey is a critical junction between Europe and Asia, through which major container and trucking arteries run. It serves as both a bridge and a filter between the EU and countries with restricted access to Western markets.

Three defining components:

— re-export and repackaging of dual-use goods (electronics, optics, industrial equipment);

— ports of Istanbul, Mersin, Samsun serving as reloading and container certification hubs;

— local brokerage companies reselling goods into the EAEU, CIS, the Caucasus, and Central Asia.

Turkey maintains a balanced neutrality, making it a universal channel for circumventing sanctions restrictions.

4.3. Kazakhstan • Kyrgyzstan • Armenia

These states form a parallel logistics triangle within the Eurasian Economic Union (EAEU), enabling goods to pass through the union's customs regime and bypass direct control at external borders.

Characteristic features:

— imports from the EU/Asia → onward shipment to Russia and other sanctioned jurisdictions without direct records;

— a system of "stretch routes": goods undergo several re-issuances (invoice-splitting, multi-routing);

— low customs transparency, frequent change of importers, short-term companies;

— internal hubs: Almaty, Bishkek, Yerevan.

This route became central to parallel imports since 2022, supporting a significant share of re-exports of machinery, spare parts, freight vehicles, and electronics.

4.4. Georgia

Georgia is a unique hybrid of maritime, land, and digital logistics, deeply integrated into shadow trade schemes and fintech operations. The ports of Batumi and Poti serve as container transshipment points connecting the EU, Turkey, Russia, Central Asia, and the Middle East.

Key elements:

— warehouse-transit zones handling re-export of electronics, auto parts, and IT goods;

— digital logistics + crypto-financing of deals (USDT corridors → EU/UAE/Turkey);

— a growing market of intermediaries arranging transit via foreign-trade companies.

Georgia has become a structural component of the global logistics reset, combining physical and digital supply routes.

4.5. China and Southeast Asia

China is the world's manufacturing base, while Southeast Asia functions as a rapid redistribution mechanism. Almost all supply chains for electronics, energy components, chemicals, and machinery pass through these regions.

Regional characteristics:

— mega-clusters of production (Guangdong, Zhejiang, Shenzhen, Shanghai);

— high-speed chains of export → repackaging → re-export;

— key logistics gateways: Hong Kong, Singapore, Malaysia, Vietnam;

— assembly and relabeling hubs for goods before shipment to post-sanction destinations.

This is where a large share of global parallel import originates.

5. Actors of Logistics Geopolitics

Global supply chains are no longer controlled solely by states or traditional transportation corporations. In a sanctions-driven 3.0 economy, logistics has become a multi-node system in which autonomous, competing and sometimes conflicting actor groups operate. They construct parallel routes, mask the origin of goods, use crypto-financing, and influence international trade.

Below are four key categories of actors — from brokers to crypto networks — and the mechanisms through which they shape the new geopolitics of logistics.

5.1. Logistics Brokers

These are the primary drivers of "grey logistics." Brokers manage real-time rerouting, distribute sanctions risks, adapt documentary chains, and maintain supply continuity even under trade blockades.

Functions and mechanisms of influence:

— designing bypass supply schemes through the UAE, Turkey, Kazakhstan, Georgia;

— purchasing goods in third countries followed by repackaging and altering certificates of origin;

— using short-life companies to break traceability;

— operating parallel import channels for electronics, machinery, chips, marine components, and dual-use equipment;

— managing transit schemes such as:

"China → UAE → Caucasus/Central Asia → Russia/Iran/Belarus."

In essence, brokers represent a new operational power in logistics — one capable of replacing classical institutions of trade.

5.2. Corporate Groups

Large capital is no longer dependent on state-controlled transport corridors. Corporations are building their own logistics chains, combining maritime shipping, railway corridors, digital supply tracking, and crypto-based settlements.

Key features:

— creating closed transport channels for corporate exports and commodity contracts;

— integrating logistics with fintech (USDT-based supply financing, escrow wallets, tokenized contracts);

— proprietary routes through offshore jurisdictions, SEZs and FTZs;

— private compliance centers capable of automating supplier risk-scoring.

Corporate networks are becoming quasi-state actors, shaping the direction of international commodity flows.

5.3. State Structures

States are reclaiming control over logistics — not through monopoly, but through regulatory governance. Sanctions, export control, transport insurance, customs filtering, and certification of origin have become strategic instruments.

Roles of the state:

— managing export control, licensing, and risk-based customs;

— exerting political pressure on suppliers and blocking shipments;

— creating sanction-compliant corridors and "white routes" accessible only to compliant importers;

— building barriers for competitors at the logistics level (regulatory geopolitics).

The state becomes the arbiter of access to the global market.

5.4. Fintech and Crypto Networks

The financial infrastructure of supply chains is no longer limited to SWIFT and bank letters of credit. In the shadow segments of electronics, equipment, and raw material flows, payments are increasingly processed through digital channels.

Functions of crypto networks:

— paying for imported batches via USDT/USDC with subsequent cash-out in logistics hubs;

— concealing financial traces through OTC desks, P2P platforms, and custodial-free exchangers;

— “breaking” banking traceability in shipments of dual-use goods;

— integrating cryptocurrencies into the supply chain: delivery + instant settlement + reissuance of documents.

Crypto networks have become the invisible financial bloodstream of logistics, enabling circulation where banks are disconnected by sanctions.

6. Case Studies

Case 1 — Re-export of Electronics via the Caucasus Corridor (an anonymized case)

ARGA Observatory received a request from an export manager who had worked at a Dubai trading company. He reported that after the introduction of sanctions, the company received an unusual contract for supplying microprocessors and industrial server equipment through an intermediary in Armenia. According to the documents, the goods were intended for local IT projects, but the client privately admitted to researchers that within 2–3 weeks the shipments consistently “moved onward” — by road into Russia, sometimes via Georgia.

The employee stated that his role was formally legal — handling certificates, coordinating with the warehouse, receiving invoices. But after a few months he began to notice a recurring pattern:

• certificates of origin were changed twice,

• the listed end recipient never matched the actual one,

• payments were made in cryptocurrency via a third-party broker.

When he asked management for clarification, he was subtly warned that the contract was “sensitive” and that he should not investigate further. After processing another batch of goods, he left the company and contacted researchers under a guarantee of anonymity.

Case 2 — A Logistics Quasi-Banking Scheme (case involving a former operator)

ARGA was approached by a logistics worker from Tbilisi who had worked in a structure combining warehouse services with shadow financial operations. He reported that the company effectively functioned as a non-bank clearing center:

Officially, it handled storage and transit of household appliances, auto parts, and electronics. Unofficially, it facilitated cross-settlement mechanisms between dozens of companies in Kazakhstan, Russia, Turkey, and the UAE.

Payments often came not from the goods' recipient but from a completely unrelated party — a crypto wallet registered to a Philippine national. The employee admitted that after nine months he no longer understood who he was actually working for:

• logistics staff knew only the cargo route,

• the finance department knew only crypto flows,

• the legal department saw only a fragment of the documents.

When a Georgian bank requested an explanation regarding the origin of funds, the company initiated a wave of "mutual-agreement" dismissals. The source transferred to ARGA a set of communications and contracts — identifying details removed.

Case 3 — A Multi-Layered Scheme to Evade Export Control (an anonymized account from an Asian supplier)

This case entered ARGA's monitoring after an attorney representing an Asian client reported that the client's company had been used in an international re-export scheme involving high-tech equipment.

According to the documentation, the company purchased metal-processing machinery and laboratory microscopes for universities in Southeast Asia. However, after shipment the goods "migrated" — first to a warehouse in Malaysia, then through a shell company in Kazakhstan, and ultimately the final buyers turned out to be Russian entities closely linked to the defense industry.

The source was warned that if he raised the issue publicly, he could face criminal charges for violating contractual obligations or for "commercial espionage."

Based on the provided materials, ARGA reconstructed the chain:

• the "university" was merely a cover story,

• four changes of the listed recipient,

• two sets of documents — real and export-compliance,

• compliance checks performed for paperwork purposes only, not for actual screening.

7. Global Risks

International logistics is not only an economic system but also an infrastructure of security, sovereignty, and political stability. The transformation of supply chains under sanctions pressure has created a new set of risks already affecting global markets, financial regulation, defense technologies, and international law. The key structural threats are outlined below.

7.1. Weakening of Export Control and Technology Traceability

Sanctions have led to the emergence of complex multi-stage routes in which goods may change jurisdiction, certificates of origin, and end-users five to seven times.

• even highly sensitive products (chips, optics, machinery) slip out of regulatory control,

• re-exporting countries become “grey buffer zones,”

• state regulators lose effective oversight over dual-use goods.

This means: the stricter the control, the more inventive the evasion schemes become — indicating that classical export-control mechanisms require full modernization.

7.2. Politicization of Logistics and the Rise of Geoeconomic Pressure

Supply routes have become tools of foreign policy.

• access to ports, customs corridors, and warehouses becomes a mechanism of influence,

• states trade not goods but transit access,

• logistics infrastructure becomes part of diplomatic strategy.

In this model, a trade route is equivalent to a strategic resource. Whoever controls it can influence allies, adversaries, and multinational corporations.

7.3. Institutionalization of the “Grey Economy”

Parallel imports have ceased to be a temporary adaptation — they have evolved into a stable trading system.

• grey hubs are legalized through tax incentives and offshore statuses,

• OTC financing becomes standard practice,

• the market operates on a risk premium: the higher the sanctions exposure, the more profitable the chain.

The longer this system exists, the less likely it is to de-escalate. Grey exports become a structural feature, not an anomaly.

7.4. Infiltration of Criminal Networks into Official Logistics

The boundaries between legal and illegal trade are increasingly blurred.

• criminal operators integrate as "logistics service providers,"

• black routes are disguised as grey ones,

• warehouses, brokers, and carriers simultaneously serve legal and illicit clients.

The result is the emergence of hybrid logistics corporations capable of fulfilling government contracts while also servicing sanctions-evasion schemes.

7.5. Sanctions and Legal Risks for EU and US Companies

Companies operating with transit zones and third countries risk being drawn into schemes that appear formally legal but in fact violate export-control regimes.

• exposure to secondary sanctions,

• restricted access to the banking system,

• blocked payments and asset freezes,

• legal liability for inadvertent participation.

In effect, international business is shifting into an environment where a compliance mistake equals an international legal conflict.

8. Forecast 2025–2027

1. Tightening of EU Export Control and Monitoring of Third Countries

In the coming years, the EU will increasingly shift its focus from direct export control to monitoring re-export and transit through third countries. This implies:

• strengthened due diligence for transactions involving the UAE, Türkiye, Kazakhstan, Armenia, Georgia, and Southeast Asian states;

• the emergence of "watch lists" for jurisdictions and specific logistics operators;

• an increase in requests to national customs authorities and banks for detailed information on routes, end-users, and ownership structures.

Export control will gradually evolve into a system of continuous monitoring of logistics corridors, rather than just lists of goods and recipients.

2. Expansion of Logistics Sanctions

Sanctions will increasingly target not only specific supplier companies but also:

• ports, logistics clusters, freight operators,

• insurance and certification bodies,

• national ship and aircraft registries.

This will lead to the emergence of entire "sanctioned zones" — regions and corridors whose involvement will automatically be considered high-risk. Logistics itself will become a direct object of sanctions regulation, not merely a conduit for sanctioned goods.

3. Automation of Supply Chains via AI

Both state regulators and major corporations will deploy AI systems for:

• analyzing anomalies in routes and documentation,

• correlating cargo, recipient, and financial-transaction data,

• detecting repackaging schemes and fictitious end-users.

Artificial intelligence will become a standard tool of sanctions and export control rather than an experimental addition. This will speed up the detection of evasion schemes but will also increase the number of false positives and impose additional burdens on corporate compliance teams.

4. Growth of Digital Logistics and the Fintech Layer around Supply Chains

The shift from classical logistics to hybrid models will accelerate:

• transactions, payments, insurance, and routing will become increasingly digitized,

• fintech platforms will begin offering "logistics as a service" with built-in compliance,

• specialized digital platforms for parallel imports and grey routes will emerge.

Digital logistics will create a more transparent layer for regulators, while simultaneously enabling new methods of masking the origin of goods through complex fintech configurations.

5. Emergence of New "Grey" Hubs in Africa and Latin America

As pressure increases on traditional grey hubs (the UAE, Türkiye, the Caucasus, Central Asia), part of the trade flows will shift to:

• West and East Africa (port clusters, SEZs, hubs with low regulatory oversight),

• Latin America (logistics and financial centers geared toward multi-regional trade).

These regions will become the next generation of repackaging jurisdictions, combining weak institutional control, high demand for capital, and the capacity to service multiple directions at once — Eurasia, Europe, North America, and Asia.

Taken together, this means that by 2027 the global logistics system will become even more multi-layered: formally more regulated, but in practice more complex, asymmetric, and susceptible to both politicization and criminal infiltration.

9. Recommendations of ARGA Observatory

For International Bodies

1. Establishing a Global Logistics Risk Map

It is recommended to create a multi-layered Risk Map covering ports, warehousing hubs, customs crossings, fintech providers, shipping clusters, and "grey" distribution centers. Such a map should be updated in near real time and integrate data from customs authorities, FIUs, OFAC/EU Lists, as well as indicators of elevated parallel-import and re-export activity.

2. Implementing Digital Monitoring of Supply Chains

International institutions should shift from declarative oversight to operational monitoring, where every supply chain is accompanied by a digital trace:

origin → transit → finance → end-user → beneficial ownership structure.

Preferred tools include: AI-based analysis, blockchain reporting, risk-scoring algorithms, IoT cargo tracking, and a unified GTM-Compliance standard.

3. Tracking Third-Country Intermediaries

ARGA Observatory recommends creating a global registry of high-risk logistics intermediaries, including:

• brokers involved in re-export schemes,

• repackaging companies,

• warehousing zones with weak customs control,

• fintech and crypto providers operating in parallel with physical routes.

This instrument should function similarly to the OFAC SDN List, but focused not on assets — on logistics infrastructure.

For EU and US Regulators

1. Tightening Re-Export Controls via Third Countries

It is recommended to introduce a reverse-verification mechanism in which the exporter is responsible not only for the initial contract but also for the subsequent movement of the goods.

Measures include: dynamic due diligence, AI-verified end-use certificates, expanding sensitive-goods lists, and country-specific transit risk metrics.

2. Supervising Fintech Operations in Logistics

Oversight is needed over digital payments and pseudo-banking operations that facilitate supply chains. Special attention should be given to cryptocurrency payments, OTC trading platforms, P2P financing, SCF (supply chain finance), and embedded-payment channels.

It is recommended to integrate AML/CFT screening into customs infrastructure and to involve FinCEN, Europol, and FIUs in monitoring logistics-related transactions.

3. Creating High-Risk Logistics Intermediary Lists

The EU and the US should introduce a Logistics Watchlist that includes companies:

• implicated in the shipment of sanctioned goods,

• involved in multilayer transit schemes,

• connected to offshore transshipment centers,

• participating in digital mechanisms of evasion.

Being listed should obligate corporations to conduct enhanced due diligence and maintain heightened reporting obligations.

For Academia and Research Centers

1. Developing Systematic Research on Global Supply Chains

ARGA Observatory recommends establishing long-term research programs focused on sanctions-driven logistics, parallel imports, real-time supply tracking, and the impact of technological regulation on trade. Priority should be given to empirical case collection and cross-country comparative studies.

2. Analyzing the Impact of Sanctions on Cross-Border Trade

It is necessary to develop methodologies for assessing the resilience of supply chains under sanctions pressure — including substitution routes, speed of reconfiguration, sectoral sensitivity to restrictions, and risks of criminal infiltration and capital redirection.

3. Creating Databases of Routes, Brokers, and Supply Schemes

It is recommended to build open repositories of cases, routes, re-export schemes, and freight chains, including links between physical logistics, fintech operations, crypto platforms, and real corporate structures.

Such databases will become the foundation for the smart cartography of global logistics and will enhance the effectiveness of sanctions enforcement, corporate compliance, and academic research.

10. Conclusion

The transformation of global supply chains is not a minor economic shift, but a restructuring of global power itself.

Under conditions of sanctions pressure, re-export, digital monitoring, and competition for logistics corridors, the management of trade flows becomes a geopolitical instrument — much like control over oil or military force once was.

Modern supply chains have evolved into the nervous system of the global economy — and simultaneously into a mechanism of political influence.

Countries that control logistics infrastructure hubs gain leverage comparable to traditional tools of foreign policy.

Parallel routes, "grey" transport hubs, fintech payments, and cryptocurrency settlements form a secondary contour of global trade — flexible and adaptive, yet highly susceptible to criminal infiltration.

Sanctions and export controls are rewriting the map of global logistics:

- goods move not along the shortest path, but along the least transparent one;
- couriers become intermediaries of geopolitics;
- customs and payment systems are integrated into the architecture of international law faster than intergovernmental treaties can be negotiated.

This new reality requires international regulation comparable in scale to the Bretton Woods institutions — yet adapted to the digital economy, automated monitoring, and transactional mechanisms of the sanctions architecture.

The ARGA Observatory report:

• identifies the systemic transition of global logistics from a linear model to a distributed network,

• maps the key hubs, routes, and intermediaries,

• develops an analytical model of risks and control mechanisms,

• proposes international monitoring tools and governance frameworks.

Control over supply chains is not merely an economic necessity — it is a new layer of global governance.

The analytical foundation presented here enables not only the description of the transformation, but also the development of long-term regulatory mechanisms — from international monitoring to digital tracking protocols that may become the global standards of the future.

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