

# Tallinn Paper – On Assessing the Effect of Sanctions

**A methodological handbook for measuring the impacts of EU sanctions against the Russian Federation**

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# 1. Introduction

Tallinn Paper – On Assessing the Effect of Sanctions is a methodological handbook designed to turn a complex sanctions regime into a tractable measurement problem. Anchored in the European Union’s response to Russia’s full-scale invasion of Ukraine, it offers a structured, replicable architecture for tracking how specific instruments—across trade, finance, investment, technology/dual-use, transport, media, and travel—translate into observable changes in the target’s capacity, incentives, and behaviour. Rather than claiming comprehensive causal attribution for every outcome, the handbook prioritises *what to measure and how to measure it* relative to stated policy objectives.

The analytical backbone is a four-pillar framework—Military, Political, Economic, and Socio-cultural—within which each sanction type is operationalised through concrete indicator menus. The approach is modular: analysts can adapt indicator baskets to data availability while preserving comparability across cases and time. Cross-cutting design rules address time-to-impact (registering lead–lag structures from payments plumbing to stock outcomes) and sender-side costs (EU adjustment and enforcement burdens).

Substantively, the EU’s sanctions regime has evolved through nineteen packages (2022–2025), moving from foundational measures to progressively granular instruments that close loopholes, extend sectoral coverage, and harden enforcement. The handbook situates measurement within that legislative trajectory and aligns indicators to each instrument’s theory of change—for example, pairing energy price-and-volume metrics with maritime service bans, or readiness and maintenance telemetry with dual-use controls. The result is a reusable reference for policymakers, researchers, and regulators seeking transparent, evidence-first assessments of impact and progress toward effectiveness, and a basis for continual recalibration as coalitions, markets, and evasion tactics adapt.

## **2. Sanctions in Theory and Scholarship: A Literature Review on Definitions, Typologies, and Effectiveness**

There is a lot of academic literature on sanctions. This has also created several summarizing articles on different topics related to international sanctions. One of these, *A Literature Review on The Effectiveness of Economic Sanctions* by Pala (2021) is also used in this review. Indeed, academia has tried to measure the impact of sanctions for approximately thirty years. Pape (1997), for example indicates that the use of economic sanctions authorized by the United Nations quadrupled in the 1990s, noting that eight sanctions were authorized by the Security Council between 1991 and 1994, compared to only two in the preceding decades. The chosen literature presented in this short review provides a multi-faceted overview of international economic sanctions, focusing heavily on the methodological challenges inherent in measuring their effectiveness, the repercussions of sanctions imposed on Russia following the 2014 conflict, and their impact on regional economies and key variables. These are also the themes covered below. A full list of articles referenced is presented at the end of this report.

### **2.1 Definitions, Typologies, and Methodology**

Sanctions are broadly defined as foreign policy instruments intended to exert pressure or inflict damage to achieve political goals. They are considered punitive measures taken by a group of countries, a country, or an international organization against nations that mostly undermine international treaties, agreements, and obligations.

Academic debate centres on the purpose of sanctions, revolving around the “punish” versus “comply” narratives. Johan Galtung defined sanctions as actions initiated to either punish receivers by depriving them of some value or to make them comply with certain norms deemed important by the senders. Robert A. Pape’s definition, favouring the “comply” aspect, defines economic sanctions as measures that aim to lower trade to coerce the target government to change its political behaviour. Pape’s taxonomy distinguishes economic sanctions, which seek political change by imposing costs on the economy as a whole, from trade wars (which target economic policies to persuade the target state to agree to more favourable terms of trade) and economic warfare (which seeks to weaken an adversary’s aggregate economic potential to weaken its military capabilities in an arms race or ongoing war).

Sanctions can be categorized using several typologies:

1. **By Sender/Scope:** Sanctions include Unilateral Sanctions (imposed solely by a single entity, for example the U.S. or the EU, often with a precise purpose and target), Plurilateral Sanctions (measures imposed jointly by several entities like the U.S. and the EU), and Multilateral Sanctions, which are international sanctions imposed by the United Nations and are described as having more authority and legitimacy because of the involvement of the entire international community.

2. By Instrument Type: Sanctions are differentiated, first, into Economic Sanctions, which directly affect the target country's economy, encompassing arms embargoes, financial sanctions, aid sanctions, and freezing of assets. Economic sanctions are considered a political intervention in the economy, where national political interests take precedence over economic ones. Functioning as a tool of coercion, the objective is to inflict maximum economic damage to compel the target state to alter its policies in favour of the sender states. And secondly, there are Non-Economic Sanctions, which do not affect the economy, such as diplomatic sanctions, visa restrictions, and interruption of military cooperation. As the economic sanctions are the most well-known and most-analysed, the particularities of non-economic sanctions can be left unnoticed. But there are different non-economic sanctions ranging from diplomatic and political to cultural.
3. By Harshness/Intensity: Sanctions severity can be classified, ranging from the weakest to the strongest forms. However, to determine the severity of sanctions one must create a scale, such as one proposed by Chen et al (2019). A detailed intensity scale (0 to 5) reflects severity, where Level 1 includes targeted sanctions (asset freezes and visa bans affecting only designated entities), and Level 5 represents a comprehensive trade embargo.

## 2.2 The effectiveness and impact of sanctions

The literature highlights ongoing terminological and methodological difficulties in assessing the effectiveness and impact of sanctions. A key challenge is the confusing substitution between “effectiveness” and “efficiency.” While efficiency is typically understood as a ratio of costs and benefits, the preferred academic interpretation of effectiveness is the ability to achieve predetermined goals set by the sender. Since each sanction episode is unique, universally valid metrics for measuring effectiveness are difficult to achieve. For example, the sanctions imposed by the US on the Russian Federation after the 2014 Ukraine events—with goals such as a retreat from Crimea—are considered non-effective because those demands were not fulfilled.

In econometric modelling, transforming punitive diplomatic measures into a quantifiable variable poses a significant challenge. A basic method is using a dummy variable (zero or one), but this fails to simulate the complexity and varying effectiveness of sanctions over time. Composite Sanctions Indices were developed by Bali and Rapelanoro (2021) to better simulate sanctions by aggregating individual sanction dummies and incorporating weights to account for harshness. However, previous indices were criticized for incorrectly implying that economic pressure is perpetually sustainable because they typically only grew or stagnated but never decreased. A new multipurpose sanction index framework was proposed to address these shortcomings, defining each sanction independently and integrating three parameters: Sanction Type ( $\alpha$ ) (a value assigned based on severity, such as 3000 for an embargo versus 1 for a sanction against an individual), Economic Leverage ( $\beta$ ) (measuring the sender's ability to inflict pressure based on trade intensity), and the Time Factor ( $\gamma$ ) (reflecting the negative effect of time on economic pressure, allowing the sanction's ability to inflict economic pressure to decay over time as economies adjust). Indeed, econometric modelling and other types of quantitative testing are used quite extensively in the sample of literature that we draw on.

Sanctions are also analysed for their impacts on domestic variables, including energy efficiency and income distribution. An investigation by Chen et al (2019) of thirty sanctioned states

(1996–2015) found that the imposition of international sanctions typically lowers energy efficiency. This negative effect occurs because sanctions can restrict technological development, negatively impact GDP growth, and lead to capital outflow. Specifically, unilateral sanctions generally lead to a significantly negative impact on energy efficiency. UN sanctions have a greater decreasing effect on energy efficiency in target states than U.S. sanctions, and economic sanctions (such as financial sanctions, freezing assets, and embargoes) have a more significant negative impact than non-economic sanctions (e.g. diplomatic bans). Plurilateral sanctions resulted in a drop in energy efficiency in Islamic countries but an increase in non-Islamic countries, suggesting that outcomes are context-specific.

Regarding income distribution, sanctions imposed on 68 target states (1960–2008) show robust evidence of a deleterious effect on income inequality, an adverse effect that is magnified the longer the sanctions span (Afesorgor & Mahadevan, 2016). When analysing income distribution via quintiles, sanctions were found to negatively affect the lower income groups (Q1 through Q4) while having a positive effect on the income share of the highest quintile (Q5), indicating a shift toward skewed income distribution.

## **2.3 International sanctions and Russian Federation**

Several arguments are put forward concerning Russia, international sanctions and their effectiveness. The fluctuation of the exchange rate is said to strongly affect the Russian economy due to its heavy reliance on commodity exports, foreign trade, and investment. Russia is a leading global supplier of oil and gas, with over 50% of its budget revenues and two-thirds of its total exports dependent on these commodities. Following the conflict between Russia and Ukraine starting early in 2014, the ruble lost 50% of its value against the US dollar. Analysis using cointegrated VAR models suggests that the bulk of this depreciation was related to the sharp decline of oil prices beginning in summer 2014. The decline in world oil prices was attributed partially to OPEC's decision to maintain high production levels, slower growth in major emerging markets and industrial countries, and increased production in non-OPEC states (especially the US). While declining oil prices dominated the exchange rate levels, economic sanctions imposed by Western countries were a factor potentially amplifying the conflict's impact, and unanticipated sanctions mattered for the conditional volatility of the variables involved.

The sanctions (and perhaps) crises profoundly affected regional capital markets and bank capitalization across the Eurasian Economic Union (EEU), which includes Russia, Kazakhstan, and Belarus (later joined by Armenia and Kyrgyzstan), during 2007–2015. Sanctions resulted in institutional illiquidity and limited access to capital markets, prompting member states to intervene. Governments provided extensive funding and currency support, often taking direct state ownership stakes in faltering institutions. In Kazakhstan, state market share jumped from 0.2% to 69.4% during 2007–2009 due to the nationalization of large banks. However, this state funding support often resulted in high-risk lending by bank management. For example, Russian bankers seemed to “charge hard” at the market after receiving state funds, resulting in large credit losses and loan loss provision charges against bank capital, which effectively offset the positive effects of state support. The analysis suggests a significant and possibly longer-term challenge of weak operational and credit management in these banking institutions.

Western sanctions on Russia have substantial unintended consequences, or “collateral damage”, on third countries, particularly the Commonwealth of Independent States (CIS) and Central and Eastern European (CEE) countries. Using a VAR model, researchers (Bayramov et al, 2020) found that a 1% shock to Russia's GDP results in an accumulated response of -0.72 on CIS GDP, which is significantly higher than the -0.22 response found for CEE GDP. Assuming an accumulated cost of 9% GDP reduction on Russia due to sanctions, the indirect effect on CIS GDP over the medium term was estimated at around -6.5%, and on CEE GDP at 2%. The vulnerability of these countries depends on economic linkages, specifically Foreign Direct Investment (FDI), trade, and remittances.

Oil and gas importing CIS countries (such as Armenia, Kyrgyzstan, Tajikistan, Uzbekistan, Belarus, and Ukraine) are the most vulnerable group. For this group, the remittance channel plays a significant role, as funds transferred by migrants working in Russia have dramatically decreased due to Russia’s recession and ruble depreciation. Conversely, oil and gas exporting CIS countries (like Azerbaijan, Kazakhstan, and Turkmenistan) are less dependent on Russia directly; their economies move together primarily due to their shared high dependence on commodity prices. Nearly all CEE countries have drifted toward Europe, reflected by the much higher impact of EU GDP shocks compared to Russian GDP shocks across all CEE subgroups.

### 3. Methodological Approaches to Measuring Sanctions' Effects

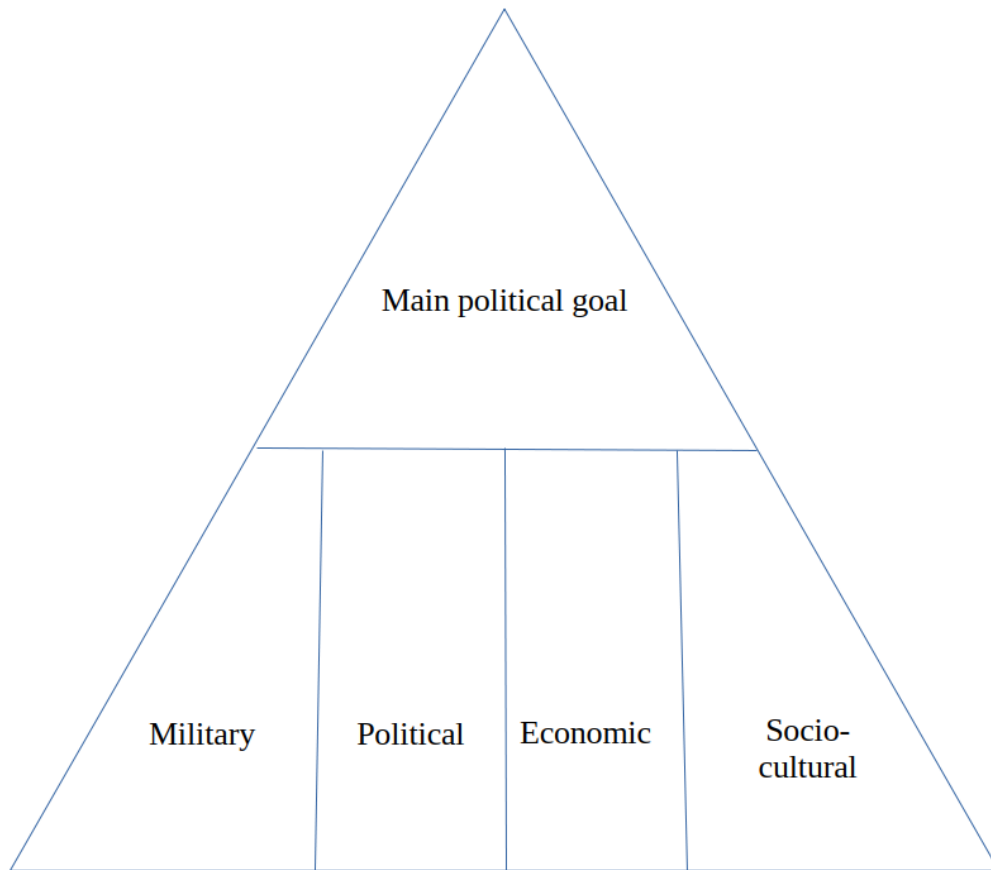
In his book *People, States and Fear* (first published 1983, revised 1991) and later in collaboration with Ole Wæver and Jaap de Wilde (*Security: A New Framework for Analysis*, 1998) and with Richard Little (*International Systems in World History: Remaking the Study of International Relations*, 2000) Barry Buzan introduced and expanded the idea of sectoral analysis of international relations and security. He expanded the concept of security beyond the purely military domain and argued that security issues can and should be analysed across multiple sectors:

1. **Military sector** – concerns the two-level interplay of armed offensive and defensive capabilities, and states' perceptions of each other's intentions.
2. **Political sector** – concerns organizational stability of states, systems of government, and the ideologies that give them legitimacy.
3. **Economic sector** – concerns access to resources, finance, and markets necessary for sustaining acceptable levels of welfare and state power.
4. **Societal (or socio-cultural) sector** – concerns collective identities (national, religious, ethnic, cultural, etc.) and their sustainability within acceptable conditions for evolution.
5. **Environmental sector** – concerns the maintenance of the local and global biosphere as the essential support system on which all other human enterprises depend.

Connected with his securitization theory, each sector highlights a different type of referent object (what is being secured), type of threat, and logic of interaction. Furthermore, threats in one sector can spill over into others (e.g., climate change → societal instability → political conflict).

For our purposes we will leave the environmental sector out of the analysis because environment-related sanctions can be covered by other sectors (e.g. exports of natural materials such as timber). And overall, environment is not something that sanctions would be imposed on. The four remaining sectors are relevant.

These sectors can form a sort of hierarchy with the political sector dominating others, in the sense that the main purpose of sanctions is a change in policies. For example, the sanctions against Russian Federation serve the purpose of ending the aggression. This would be the ultimate political end. Sanctions in other sectors would contribute to this purpose of reaching the political goals. We can illustrate this two-level approach:



**Figure 1** *Methodological framework*

Even though political aims are the end-goals and therefore the highest aims, there are sanctions which are directed towards the political in their own right. These include, for example, targeted sanctions against decision-makers. Therefore, we have two-tier political sanctions – one as a general aim and the other a level of direct political sanctions. The assumption behind this line of thinking is that sanctions targeting military, economic and social or cultural aspects of the state or society can produce political change along with strict political targets.

Referent objects in the political sector are, for example state authority, legitimacy, and ideologies of governance. Threats include political subversion, secessionist movements, coups, delegitimization of regimes, and foreign interference. Buzan’s take on the political side is on the defensive or security side, because of the nature of his field of research. Here we can consider sanctions against everything associated with state authority and international relations. Sanctions against decision-makers and isolating the sanctioned state diplomatically are the most obvious types in the political sector.

The referent objects in the military sector are the state’s sovereignty, territorial integrity, and survival. Typical threats include an armed attack, invasion, conquest, nuclear proliferation, and arms races. Buzan’s ideas are presented mostly from the security perspective, i.e. again from defensive point of view. But they are also suitable to analyse the other side of the coin, namely offensive actions. And sanctions are mostly imposed for these offensive actions. Sanctions can have an effect on state’s military capabilities, therefore, theoretically, reducing the incentives to attack or success of an ongoing attack.

Economic sanctions are targeting the state’s economy with reference objects being economic stability, financial systems, access to resources, and markets. Sanctions should target sustainability of welfare in the state and, mostly, the economy’s ability to support state power. Economic sanctions include different trade restrictions ranging from full embargoes and boycotts to more targeted ones and different sanctions on state’s currency and financial transactions.

Finally, the societal sector concerns threats to collective identity, treating societal cohesion and shared cultural frameworks as the primary reference objects. Buzan’s security approach emphasises that security is not limited to territorial or military domains but also encompasses the preservation of societal identity against external pressure or internal fragmentation. From a sanctions perspective, this sector includes a wide range of measures aimed at influencing social, cultural, and symbolic dimensions of state behaviour. These instruments include travel bans for tourists, the reduction or suspension of cultural exchanges, and the exclusion of national sports teams or athletes from international competitions. Together, these measures seek to weaken a state’s international social standing, disrupt the reproduction of national identity, and signal broad normative disapproval within the global community.

Furthermore, if we look at different sanctions themselves, we can see that they can also be categorized according to these sectors. There are political sanctions, economic sanctions and societal sanctions. However, the impact of a particular sanction is not limited to that sector. Each of them can have an measurable impact on several, if not all, sectors. For example, an economic sanction can have an economic impact measured in change in GDP, but it can also have a societal impact measured by the satisfaction with how the government handles the economy. The analysis will be executed using this methodology which can be presented as a table:

*Table 1. Types of sanctions and domains*

Types of sanctions	Measures			
	Military	Political	Economic	Societal
Economic sanction 1				
Economic sanction 2				
....				

Overall, our methodology rests on three main points:

- Based on the approach by Barry Buzan and his co-authors, we divide the world into sectors which help us to categorize both sanctions and their influence.
- This in turn gives us different specific measures for different sanctions.
- We assume the main aim of sanctions to be the change in policies. Different sanctions in different sectors contribute to achieving this ultimate aim, but can be measured separately.

As with every methodology, there are limits to this one. Assessing the success or failure of international sanctions is inherently difficult, in large part because their objectives can often be ambiguous or shifting. On one hand, sanctions may aim to punish a state for a specific action, deter future behaviour, or compel compliance with international norms. On the other, the main aim could be just to signal political disapproval, which is harder to measure. Also, these goals can evolve over time, and different actors within the sanctioning coalition may hold divergent priorities.

The temporal dimension introduces additional uncertainty. Sanctions often require long periods to exert pressure, or their effects can persist even after formal measures are lifted. It is therefore a significant struggle to determine the appropriate time horizon for judging success. Prolonged sanctions can also lead to enforcement fatigue, as international attention fades and compliance by participating states weaken. These evolving dynamics make consistent assessment over time particularly complex.

Another major limitation lies in the problem of causality and attribution. Political or economic changes in the targeted state rarely occur in isolation; they are usually influenced by multiple internal and external factors, such as domestic protests, military threats, diplomatic negotiations, or global market fluctuations. As a result, isolating the effect of sanctions from these other variables is challenging. The counterfactual question—what would have happened in the absence of sanctions—cannot be answered with certainty, making claims about success or failure speculative. Moreover, third-party interventions or support for the sanctioned regime can further blur the causal link between sanctions and observed outcomes.

Measuring the material impact of sanctions is also fraught with difficulties. Economic data from targeted states is often unreliable, manipulated, or incomplete, while informal economies and smuggling networks complicate assessments of actual losses. Even when the economic damage appears significant, the link between economic hardship and political compliance is uncertain. Elites may remain insulated from the effects while ordinary citizens bear the brunt of economic pain, undermining the political leverage sanctions are intended to create.

A further challenge stems from variation in international coordination and enforcement. Sanctions imposed by multilateral bodies like the United Nations or the European Union depend on the cooperation of many actors, each with different interests and enforcement capacities. When some states apply sanctions rigorously while others undermine or ignore them, the overall impact becomes uneven. Sanctions evasion through third parties, black markets, or covert trade routes can further dilute their effectiveness.

In sum, the measurement of success and failure in international sanctions could be constrained by a combination of ambiguous goals, causal complexity, unreliable data, time-related uncertainty, and uneven enforcement.

# 4. Mapping EU Sanctions on the Russian Federation

In response to the full-scale invasion of Ukraine in February 2022, the European Union mobilised a sustained and evolving sanctions regime targeting multiple dimensions of Russia's economy, finance, energy, trade, and governance. Over the period 2022–2025, the EU adopted 19 successive sanctions packages, each progressively deepening the measures, closing loopholes, and aligning with G7 and allied efforts. The most recent EU sanctions package, the 19th package, was adopted on 23 October, 2025. The EU has likewise imposed sanctions on Belarus, Iran, and North Korea in response to their support for Russia's military aggression against Ukraine.

The EU sanctions regime against Russia has evolved in iterative cycles, typically tied to military escalation, circumvention tactics, and political consensus-building among member states. The procedural path for each package involves (a) a Commission proposal or Council preparatory work, (b) negotiation among Member States in the Foreign Affairs Council, (c) legal drafting and adoption of amending Regulations to existing sanction frameworks<sup>1</sup> and (d) publication in the Official Journal and implementation across Member States. Over time, the EU also incrementally adopted anti-circumvention, shadow fleet, dynamic price cap, and financial messaging expansions to respond to adaptation by Russia and third parties.

Early packages (2022) were dominated by broad strokes (central bank bans, SWIFT disconnections, airspace closure, import/export bans). In later years, packages became more granular, targeting specific sectors (such as oil, diamonds, and metals), adding service restrictions and transport constraints, and tightening enforcement. Particularly from 2023 onward, the EU focused on refining the designated persons/entities, circumvention networks, and third-country intermediaries. The 2025 packages mark a shift towards “closure” of loopholes—especially in energy, financial messaging, and shadow fleet logistics—and the introduction of dynamic mechanisms (e.g. the oil price cap adjustment).<sup>2</sup>

Notably, adoption sometimes faced veto risks or delay. Member States with energy dependencies or transit revenues (e.g. Slovakia, Hungary) have occasionally pushed back, requiring negotiation over gas security, transitional periods, or compensatory measures.

## 4.1 Evolution in Package Content

A coarse evolution of package content reveals several phases:

### 1. Foundational measures (2022):

- Restrictive actions on the Russian central bank, capital markets, selected export bans (dual use, defence goods), and suspension of broadcasting privileges for RT/Sputnik.

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<sup>1</sup> Notably Regulations 833/2014 and 269/2014 <https://eur-lex.europa.eu/eli/reg/2014/833/oj/eng>

<sup>2</sup> <https://www.consilium.europa.eu/en/policies/sanctions-against-russia/timeline-packages-sanctions-since-february-2022/>

- Airspace closure to Russian-registered aircraft; SWIFT cuts for multiple banks.
  - Import bans on coal and selected commodities.
2. **Sectoral deepening and service bans (mid–late 2022):**
- A full ban on Russian crude and refined petroleum product imports (6th package), plus bans on export of navigation, maritime, and aviation equipment and services.
  - Expansion into services: accounting, consulting, IT, legal, and restrictions on crypto wallets.
  - Introduction of **solidarity clause**, tightening of circumvention rules.
3. **Strategic commodity and export bans (2023):**
- The 12th package banned diamond imports and certain metals and LPG from Russia; introduced a “no-Russia clause” to forbid re-exports.
  - Export controls grew more granular, with more dual-use goods, critical technologies, chemicals, and machine tool components.
  - The 14th package (2024) added LNG re-export bans, limited new investment in LNG, and extended anti-circumvention measures including restrictions on Russia’s SPFS messaging system.
4. **Loophole closure, dynamic mechanisms, and financial escalation (2025):**
- The 16th–18th packages tightened restrictions on the shadow fleet (port bans, service bans for vessels), expanded listing of individuals/entities, and escalated financial messaging restrictions (turning SWIFT bans into full transaction bans).
  - The 18th package notably lowered the oil price cap from USD 60 to USD 47.6 per barrel and introduced a dynamic adjustment mechanism, applied full transaction bans on messaging services for Russian banks, imposed import bans on refined petroleum from Russia (via third countries), and further expanded dual-use export restrictions to new entities.<sup>3</sup>
  - The 18th package also widened anti-circumvention targeting, listing additional vessels, adding individuals/entities across third countries (e.g. China, India), and sanctioning the Russian Direct Investment Fund (RDIF) and associated companies.<sup>4</sup>
5. **Augmentation and global reach expansion (late 2025):**
- The 19th package, adopted on 23 October 2025, imposed the most comprehensive restrictions to date. It introduced a total ban on Russian liquefied natural gas (LNG), removed remaining exemptions for Rosneft and Gazprom Neft, and sanctioned 117 additional shadow-fleet vessels, bringing the total to 557.
  - The measures also expanded to crypto assets and fintech, prohibiting EU operators from providing services that could aid circumvention, and added five Russian banks to the transaction ban.
  - Additional restrictions targeted Russia’s Special Economic Zones (notably Alabuga and Technopolis Moscow), extended bans to AI, digital, and re-

<sup>3</sup> <https://www.consilium.europa.eu/en/press/press-releases/2025/07/18/russia-s-war-of-aggression-against-ukraine-eu-adopts-18th-package-of-economic-and-individual-measures/pdf/>

<sup>4</sup> <https://www.dlapiper.com/en-us/insights/publications/global-sanctions-alert/2025/18th-package-of-eu-sanctions-against-russia>

insurance services, and listed 11 individuals involved in the abduction and forced assimilation of Ukrainian children.

Thus, over time the EU sanctions regime moved from broad structural steps to finely calibrated adjustments, focusing on resilience against evasion, sectoral targeting, and aggressive financial tools. Below is a summary table capturing the 19 packages, their adoption dates, and a capsule thematic focus.

*Table 2. Overview of sanctions packages*

<b>Package No.</b>	<b>Adoption Date</b>	<b>Signature Theme / Focus</b>
1	23 February 2022	Territorial regime over Donetsk/Luhansk; financial and capital market access restrictions
2	25 February 2022	Broader economic sanctions across energy, finance, trade, and visa facilitation suspension
3	2 March 2022	CBR transaction ban; SWIFT removal for 7 banks; airspace closure; RT/Sputnik broadcasting bans
4	15 March 2022	Ban on Russian steel/iron exports, export restrictions on luxury goods, extension of state-enterprise measures
5	8 April 2022	Coal and other solid fossil fuel import bans; bans on exports including jet fuel and crypto assets
6	3 June 2022	Full ban on crude/refined oil imports; SWIFT additions; insurance/financing bans for oil transport
7	21 July 2022	“Maintenance and alignment” package; introduction of gold import bans, expanded listing criteria
8	6 October 2022	New price cap for maritime oil transport; bans on steel, textiles, plastics; expanded export controls
9	16 December 2022	Restrictions in aviation/space sectors; expanded dual-use controls; ban on mining investment
10	15 February 2023	Further export bans; bans on asphalt, synthetic rubber; storage capacity restrictions
11	23 June 2023	Tentative link with Iran/DR-component inclusion; port access bans; strengthened circumvention rules

12	18 December 2023	Diamond import ban; LPG and metal product bans; “no-Russia clause”; tightened export controls
13	23 February 2024	Expanded dual-use controls; new entities connected to defence; further exports of industrial goods
14	24 June 2024	LNG re-export ban; new investment ban in LNG; SPFS restrictions; media suspension; transport bans
15	16 December 2024	Additional listings; port & maritime restrictions; alignment with Belarus sanctions
16	24 February 2025	Port access ban extensions (shadow fleet), transaction bans on SPFS-linked institutions, export restrictions
17	20 May 2025	Further shadow fleet designations; additional export controls; extended port/service bans; dual-use expansion
18	18 July 2025	Lowered oil price cap to USD 47.6; import ban on refined petroleum; full transaction ban on messaging; expanded listing & anti-circumvention measures
19	23 October 2025	Total LNG ban; Rosneft/Gazprom Neft transaction ban; crypto and fintech restrictions; SEZ divestment requirement; AI and digital service bans; new human-rights listings

# 5. Indicators for Measuring Sanctions’ Impact

Sanctions rarely operate through a single channel. A trade ban may initially depress import volumes in targeted tariff lines, but the effects propagate along logistics routes, payment networks, replacement suppliers, and public narratives. Financial disconnections alter settlement frictions almost immediately and only later show up in cash-flow statements, investment, and the distribution of political rents. Because of these propagation mechanisms, the matrix used in this project—which assigns concrete indicators to Military, Political, Economic, and Socio-cultural domains for each sanction instrument—provides a suitable backbone for measurement. This chapter keeps that architecture but synthesizes across cells: for each Level-3 instrument, it identifies what tends to move first, what tends to move later, and how to triangulate evidence so analysts can judge impact (changes consistent with the instrument’s mechanism) and progress toward effectiveness (changes aligned with stated policy goals). The distinction is central to classic debates that caution against inferring success from movement alone.

## 5.1 Economic sanctions

### Trade sanctions

#### Import bans

The most immediate economic signal is a decline in targeted HS-level import values and volumes relative to a pre-war baseline (e.g., 2019–2021). Because sanction episodes predictably trigger re-routing and under-reporting, the first cut should always combine own-reported data with mirror statistics—partner-reported exports to the target—to detect circumvention via third countries. Unit-value changes (value/quantity) are a compact way to capture quality downgrades and scarcities; supplier concentration (HHI) and partner-set turnover quantify whether EU suppliers are being replaced and how quickly. Event-study windows around announcement and enforcement dates, applied to product–partner–month panels (UN Comtrade/Comtrade+), are the workhorse designs.

Politically, import bans are also signals. Whether they are acknowledged domestically—and how they are framed—can be tracked through executive and parliamentary communications and media content; high salience is often associated with attempts to mobilise self-sufficiency narratives. Socio-culturally, early effects appear in shortage reports, substitution to domestic brands (survey modules), and black-market mark-ups for iconic goods; these micro-signals often precede macro series.

## **Export bans**

For the sender, the indicator suite centres on the collapse of EU exports in prohibited HS lines and diversion shares to non-EU markets (margin preservation). For the target, it is possible to track inventory-to-sales ratios and capacity utilisation in import-dependent sectors, with unit-value movements as proxies for quality downgrades. Over the medium term, export bans that curtail access to professional tools or cultural/lifestyle goods are often visible in work-visa issuance for affected professions, closure of foreign brand outlets, and reputation shifts in international surveys—bridging economic and socio-cultural domains.

## **Embargoes**

Narrowly scoped embargoes are best read through compliance and price channels. A sharp increase in the share of zero-flow months in embargoed lines indicates formal adherence, while customs seizure data and recorded violations provide an enforcement backstop. Where substitution is limited, domestic price premia emerge for embargoed categories relative to global benchmarks, with premia size co-moving with scarcity and risk. Neighbouring-country anomalies—sudden growth of the same HS codes in proximate non-embargo jurisdictions—flag potential circumvention routes. Politically and socially, embargoes tend to amplify narratives of isolation or unfairness; opinion surveys and media framing help assess whether this isolation hardens internal resistance or increases pressure for policy change.

## **Dual-use restrictions**

Dual-use controls require a chain of evidence. At the input stage, the expectation is a measurable collapse in HS clusters tied to high-end manufacturing—84–90 (machinery, electrics), 8542 (integrated circuits), 8456–8466 (machine tools)—accompanied by origin shifts away from EU/US and unit-value downgrades (loss of cutting-edge specifications). At the integration stage, the appropriate indicators are maintenance/repair delays, mean time between failures (MTBF), and reports of component cannibalisation. At the output stage, one looks for lower munitions throughput, platform production slippages, and backlogs at defence plants. Finally, component forensics in captured systems validate whether bans are biting or being bypassed.

## **Financial sanctions**

### **Freezing assets**

Asset freezes are best measured via the stock of immobilised private/sovereign assets and the composition and usability of foreign reserves (USD/EUR/JPY/CNY/gold), benchmarked as months of imports—a classic external-vulnerability yardstick. Payment blockages on coupons/dividends quantify immediate cash-flow effects. Socio-culturally and politically, elite-facing indicators include international travel expenditures, high-end property usage, and philanthropic outflows, paired with media portrayals of elites; these speak to the “delegitimization” mechanism rather than macro stress.

## **Banking restrictions**

Banking bans and prudential frictions travel quickly. The BIS Locational Banking Statistics (LBS) track cross-border claims and liabilities by residence and currency, providing a read on external funding. Complementary indicators—deposit dollarisation (FX/total deposits), new FX loans to corporates, and NPL ratios in import-intensive sectors—capture domestic stress transmission. Socio-culturally, banking frictions spill into tuition payments, tourism spending, and remittances—high-frequency series that make the broader connectivity shock visible in household behaviour.

## **SWIFT exclusions and transaction bans**

Early EU rounds removed specified banks from SWIFT; later packages escalated to full transaction bans on additional financial-messaging services. Measurement should go beyond message counts to settlement frictions: payment latency/success, invoice-currency shares (e.g., RMB uptake), and adoption of SPFS/CIPS. SWIFT reporting and BIS statistics help triangulate exposures and currency composition.

## **Investment sanctions**

### **Investment restrictions; FDI bans; JV prohibitions; market-access blocks**

Investment channels move slowly but matter for long-run growth. For restrictions on FDI and joint ventures, the central series are counts and values of greenfield projects, net FDI inflows and the inward stock relative to GDP, the formation and dissolution of joint ventures, and ownership changes in restricted sectors. Market-access blocks show up in cancellations of ADRs/GDRs, reduced Eurobond and loan issuance, thinner external IPO/SEO activity, and a higher cost of capital, observed in sovereign and corporate spreads and implied equity returns; analyst coverage and foreign ownership shares shrink in parallel as information and capital decouple. Corporate disclosures—capex revisions, impairments, write-downs, and contract cancellations—provide high-signal confirmation. On the social side, the exit of foreign brands and venues, loss of sponsorship in arts and sport, and visible changes in consumer baskets make the macro phenomenon legible to households and communities (Crozet & Hinz, 2020).

## **Commodity-specific sanctions**

### **Oil and gas restrictions**

To avoid mistaking re-routed volumes for effective revenue denial, measurement must combine volumes by route (pipeline vs. seaborne), destination shares, and price discounts (Urals–Brent; ESPO) with ton-miles and voyage distances that reflect shadow-fleet reliance. Fiscal effects are summarised in the budget share of oil and gas. The EU’s 19th package added a phased total LNG ban, which implies tracking contract maturity structures and licensing/waiver regimes alongside flows.

## **Technology bans**

Restrictions on advanced and enabling technologies are visible in trade, industry, and innovation data. Imports in HS codes associated with semiconductors, sensors, and precision machinery (for example 8542/8541/8471/8486/8456–8466) tend to fall in value and quality, alongside origin shifts away from sanctioning countries; unit-value and specification changes indicate downgrading from top-spec parts. Downstream, industrial series—ICT hardware output, CNC/machine-tool utilisation, and the age profile of imported equipment—register capacity constraints. Innovation indicators—patent filings and granted claims in affected IPC classes, co-authorship networks, and conference participation—trace the erosion of technological capability and international embeddedness. Where the same components are used in military systems, forensic evidence from captured hardware provides a powerful cross-check that trade-based inferences about constraint or circumvention are well-founded.

## **Broader commodity bans**

For broader commodity restrictions—metals, fertilisers, and agricultural goods—credible assessment blends quantities, prices, and distributional impacts. Trade series show export volumes and market reorientation to non-EU buyers; producer and consumer price indices for targeted baskets capture pass-through to firms and households; freight and insurance costs illuminate logistical bottlenecks. Regional labour-market indicators and firm-level margins reveal where the burden concentrates geographically and along supply chains. Because commodity shocks can be regressive, distributional measures—inequality metrics and consumption-basket shifts—are needed to understand who bears the costs and how those costs translate into political responses; in parallel, when metals or chemical precursors intersect with the defence-industrial base, military relevance appears via cost inflation and throughput delays.

# **5.2 Diplomatic sanctions**

## **Diplomatic ties (downgrades, closures, restrictions on diplomatic privileges)**

Diplomatic measures modify two levers at once: access (who can meet whom, where, and with what privileges) and legitimacy (how much status the target retains in interstate society). A rigorous measurement strategy therefore begins with representation levels and staffing, treating downgrades from ambassador to chargé, embassy closures, or skeletal staffing as discrete events and tracking their persistence over time.

Two complementary ratios—the share of countries with an accredited ambassador in the target and the share of posts where the target maintains an ambassador abroad—summarise the immediate contraction of formal channels. Frequencies of official statements announcing downgrades or closures, paired with the termination or suspension of treaties and the cancellation of high-level visits, capture the political salience of those decisions and allow analysts to separate symbolic gestures from substantive ruptures. Because many diplomatic sanctions embed mobility constraints, analysts should also monitor border closures, reductions in international public-transport links, and changes in cross-border travel volumes; when the sender introduces movement-authorisation regimes for the target's diplomats, the resulting

decline in access to high-level forums and the rise in operational costs for missions are direct indicators that day-to-day diplomacy has been curtailed.

Militarily relevant effects enter through the loss of attaché networks and informal defence contacts, which reduces access to operational information and complicates de-confliction; politically, the same measures often trigger retaliation dynamics that can be observed in reciprocal expulsions or new restrictions. Socio-cultural footprints are visible in the shrinkage of cultural-diplomacy events abroad, the decline in public travel between the sender and target, and the framing of isolation in domestic media. Taken together, a dashboard spanning representation ratios, staff counts, treaty/visit event logs, mobility restrictions, access to high-level venues, and mission operating costs provides a coherent read on whether downgrades and closures have merely signalled disapproval or have functionally severed channels of influence and information.

### **International organisations (suspension/participation bans)**

Sanctions that operate through international organisations alter the forum structure in which states bargain, set standards, and seek legitimation. Measurement begins with counts of suspensions from IOs and the salience of those bodies (security-relevant vs. technical), but should quickly extend to presence and influence metrics: the number of meetings where target officials are present (including as observers), the share of leadership posts held by nationals of the target (secretary-general, chairmanships, committee heads), and the frequency with which the target appears as a participant in IO communiqués and documents.

Because IOs are gateways to resources and rule-making, the economic channel is captured by reductions in trade/aid/investment deals brokered through or facilitated by these bodies, the loss of access to dispute-settlement and arbitration systems, and the withdrawal of transnational actors (NGOs, business associations) from collaborative programmes. Politically, voting-affinity patterns—for example, shifts in UN General Assembly alignment—provide a tractable indicator of coalition change; a persistent fall in the percentage of member states supporting the target's sponsored texts is *prima facie* evidence of diminished agenda-setting power.

On the military side, suspension from security and peace-operations fora reduces the target's visibility into mandates and information flows and limits access to training and mission staffing; analysts can track participation in missions, troop contributions, and security-forum attendance to quantify that loss.

Socio-culturally, one expects a decline in diplomatic staff assigned to IO permanent representations, a fall in nationals working on IO staffs, lower student interest in international-relations tracks, and rising perceived isolation in surveys. Where participation bans bite unevenly, watch for replacement strategies—the creation of alternative or parallel fora, or realignment toward non-sanctioning organisations—and test whether those reduce the observed losses in presence and influence.

## **5.3 Military sanctions**

### **Military cooperation**

#### **Suspension of defence contracts and military aid**

The immediate military signature of contract suspensions and halted aid is a deterioration in readiness and modernisation pace. Readiness should be tracked as the share of units fully equipped relative to the order of battle and, where available, through sortie rates, ordnance expenditure, maintenance backlogs, and mean time between failures (MTBF) for key platforms. A qualitative audit of Western-origin systems and components observed in the field (e.g., electronics, optics, engines) helps to gauge remaining dependence on foreign inputs and the scope for cannibalisation when replenishment is cut off. On the political plane, the frequency of high-level military and political visits, the number of defence contracts signed or suspended, official posture in statements, and alliance signalling (e.g., downgraded partnerships) together reveal whether policy elites are absorbing or contesting the constraint. Economically, budgetary redirection toward domestic production and reported outlays on non-transparent or extra-budgetary channels quantify attempts to substitute foreign supply with state-directed alternatives; in parallel, employment in the defence sector captures the labour reallocation induced by import denial. Socio-culturally, reductions in the visibility of elite visits and the contraction of foreign-equipment narratives can be read through media analysis and opinion polling about the perceived trajectory of the armed forces. A coherent evaluation triangulates these strands: falling full-equipment shares, fewer high-level visits, rising budget allocations to domestic substitutes, and a shift in media framing from “upgrade” to “maintenance” constitute a robust suspension footprint.

#### **Prohibition of military training and cooperation**

Bans on joint training and doctrinal exchange erode capability through professionalisation bottlenecks. Military indicators include training days per soldier, pass rates for specialist qualifications, exercise frequency and scale, and the ratio of certified to authorised personnel in elite units; together these show whether the force is maintaining standards without external trainers. Politically, the drop in high-level visits and the appearance of replacement partnerships with non-sanctioning states map the search for alternatives. Economically, cancellations of training-related service contracts and incremental domestic costs to recreate simulators, ranges, and instructor cadres quantify the burden of autarky. In the socio-cultural domain, the decline in media mentions of high-profile joint exercises—traditionally used for prestige domestically and signalling abroad—helps separate rhetorical continuity from genuine isolation. A timing note matters here: training shocks do not materialise overnight. Expect early movement in exercise calendars and contracting, then lagging effects in qualification density and unit-level proficiency after one to three training cycles.

#### **Sanctions on military leaders and entities**

Targeted designations operate via procurement frictions and elite reconfiguration. On the military side, track delays and failures in contracting with listed entities, loss of access to foreign trainers and service providers, and shortfalls in spares routed through front companies.

Politically, watch the decline in high-level visits, role reshuffles that concentrate authority around unlisted proxies, and elite-cohesion signals in personnel movements. Economically, the face value of frozen or immobilised assets (offshore holdings, real estate, securities) and the incidence of blocked payments give a first-order cash-flow read; these can be linked to subsequent changes in entity-level delivery performance. Socio-culturally, content analysis of media can identify whether sanctioned figures are portrayed as liabilities or martyrs—useful context when interpreting cohesion metrics. The diagnostic pattern is procurement difficulty plus elite reshuffling under binding asset constraints, followed by a measurable slip in delivery against defence contracts.

## **Sanctions on military hardware**

### **Arms embargoes**

Arms embargoes constrain material capability through reduced access to weapons, munitions, and spares. Militarily, the core series are combat-ready units (fully equipped), evidence of outdated systems entering the line, ammunition stock levels and changes in calibre diversity (which increases logistical strain), and the origin profile of weapons observed in theatre as the target pivots to substitutes. Politically, track coalition breadth—the number of countries publicly abiding by the embargo—and domestic power centralisation around state managers or emergent oligarchs positioned to broker illicit procurement; new arms agreements with third countries indicate the search for relief valves. Economic measures include changes in the value and origin of arms imports/exports using sources like SIPRI, re-export flows of second-hand kit, and, where relevant, consumer-price pressure if defence expansion tightens domestic markets. Socio-cultural consequences often surface as crime and corruption metrics (e.g., violent crime trends consistent with black-market proliferation and corruption-perception shifts), border-region income changes that proxy shadow-economy growth, and the spread of a “fortress under siege” narrative in official media. Robust inference comes from matching observed platform and ammo mixes against embargoed categories, pairing that with SIPRI import origins, and verifying on the ground whether calibre heterogeneity and stockpile depletion are material to operations.

### **Bans on military technology and dual-use goods**

Technology bans and dual-use controls degrade capability by throttling quality, reliability, and upgrade cadence. The military read-out blends readiness metrics with component provenance: reductions in the use of high-spec Western parts, increased cannibalisation, and rising failure rates on mission-critical subsystems. Politically, bans tend to accompany centralisation of defence-industrial control and a re-orientation of military-research ties toward alternative suppliers; this can be observed in new MoUs, scientific exchange patterns, and elite rhetoric about technological sovereignty. Economic indicators include the value of service exports (e.g., software or maintenance solutions) still reaching the target, and funding pivots into domestic R&D tasked with replacing imports. Socio-culturally, the constraint is legible in defence-sector employment (declines in foreign-linked jobs; gains in domestic R&D roles), public sentiment about falling behind technologically, increases in science and student-support funding, and a stronger self-reliance narrative in official communications. Because technology restrictions propagate through supply chains, analysts should combine the table’s top-down metrics with

field forensics in captured systems and with industrial telemetry (maintenance times, backlogs). Convergence across these domains—fewer Western components, centralised control, R&D/funding pivots, and public acceptance of an austerity-cum-autarky frame—signals that bans are binding rather than symbolic.

## **5.4 Cultural sanctions**

### **Sports sanctions**

#### **Bans on participation in international competitions**

The immediate signal is the exclusion footprint—counts of bans imposed by federations and the number of athlete-level exceptions (competitors admitted under a neutral or third-country flag). Parallel administrative indicators capture the visa channel—year-over-year changes in visas issued to affected athletes—and the tightening of eligibility rules in event regulations. Politically, watch the replacement dynamic (creation of alternative leagues or competitions) and changes in foreign-visit frequency by political elites to high-profile events, which together chart attempts to narrate or bypass the exclusion. Economically, bans depress award income and sponsorship inflows linked to international performance; these can be measured with prize-money aggregates and contract disclosures. Socio-culturally, track public sentiment toward exclusion and the visibility of neutral-flag participation in domestic media; longitudinal movement in these series shows whether bans lower soft-power reach or instead fuel rally-round-the-flag narratives. Read together, falling visas, fewer neutral exceptions, weaker award income, and rising alternative-league activity indicate that access has been substantively curtailed rather than merely re-badged.

#### **Cancelling hosting rights for global sports events**

When hosting rights are withdrawn, the political signal is a legitimacy loss in place—fewer foreign officials travel to the target, and diplomatic calendars thin around the event window. The economic ledger records forgone organisational funding (venue and infrastructure spend, broadcast, hospitality, and licensing revenue) and attendant tourism losses; these can be benchmarked against pre-award business plans and the city's previous event histories. Socio-culturally, two survey-based metrics matter: national pride tied to mega-events, and the frequency with which that event is cited as a source of collective pride in domestic discourse. A combined read—declines in foreign dignitary travel, negative deltas in event-related funding and tourist arrivals, and a fall in pride salience—shows hosting cancellations working through all four domains; subsequent “replacement events” reveal whether the vacuum is being filled by alternative coalitions.

#### **Stripping teams or athletes of the right to compete under the national flag**

Measurement starts with participation under neutral flags (counts of teams/athletes) and defections (athletes switching allegiances) as outcome metrics. Enforcement can be proxied by the number of organisations applying neutral-flag rules and the share of competitions enforcing them. Politically, elite discourse provides context - are neutral athletes framed as traitors or patriots? - while institution-building responses (alternative sports organisations/games) indicate

counter-mobilisation. Socio-culturally, changes in public pride and media tone toward neutrality reveal how identity costs are absorbed domestically. Where neutral participation rises while pride erodes and defections increase, the delegitimization channel is likely binding; if neutrality is reframed positively at home and defections remain low, the sanction's reputational bite is weaker.

## **Academic and educational sanctions**

### **Suspending student exchange programmes**

The near-term military-relevant effect is knowledge inflow loss into dual-use and defence-adjacent disciplines, observed later as fewer foreign-trained graduates entering sensitive sectors. Operationally, track student mobility (outbound/inbound exchange visas, Erasmus-type credits), language-test volumes and scores, and elite-household patterns (a reduction in the number of children of sanctioned elites studying in sanctioning countries). Politically, the appearance of new exchange agreements with non-sanctioning states is a key substitution signal. Socio-culturally, changes in youth attitudes toward the EU/West and in emigration intent help interpret whether insulation is internalised or resisted. Persistent mobility losses, falling language proficiency at upper bands, and declining youth openness together anticipate medium-term skill bottlenecks in innovation systems. A practical indicator suite includes the number of visa centres closed, which serves as an indirect measure of declining travel opportunities, and the average processing time for visas, which has lengthened substantially as external scrutiny has increased. Furthermore, the closure of language-proficiency testing centres (IELTS and TOEFL) reduces pathways for study abroad and contributes to long-term skill downgrading.

### **Barring universities or research institutions from international cooperation**

Institutional bans degrade capability by reducing research collaboration density. A measurement suite should combine counts of international projects, co-authorship networks, and programme participation (Erasmus-like exchanges; co-funded labs) with a labour-market read on brain drain (emigration or affiliation switching). Politically, look for funding restrictions and the centralisation of research under state control; the creation of alternative alliances with non-sanctioning partners reveals the substitution path. Socio-culturally, increased nationalist education campaigns may mitigate reputational loss at home while further isolating the system abroad. A fall in cross-border projects, a contraction in co-authorship links, and a rise in researcher outflows indicate that institutional exclusion is translating into a structural loss of academic openness.

### **Restricting access to global conferences or publications**

Conference and publication bans sever agenda-setting channels. Quantitatively, track the number of prestigious conferences with authors/presenters from the target, journal placement and impact-factor trajectories, and visa denials for academic travel; also record virtual participation as a fallback and outlet shifts toward lower-tier or ideologically aligned journals. Politically, officials may frame restrictions as ideological censorship, a narrative measurable in speeches and state media. Socio-culturally, the intellectual climate matters—campaigns promoting replacement journals or self-sufficiency in science are leading indicators of path

dependence. A pattern of sustained participation decline at quality venues, falling impact metrics, and more visa denials—only partially offset by virtual workarounds—signals genuine isolation rather than temporary reallocation.

### **Restricting access to global databases**

Database restrictions slow R&D throughput by cutting off standards and frontier literature. Core indicators include publication volumes based on global datasets, citations and co-authorships in defence-relevant fields, patent counts in dual-use technologies, and a shift toward domestic data and nationally focused topics. Politically, expect state narratives about technological independence and re-partnering with non-Western or open-source repositories. Socio-culturally, track employment shifts among researchers with military/state ties at foreign institutions, as well as brain-drain flows of students and scientists relocating for unrestricted access. When publication counts fall, defence-adjacent citations dry up, and patenting wanes despite rhetorical self-reliance, the sanction is binding on the innovation core.

### **Shifts in Budget Priorities**

A further dimension of academic sanctions concerns their indirect but measurable effects on domestic budget structures and institutional access within the targeted state. Sanctions often compel governments to reallocate public expenditure toward defence and internal security at the expense of state-dependent civilian sectors. Tracking the proportion rather than the absolute value of expenditures in these policy areas provides a clearer picture of how sanctions and war reorient the state's developmental priorities. Budget data from the national statistical agency (Rosstat) can be used to monitor these proportional shifts, including the reduction of state-funded university places and shrinking research grant pools.

### **Arts and cultural sanctions**

#### **Cancelling performances, exhibitions, or cultural tours**

The first-order effect is reduced international reach—fewer performances by targeted artists, lower ticketed audiences, and a contraction in overseas engagements. Economically, cancellations depress touring revenue and residency/co-production pipelines; domestically, they can trigger compensatory funds for internationally oriented groups. Politically, visa processing for tourism and culture offers a clean administrative indicator of tightening access. Socio-culturally, measure employment in the cultural sector and changes in international audience engagement (e.g., streaming, attendance) to see whether exposure loss is being offset by domestic substitution. A combination of falling foreign appearances, weaker international audiences, and increased reliance on state subsidies indicates sustained external closure.

#### **Preventing artists, musicians, or filmmakers from representing the country abroad**

This instrument operates through symbolic representation. Indicators include the drop in international awards and festival selections for nationally branded works, increases in long-term visa applications by cultural elites (signalling exit), and open letters/criticisms from within the cultural community - a political barometer of elite alignment. Economically, look for lost sponsorships and thinning cultural-diplomacy staffing (fewer diplomats assigned to cultural

exchange). Socio-culturally, diaspora or exiled artists may increasingly represent national culture abroad, while domestic surveys register a perceived decline in world-class quality and inability to export culture. Rising elite dissent, shrinking official representation, and a diaspora takeover of cultural signalling together point to durable reputational loss.

### **Banning cultural institutions from international festivals**

Institution bans strip organisations of platforms and networks. Politically, third-country votes or statements condemning/defending bans help position the target within broader coalitions. Economically, measure lost sponsorship and touring revenue for named institutions; domestically, watch budget reallocation toward national culture as a partial offset. Socio-culturally, declines in appearances/awards and catalogue/streaming placements track international exposure, while visa denials to affiliated artists and domestic festival attendance shifts show internal rebalancing. Sustained exposure losses accompanied by rising domestic budgets and critical elite discourse is a hallmark of substitution without equivalence—volume at home replacing prestige abroad.

### **Media and entertainment restrictions**

#### **Prohibiting state-sponsored media from operating abroad**

Media bans aim to shrink propaganda reach and degrade narrative conversion in foreign audiences. Track jurisdictional coverage (the number of countries and outlets banned), audience reach (subscribers/viewers), and narrative uptake—changes in the share of respondents naming sanctioned outlets as their primary source and shifts in agreement with sanctioned narratives before/after bans. Politically, observe the creation of proxy networks or alternative channels as adaptation. Military-adjacent effects can surface in a decline in foreign volunteers for the target’s armed forces, an indirect read on propaganda efficacy. Domestically, polling on the perceived failure to export narratives signals reputational costs. Convergent movement—broader bans, collapsing reach, falling narrative buy-in, and reduced volunteer inflows—indicates that the communication cut-off is binding.

#### **Preventing participation in international events**

Prohibitions on a state’s presence at prestigious cultural or media events deepen international isolation. Count exclusions and cancellations and map the decline in participation at high-prestige venues; pair this with public sentiment (resentment vs. indifference) to interpret political traction at home. The rhetorical environment typically shifts toward “fortress” and self-reliance narratives; coding of official communications provides a quantifiable read on this pivot. Sustained exclusion paired with hardening siege rhetoric and stable or rising domestic indifference suggests successful isolation abroad but limited internal pressure.

#### **Banning artists from performing in sanctioned states**

This instrument reduces two-way cultural mobility. Administrative indicators—visas for cultural purposes issued to audiences and artists—provide timely reads on access. Participation statistics for events featuring sanctioned-state performers and audience-sentiment surveys (perceived isolation, willingness to attend foreign acts) describe how the ban shapes

transnational cultural exchange. If participation and mobility contract while sentiment shifts toward isolation, bans are altering both the supply and demand sides of cultural interconnection.

## **5.5 Cross-cutting themes: time-to-impact and sender-side costs**

This chapter sets out transversal principles that govern credible sanctions measurement across the Military, Political, Economic, and Socio-cultural pillars of the handbook. It translates the strategy sketched elsewhere in the draft into operational rules for analysis planning, indicator selection, and interpretation. The goal is to ensure that results are both mechanism-aware (matched to how a given instrument is supposed to bite) and decision-useful (clear on when impacts are timely, sufficient, and robust to evasion).

### **Time-to-impact: choosing the right horizons and lead–lag indicators**

Sanctions propagate at different speeds through trade, finance, technology, organisational routines, and beliefs. A practical template is:

- Financial connectivity (weeks–months): Payment-system de-platforming and banking restrictions register first in settlement latency/success, invoice-currency shares, BIS cross-border claims, and FX-deposit dollarisation. Household-level series (tuition and subscription payment failures, tourism and remittances) provide early social read-outs of financial isolation.
- Trade flows and prices (months): Import and export bans move HS-line values/volumes and unit values within a few reporting cycles; supplier HHI and partner-set turnover quantify re-sourcing speed. Downstream production, logistics costs, and consumer prices react with modest lags.
- Technology and dual-use (12–36 months): Input shocks (HS 84–90; 8542; 8456–8466) manifest later as maintenance delays, MTBF deterioration, component cannibalisation, and degraded munitions/platform throughput; component forensics validate provenance when trade data are noisy.
- Capability and professionalisation (quarters–years): Suspension of defence contracts/training reduces readiness, certification density, exercise scale, and depot turnaround times only after one to three training/maintenance cycles.
- Soft-power and reputational outcomes (event cycles to years): Cultural, media, and academic restrictions first affect visas, platform access, and participation rates, then cascade to awards, citations, and audience reach; opinion and identity metrics move slowly.

### **Sender-side costs: building a parallel dashboard**

Impact assessment that ignores sender-side costs risks perverse policy inferences. The handbook therefore treats EU costs as a co-equal dashboard:

- Direct trade and investment losses: Track export shortfalls by HS line, greenfield cancellations, portfolio outflows, and analyst coverage contraction for EU-exposed firms. At sector level, add freight/insurance premia and capex deferrals in Russia-linked value chains.
- Macro pass-through: For energy measures, monitor price spikes, budget transfers, and terms-of-trade effects; for finance, track counterparty exposures and compliance costs for EU intermediaries.
- Societal and political spillovers: Document sponsorship withdrawals in arts/sport, tourism/travel shifts, and public-opinion responses to costs borne at home (e.g., fairness and fatigue). These series are essential to sustain coalition cohesion over multi-year horizons.

By mirroring the target dashboard, analysts can report net pressure (target impact minus diversion plus sender cost) and advise on instrument re-balancing (e.g., shifting from broad commodity bans to narrower technology denial if the former impose disproportionate domestic burdens). The draft handbook’s spillover section sketches methods—gravity for trade, DiD/event study for prices and credit—for this purpose.

## 6. Secondary and Spillover Effects

Sanctions rarely confine their consequences to the primary target; they propagate through regional trade corridors, financial rails, commodity markets, and social narratives. In the case of Russian Sanctions, third-country effects are most visible in the rerouting of trade and payments through parts of Asia, where intermediary hubs facilitate re-exports, documentation changes, and alternative settlement via SPFS/CIPS or crypto venues. Maritime telemetry complements customs data: longer voyage distances/ton-miles, rising reliance on shadow-fleet tonnage, and port-service denials in Europe jointly indicate that compliance pressure inside the EU is being partly externalised to third-country logistics systems. In the near-abroad, spillovers operate through FDI, remittances, and supply-chain ties—patterns documented for CIS and CEE economies in the literature reviewed in this handbook—so that shocks to Russian GDP register as meaningful contractions in neighbouring output even when those states are not formal senders. The net result is a geographic redistribution of rents and risks: commercial opportunity for intermediaries that tolerate circumvention, and macro-exposure for partners tightly coupled to Russian demand, labour markets, or commodity transit.

On the sender side, the EU bears tangible adjustment and enforcement costs that must be tracked alongside target-side impacts. Trade measures imply foregone exports and investment, higher compliance, freight, and insurance premia, and—in energy policy—price pass-through that can require budgetary buffers, solidarity mechanisms, or targeted transfers to shield vulnerable households and firms. Financial-messaging bans and broader prudential frictions impose operational burdens on EU intermediaries (screening, due-diligence, licensing), with indirect effects on liquidity for legitimate cross-border transactions. Cultural and diplomatic measures also carry costs at home: withdrawn sponsorships, lost tourism receipts, and reduced international programming in arts and sports. A credible evaluation therefore maintains a

parallel sender dashboard—sectoral export shortfalls by HS line, greenfield cancellations, macro pass-through to prices, and public-opinion time series on fairness and fatigue—to sustain coalition cohesion over multi-year horizons and to inform instrument re-balancing (e.g., shifting from broad commodity bans to higher-leverage technology denial when domestic burdens dominate).

At the global level, sanctions and counter-moves re-price and re-volatilise key commodities. In oil and gas, the interaction of price caps, service bans, and shadow-fleet constraints expresses itself through destination shifts, widening Urals–Brent discounts, and logistics-driven volatility as voyages lengthen and insurance/class coverage tightens; gas markets experience delayed but material effects via LNG contract maturities and re-contracting, with European storage and winter demand acting as amplifiers. Agricultural and metals markets transmit shocks via wheat, nickel, and palladium: when exporters reorient toward “friendly” buyers, global benchmark prices and basis spreads can spike episodically, while bottlenecks in storage, transit, and financing elevate carry and working-capital costs for traders worldwide. These market-level disturbances feed back into both target and sender macro conditions and complicate causal attribution in policy evaluation: observed price or volume changes on global exchanges may reflect the joint effect of sanctions, war risk, and unrelated macro cycles.

Finally, social and political externalities emerge in both the target and the senders. Distributional strains concentrate in exposed sectors and regions—ports, heavy industry, agriculture—creating community-level grievances that can turn into protests or “fairness” debates about who bears adjustment costs; conversely, in the target these burdens are frequently reframed by authorities as “fortress under siege” narratives that bolster regime cohesion despite material losses. In the informational sphere, propaganda and counter-propaganda compete; media bans reduce the reach of state-sponsored outlets abroad, but proxy channels and alternative platforms arise, requiring analysts to track audience metrics and narrative uptake rather than assuming silencing. Cultural sanctions—exclusions from festivals, neutral-flag participation, visa denials—operate through delegitimization and de-platforming, yet can also catalyse replacement forums that entrench isolation rather than reversing behaviour. For measurement, this handbook therefore pairs access and presence indicators (visas, invitations, platform bans) with belief and identity metrics (pride, perceived isolation, emotive framing) to distinguish temporary dislocation from durable shifts in soft power.

## 7. Assessing Russia’s Adjustment to EU Sanctions: Early Signals

This chapter examines Russia’s early political-economic and societal adjustment to the EU’s post-2022 sanctions regime, drawing on survey evidence, macroeconomic indicators, defence-industrial data, and comparative insights from sanctions research.

### Societal effects

According to a survey conducted by *Фонд Общественное Мнение*<sup>5</sup> (2025) (the Public Opinion Foundation) in 2025, only 12% of Russians note a serious impact of sanctions on their lives, 25% feel weak influence, and 57% see no changes. This outcome is aligned with the study conducted by *Рожкова, Сальникова, Тактарова* (2024). The authors concluded that Russians showed little concern about sanctions and their impact on everyday life in 2014. After 2022, half of the respondents believed that sanctions did not have a significant impact on their lives. Although young people are less likely to share this view, they also believe that the sanctions have not greatly affected their financial situation or lifestyle. Only 10% of Russian respondents are concerned that some foreign brands and companies left the Russian market (*Рожкова, Сальникова, Тактарова* 2024). Moreover, 19% expect the restrictions to be lifted in the next 1-2 years, while 9% predict they will be tightened. More than half of respondents (53%) believe that easing sanctions will benefit the economy, while 13% fear negative consequences (*Фонд Общественное Мнение* 2025).

### Social Well-Being Index

The Social Well-Being Index compiled by the All-Russian Public Opinion Research Centre (*ВЦИОМ*) summarises public sentiment across six dimensions: life satisfaction, social optimism, personal financial situation, assessments of the national economy, political conditions, and the country’s overall development trajectory.

The index is calculated monthly using data from the VTsIOM-Sputnik survey, which interviews 1,600 adults (18+) via stratified random sampling of mobile phone numbers across the Russian Federation. Results are weighted by key socio-demographic factors. The maximum sampling error at a 95% confidence level is  $\pm 2.5\%$ , although additional non-sampling biases—such as question wording or the political environment—may influence responses.

The dynamics of some social and well-being indexes can also add to the picture of societal changes influenced by sanctions. According to the World Population Review, Russia's Social Progress Index<sup>6</sup> fell from 72 points in 2022 to 68.3 points in 2025. Some authors, for example, *Руденко* (2025) explain the reduction by insufficient imports of certain types of food and essential goods which have forced consumers to choose lower-quality products or pay inflated prices. This has a negative impact on living standards and exacerbates wealth inequality. Restrictions on imports of goods and technologies have led to shortages of a number of products

<sup>5</sup> The Public Opinion Foundation is Russian non-for-profit organisation that conducts sociological research.

<sup>6</sup> See World Population Review: <https://worldpopulationreview.com/country-rankings/social-progress-index-by-country>

and reduced access to quality medical and consumer services, which exacerbates social inequality (Руденко 2025).

Research by Джавадова (2025) suggests that the imposition of sanctions has significantly complicated the introduction of innovative technologies in healthcare, which has affected the competitiveness of Russian medicine on the international stage. Similar to other countries, sanctions in Russia can also lead to substantial negative impact on public health, which will become a reason for growing mortality (see Rodríguez, Rendón, Weisbrot 2025). However, the long-term effects of sanctions on public sentiment are more nuanced. Research by Онучин (2017) indicates the following conclusions—while initial support for the government may be strong, prolonged economic hardship can lead to disillusionment and social unrest. This dynamic is critical for understanding the potential for social movements and opposition to arise in response to sustained sanctions.

### **Economic effects**

Sanctions have had influence on Russian economy in several ways. The most visible might be the financial side of it with Russian assets frozen by Western powers. Russia entered the 2022 crisis with substantial buffers, including US\$643 billion in international reserves (Central Bank of Russia, early 2022). However, following sanctions on the Bank of Russia, around US\$300 billion (nearly 45% of total reserves) became frozen in G7 and EU jurisdictions. Additionally, international payment systems, cross-border financing, and access to foreign loans have become very difficult for many Russian banks and companies. This has caused foreign direct investments to plunge sharply. FDI inflows collapsed by more than 95% in 2022–2024 (UNCTAD). By 2023, more than 1,000 multinational firms had scaled down or exited operations.

Energy markets have played a pivotal role in cushioning Russia's GDP from deeper contraction. Even though Russia has used a shadow fleet to keep exporting raw materials (IEA suggests ~550–600 vessels), mostly crude oil, targeted sanctions have had some impact. Oil export revenues fell by ~US\$30–40 billion in 2023 relative to 2021, despite high global prices, due to discounts and logistics costs. Gas revenues were hit even harder. Pipeline deliveries to Europe collapsed by 80–90% after 2022, forcing Gazprom revenues down from US\$140bn (2021) to ~US\$80bn (2023). Despite the former deputy minister of finance of Russia Sergey Aleksashenko's assertion that „since the global economy cannot grow without increasing its consumption of natural resources, the demand for Russian raw materials is maintained”, the most recent and especially secondary sanctions on the demand side seem to have an effect. These revenue shifts from energy sector impacted the external balance. Russia's current account surplus, which peaked at US\$233 billion in 2022, dropped to US\$50–60 billion in 2023

There is rather strong evidence that the sanctions regime constrains Russia's access to advanced technologies and industrial equipment and affect high-tech end of industrial output. Already data from 2022 showed that „manufacturing in particular – growing steadily before the invasion – was down 6% at the end of 2022, with high and medium-high technology manufacturing recording a 13% annual loss”, as Josep Borrell wrote. On the other hand, low-tech manufacturing stabilised or expanded due to war demand. Import dependence remains high: Russia previously relied on foreign suppliers for 90% of advanced machine tools, 70% of industrial electronics, and 65% of pharmaceutical ingredients. Shortages in these categories

lead to extended maintenance cycles, increased cannibalisation of parts, and reduced competitiveness in high-value manufacturing.

There has been no sharp decline in Russian GDP so far. On the other hand, the military expenditures surged above 6% of GDP in 2023–2024. But again, unless exported, this sector is supported by state contracts which must be funded by other economic activity. This can decline over time because of sanctions, high interest rates, erosion of FDI, and skilled labour outflow which reduces long-term growth potential, innovation capacity, and productivity.

Russia's state budget has progressively shifted into a wartime fiscal posture, reflected in both the composition and the balance of public finances. After a modest +0.3% of GDP surplus in 2022, supported by early-year energy windfalls, the federal budget swung into a –3.6% of GDP deficit in 2023, equivalent to roughly 3.3 trillion rubles. Preliminary data for 2024 indicates another sizeable deficit of –2.5% to –3% of GDP, despite extraordinary revenues collected through windfall taxes on state-owned firms and expanded profit-based levies on energy companies. Meanwhile, the liquid share of the National Wealth Fund—which the government has used to finance deficits and support sanctioned industries—has declined from US\$112 billion in early 2022 to below US\$60 billion by mid-2024.

### **Military effects**

There are two main ways how sanctions can affect Russian military capabilities – manpower and machine-power. Concerning the latter, the impact can be direct. Sanctions and export controls have cut off Russia's access to many Western and foreign high-tech and dual-use components for modern weapons, vehicles, missiles, drones and other systems. As a result, Russia has had difficulties replacing destroyed or lost equipment with newly produced modern equivalents. However, this effect is countered by evading sanctions through third parties or using technologies from Russian-friendly states. Russia has increased substitution with lower-quality components, importing large volumes of Chinese-made microchips (often of inferior reliability) and using commercial-off-the-shelf electronics in place of hardened military-grade systems. Similarly, supply-chain tracking shows that Russia channels dual-use goods through intermediaries in Turkey, UAE, Kazakhstan, Kyrgyzstan, and China, with such re-exports rising by 200–400% in some HS categories between 2022 and 2024.

Production data also reveal significant technological downgrading. According to Western defence intelligence estimates, Russia is producing 35–40 modern tanks (T-72B3M/T-80BVM/T-90M) per month but loses up to 150 tanks per month at peak periods on the battlefield, forcing dependence on refurbished Soviet-era T-62 and T-55 platforms, thousands of which have been withdrawn from long-term storage. The same dynamic applies in aviation: modern airframes cannot be replaced at scale, and Russia increasingly flies older Su-24 and Su-25 aircraft, with maintenance cycles lengthening due to part scarcity. Russia has compensated for some gaps by integrating systems from Iran (Shahed-136/131 drones) and North Korea (artillery shells, ballistic missiles). Iran has supplied thousands of Shahed-class drones, while North Korea shipped an estimated 1–1.5 million artillery shells by mid-2024.

As for manpower, the impact of sanctions is indirect. Russia has relied on fees paid to new recruits to join the armed forces. By 2023–2024, regional authorities were offering signing bonuses ranging from 200,000 to 500,000 rubles, with some regions exceeding 700,000 rubles

for specialized roles. These have become serious burden on public finances because of the economic situation. These payments came mostly from regional budgets, but they have run out of money. As Cohen reports, “over two dozen Russian regions have slipped into deficits. Under mounting pressure, governors have begun slashing payments”. This can have a long-term impact on Russia’s ability to continue fighting. Beyond recruitment finances, wartime mobilisation triggered an outflow of skilled labour. Independent estimates suggest 700,000–1 million Russians left the country between 2022 and 2024, disproportionately among IT specialists, engineers, and young men—the same demographic targeted for recruitment.

## 8. Conclusion

This handbook has translated a sprawling sanctions architecture into a replicable measurement programme. By anchoring each instrument in a clear theory of change and allocating indicators across four pillars—Military, Political, Economic, and Socio-cultural—it offers analysts a disciplined way to track how EU measures travel through capacity, incentives, and behaviour. The approach is deliberately modular: indicator menus can be adapted to data realities without sacrificing comparability over time or across cases. In short, the report prioritises what to measure and how to measure it.

The European Union has moved from foundational acts to granular, enforcement-heavy packages that close loopholes and harden financial and transport constraints. This legislative trajectory matters because indicator choices must map to the instruments actually in force at each point in time (e.g., price-and-volume pairing in energy alongside service bans; readiness/maintenance telemetry alongside dual-use controls). The handbook’s mapping of packages and the methodological chapters together provide the scaffolding required to align measurement windows, data sources, and sufficiency thresholds with evolving law and practice.

The Annex indicator matrix is central to operational uptake—and it is intentionally a living resource. The table in the appendix should remain open to improvement and editing: analysts are encouraged to propose new indicators (with definitions and sources), retire redundant ones, refine sufficiency thresholds, and document data provenance and versioning. Suggested governance includes a changelog, peer-reviewed pull requests, and periodic consolidation into citable releases to support transparency and re-use across institutions. This iterative maintenance will keep the framework aligned with changing packages, evasion tactics, data availability, and research best practice. Looking ahead, the value of this handbook is practical: it enables auditable claims about whether specific sanctions are biting through the intended channels, at an adequate pace, and at sustainable cost. It provides a common language for policymakers, regulators, and researchers to recalibrate instruments, communicate trade-offs, and prioritise scarce enforcement capacity. As coalitions, markets, and narratives adapt, the framework here—rooted in modest, testable propositions and shared indicator sets—offers a stable base for continual learning and responsible decision-making.

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# Annexes

## Appendix A — Measurement Matrix for Sanctions’ Effects

This appendix summarises indicators for each sanction instrument across four domains (Military, Political, Economic, Socio-cultural), with suggested data sources/methods and indicative time-to-impact. It distils the chapter text into a compact, reference-ready table for analysis planning.

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
Economic sanctions	Trade sanctions	Import bans		Acknowledgement: number of mentions in official statements compared to the period prior to the sanction imposition Substitute markets: trade deals with third countries Extent: the amount of sectors/products covered by sanctions packages Extent: number of products added to new sanctions packages Trade relations: change in the number of business delegations visits	Volume/value changes: Decline in Russian imports from EU countries Substitution effect: Rise of non-sanctioning suppliers, change in aggregate share of “non-sanctioning” origins (e.g., Asia) in targeted HS codes Substitution effect: Import Diversification Index (Herfindahl–Hirschman Index of supplier concentration) Price effect: Average import unit values for	Availability of consumer goods (survey-based index): % of consumers reporting shortages Public sentiment on shortages (media/social media): sentiment polarity score Black-market activity proxies: price mark-ups vs official prices Impact on cultural consumption (foreign brands, lifestyle goods): number of foreign brand outlets closed Consumer adaptation strategies: % of households

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					<p>affected goods  Price effect: Inflation in sanctioned goods categories (food, tech)  Logistics costs: Average delivery time or transport costs  Downstream effects: Production halts in Russian industries relying on imported goods (e.g., aerospace, arms)</p>	<p>using substitute/local goods (survey data)</p>
Economic sanctions	Trade sanctions	Export bans		<p>Acknowledgement: number of mentions in official statements compared to the period prior to the sanction imposition  Substitute markets: trade deals with third countries  Extent: the amount of sectors/products covered by sanctions packages  Extent: number of products added to new sanctions packages</p>	<p>Volume/value changes:  Drop in exports to EU  Substitution: Share of sanctioned exports redirected to “friendly” markets (China, India, Turkey)  Export price discount vs benchmark: Average export unit value vs global benchmark for the same HS codes (e.g., refined products, metals)  Capacity utilization: % change in capacity utilization in export-oriented sectors (e.g.,</p>	<p>National prestige and reputation loss:  international survey ranking of Russia’s image  Cultural narratives in media: frequency of ‘isolation’ mentions in domestic press  Impact on professional identity: unemployment or migration rates in export sectors  Migration of skilled workers: number of work visas issued abroad for professionals  Shifts in cultural</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					metals, chemicals) Mirror-statistics gap: RU-declared exports vs partner-reported imports; anomalies suggest roundabout routes.	diplomacy: number of Russian participants in international fairs/expos
Economic sanctions	Trade sanctions	Embargoes			Binary impact: Trade flow of sanctioned goods drop to zero Neighbouring-country anomalies: Growth of targeted HS codes in nearby non-embargo countries vs control HS codes Smuggling indicators: Volume of “mirror statistics” mismatch (Russia’s export data vs. partner’s import data) Enforcement activity: Number/value of seizures, detected violations, enforcement actions for embargoed goods Domestic price premium: RU domestic price /	Perceived isolation: % respondents in surveys agreeing 'Russia is isolated internationally' International cultural exchange programs: number of cancelled exchanges/study abroad programs Reduced foreign travel opportunities: decline in outbound tourism (UNWTO data) Loss of global cultural exposure: decline in imported films/books/art pieces Rise in self-sufficiency narratives: frequency of 'import substitution' keywords in media

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					global benchmark price for embargoed goods	
Economic sanctions	Trade sanctions	Dual-use restrictions (Civilian and military)			<p>Technology imports: Value of advanced machinery, electronics, semiconductors (HS 84–90 subsets) Shift to non-EU/US origins: Change in origin shares (non-EU/US) within targeted HS codes Innovation impact: Decline in patent filings involving restricted tech Industrial dependency: Ratio of domestic substitutes vs. imported high-tech inputs Export-license denials: Count/value of license denials for dual-use items</p>	<p>Reduced access to international academic cooperation: Decline in co-authored scientific publications with foreign partners (Scopus, Web of Science) Decline in student/staff mobility: Number of Russian students/academics participating in Erasmus+, Fulbright, or similar exchanges Public opinion on technological backwardness: % of survey respondents who agree with statements such as “Russia is falling behind technologically.” Reduced participation in global research/innovation networks: Drop in memberships or attendance at international scientific conferences, exhibitions, fairs</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
						Adaptation through domestic substitutes: Number of domestic patents or technology solutions filed as replacements for sanctioned dual-use goods.
Economic sanctions	Financial sanctions	Freezing assets			Reported frozen assets: Value announced by EU/US Reserve usability: Share of Central Bank reserves frozen vs. accessible Blocked dividend/coupon payments: Value of payments blocked/suspended by custodians/clearing systems	Loss of elite lifestyle abroad (travel, property use restrictions): spendings on international travel Impact on cultural philanthropy by elites: donations to cultural institutions (value, count) Symbolic effect on fairness: % survey respondents agreeing sanctions are 'fair punishment' Changes in migration intentions: % of wealthy households applying for second passports Media portrayal of elites: frequency of coverage in cultural/popular discourse

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
Economic sanctions	Financial sanctions	Banking restrictions			<p>International transactions: Decline in Russian cross-border banking claims (BIS statistics).  Foreign currency deposits: Fall in USD/EUR holdings in Russian banks  Net interest margin: Avg. loan rate – avg. deposit rate (widening indicates higher intermediation costs)  Ruble exchange rate volatility (daily/monthly)  Sovereign CDS spreads (country default risk)</p>	<p>Restrictions on international study: number of rejected tuition payments abroad  Barriers to cultural tourism: outbound tourism expenditure (World Bank data)  Impact on remittances: decline in total inward remittance flows  Reduced cultural market participation: number of Russian exhibitors in art/film/music fairs  Public dissatisfaction: % respondents perceiving 'financial isolation' in surveys</p>
Economic sanctions	Financial sanctions	SWIFT bans			<p>SWIFT message volume: Drop in Russia-related messages  Share of banks disconnected: number of disconnected banks relative to total  Cross-border payment latency/success: Average</p>	<p>Reduced NGO/cultural funding: number/value of cross-border NGO/cultural transfers blocked  Difficulty with subscriptions: % decline in payments to international streaming/journal platforms  Restrictions on diaspora</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					<p>days to settle and success rate for cross-border payments  Alternative adoption: Increase in SPFS/CIPS transaction shares</p>	<p>remittances: decline in remittance inflows recorded  Decline in cultural cooperation projects: number of halted international cultural projects  Cultural isolation sentiment: sentiment analysis in media/social media</p>
Economic sanctions	Financial sanctions	Investment restrictions			<p>New investments in prohibited sectors: Value of new commitments (energy, mining, etc.)  Cancelled/postponed projects: Count/value of projects suspended or cancelled post-sanctions  Portfolio outflows: Capital flight from Russian equities/bonds  Portfolio flows: Net foreign flows to RU equities/bonds; change vs baseline.</p>	<p>Reduction in foreign support for cultural infrastructure: value of cancelled projects  Less sponsorship in arts/sports: count/value of sponsorship contracts withdrawn  Fewer joint cultural events: number of cancelled joint concerts/festivals  Decline in consumer culture exposure: % fall in imports of international lifestyle goods  Perceptions of declining</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
						modernization: % agreeing in surveys
Economic sanctions	Investment sanctions	Banning FDI			<p>FDI inflows: UNCTAD or Central Bank of Russia – annual net inflows</p> <p>FDI stock: Decline in cumulative foreign-owned assets</p> <p>Greenfield projects: Count of new FDI projects announced</p> <p>Jobs from FDI: New jobs associated with FDI projects</p> <p>CAPEX by foreign-owned firms: Capital expenditure by foreign subsidiaries in RU</p>	<p>Loss of foreign retail brands: % decline in foreign-owned retail outlets</p> <p>Cultural homogenization: share of domestic brands in consumer spending</p> <p>Reduced leisure/entertainment diversity: number of closed international cinemas/venues</p> <p>Perceived isolation from global trends: survey-based perception index</p> <p>Employment shift in visible sectors: number of jobs lost in foreign retail/services</p>
Economic sanctions	Investment sanctions	Prohibiting joint ventures			<p>Active JV count: Number of active JVs</p> <p>JV output: Output index/units (e.g., autos, energy equipment) from JVs</p> <p>JV employment: Employees on JV payrolls</p>	<p>Decline in co-produced cultural products: number of co-produced films/music/media</p> <p>Loss of international sponsorships: value of cultural sponsorship contracts withdrawn</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					<p>JV registrations: Number of foreign JV entities deregistered or suspended</p> <p>Tech licenses/know-how: Count/value of new licensing agreements signed</p> <p>Sectoral impact: Oil/gas, automotive JV production volumes</p>	<p>Reduced professional exchanges: number of cultural professionals in exchange programs</p> <p>Shrinking exposure to international business culture: surveys on workplace practices</p> <p>Media narratives of 'us vs them': frequency of keywords in cultural press</p>
Economic sanctions	Investment sanctions	Blocking stock market access			<p>IPO activity: Zero or near-zero foreign listings post-sanctions</p> <p>Foreign holdings: Share of foreign investors in Moscow Exchange turnover</p> <p>Offshore bond issuance: Count/value of Eurobond issues by RU entities</p> <p>Analyst coverage: Number of sell-side houses covering RU issuers</p>	<p>Reduced ability of cultural institutions to raise foreign capital: number of cancelled listings/bonds</p> <p>Loss of sponsorship in arts/sports: value/count of sponsorships withdrawn</p> <p>Decline in branding via corporations: fall in corporate cultural event sponsorships</p> <p>Discourse on sovereignty vs isolation: frequency in media/social media</p> <p>Emigration attitudes of white-collar workers: %</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
						intending to emigrate (survey data)
Economic sanctions	Commodity specific sanctions	Oil and gas restrictions			<p>Export volumes: Crude oil, refined products, natural gas pipeline flows (IEA)</p> <p>Price spreads: Urals–Brent discount (market distortion measure)</p> <p>Budget dependency: Share of oil/gas revenues in Russia’s federal budget</p> <p>Destination shift: Shares of India/China/Türkiye in RU oil/product exports</p> <p>Ton-miles / voyage distance: Average nautical miles per exported barrel; change indicates rerouting</p> <p>“Shadow fleet” share: Avg. tanker age; % voyages without Western insurance/classification</p>	<p>Impact on national pride: % survey respondents linking pride to energy exports</p> <p>Public discourse on decline: frequency of 'loss of influence' narratives</p> <p>Reduced funding for state culture: cultural budget allocations (value)</p> <p>Resilience/sacrifice narratives: prevalence in cultural production (theatre, film)</p> <p>Cultural alienation: survey data on Western attitudes toward Russian energy consumers</p>
Economic sanctions	Commodity specific sanctions	Technology bans		State-funded initiatives: announcements of state-funded technological/innovation	Import statistics: Decline of value/volume in specific high-tech categories	Reduced access to digital platforms: % decline in subscriptions/downloads (e.g., app stores)

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
				<p>programmes</p> <p>Tech "giants": announcements of collaboration between global/regional tech companies and the sanctioned state</p>	<p>(semiconductors, turbines, aircraft parts)</p> <p>Unit value/spec changes: UV_post / UV_pre (quality/spec proxy)</p> <p>Production indicators: Drop in domestic output of tech-intensive goods (cars, aircraft, IT hardware)</p> <p>Age of imported equipment: Share of used vs new machinery in imports</p> <p>R&amp;D and patents: changes in R&amp;D costs and patent filings in targeted technology areas</p>	<p>Decline in research networks: drop in international co-authored publications</p> <p>Public frustration with outdated tech: % respondents reporting dissatisfaction</p> <p>Brain drain of IT professionals: annual number of emigrating IT workers</p> <p>Growth of domestic alternatives: number of domestic app/platform launches</p>
Economic sanctions	Commodity specific sanctions	Commodity trade bans	<p>Supply disruption: shortages of dual-use or critical inputs (metals, fuels, chemicals) affecting defence production</p>	<p>Pivot to new trade partners: number and content of new commodity trade agreement with third countries</p> <p>High-level visits: increase in high-level visits to and from third countries to sign commodity trade agreements</p>	<p>Export volumes: Metals, agricultural exports (UN Comtrade)</p> <p>Global price impact: Wheat, nickel, palladium – world market price spikes</p> <p>Market reorientation: Share of sanctioned commodities going to non-EU buyers</p>	<p>Impact on rural communities: employment change in affected agricultural/mining regions</p> <p>Cultural discontent: survey-based grievances among workers</p> <p>Symbolic narratives: frequency of 'unfair treatment' mentions in state media</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
					Domestic price indices: Producer/retail price indices for the targeted goods/categories	Lifestyle shifts (food bans): % change in consumption of restricted foods Decline in cultural visibility: number of exports featured in international fairs/festivals
Diplomatic sanctions	Diplomatic ties	Downgrading ties	Limited military contact access: reduced grade of defence contacts	Representation level: share of countries with an official ambassador present in the sanctioned country Representation level: share of countries where the sanctioned country has an ambassador present Embassy staff: change in the number of staff in the host country embassy Treaties: number of international treaties signed with the sanctioned country after sanction imposition		
Diplomatic sanctions	Diplomatic ties	Cutting ties	Disrupted intelligence: loss of military attaché networks and formal information channels	Embassy status: existence and level of diplomatic representation Statements: statement about cutting ties		Border status: closure of border Logistics: international public transportation routes Public travel: % of people

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
				Termination of treaties: suspension of bi- and multi-lateral treaties Common events: diplomatic/political presence in common events Visits: suspension of official visits of political elites		travelling between the imposing and sanctioned country
Diplomatic sanctions	Diplomatic ties	Restrictions on Diplomatic Privileges	Disrupted intelligence: reduced ability for military attachés or spy diplomats to gather intelligence or coordinate logistics abroad Communication limits: constraints on informal defence contacts that operate under diplomatic cover	Lost access: number of diplomats with access to high-level forums Detention: number of diplomats accused of inappropriate behaviour Retaliation dynamics: potential reciprocal measures	Operational cost increase: increased costs associated to diplomatic activity	Propaganda dispersion: fewer cultural/diplomatic events abroad
Diplomatic sanctions	International Organisations	Suspension from International Organizations	Membership: reduced membership in security-related organisations Loss of influence: reduced membership in international missions	Suspension: number of organisations that suspended membership Non-suspension: number of organisations that the country is still a member of Replacement: creation of alternative IOs	Investment deals: reduction of trade, aid and investment deals involving the sanctioned state Policy cost: reduced access to arbitration, trade dispute systems, or	Diplomats: reduction in number of diplomats serving in permanent representations to international organisations International organisations staff: reduction in the number of diplomats

<b>Level-1 Family</b>	<b>Level-2 Subfamily</b>	<b>Level-3 Instrument</b>	<b>Military indicators</b>	<b>Political indicators</b>	<b>Economic indicators</b>	<b>Socio-cultural indicators</b>
			(incl. peacekeeping missions)	Leadership: number of officials from the sanctioned country in key positions in IOs (secretary-generals, chairmen etc.) Presence: presence of officials in IO meetings (incl. observers) NGO/Business access: number of transnational actors with access to the IO Mention: count of the sanctioned country mentioned as a participant in IO statements/documents	regulatory harmonization support	originating from a sanctioned state working in the staff of an international organisation Students: reduction in the number of students studying International Relations Perceived isolation: % respondents in surveys agreeing 'Russia is isolated internationally'
Diplomatic sanctions	International Organisations	Banning Participation in Multilateral Forums	Military leaders present: participation statistics of sanctioned military leaders	Diminished diplomatic leverage: % of countries voting for proposed texts by the sanctioned country Political/diplomatic presence: presence of the diplomatic or political elites of the sanctioned country Replacement: qualitative assessment of countries opting to take part in alternative forums created by the sanctioned state	Investment deals: reduction of trade, aid and investment deals involving the sanctioned state	Public sentiment: % respondents agreeing to statements related to international isolation

<b>Level-1 Family</b>	<b>Level-2 Subfamily</b>	<b>Level-3 Instrument</b>	<b>Military indicators</b>	<b>Political indicators</b>	<b>Economic indicators</b>	<b>Socio-cultural indicators</b>
Military sanctions	Military Cooperation	Suspension of Defence Contracts and Military Aid	<p>Combat readiness: units ready for combat/fully equipped</p> <p>Use of Western military equipment: qualitative assessment of the use of Western military equipment/components by the sanctioned state</p> <p>Capability gap: halted delivery of weapons, spare parts, or upgrades slows modernization</p> <p>Operational strain: reduced access to maintenance services and foreign technical support</p>	<p>Decrease in high-level visits: number of visits by military/political establishment</p> <p>Reduction in defence contracts: number of defence contracts signed/suspended</p> <p>Decrease of aggressive posture: qualitative assessment of the change in posture of official statements</p> <p>Alliance signalling: visible downgrading of partnerships</p>	<p>Budgetary redirection: state funds allocated to domestic production</p> <p>Black market funding: state funds directed for non-transparent operations</p>	Jobs in the defence sector: number of people employed in the defence sector
Military sanctions	Military Cooperation	Prohibition of Military Training and Cooperation	<p>Combat readiness: units ready for combat/fully equipped</p> <p>Capability degradation: reduced exposure to foreign doctrine, tactics, and joint exercises</p> <p>Training bottlenecks: slower professionalization</p>	<p>Decrease in high-level visits: number of visits by military/political establishment</p> <p>Replacement: increase in alternative training partnerships</p>	<p>Contract losses: cancelled training-related service agreements and foreign instructor programs</p> <p>Cost increase: additional domestic budget needed to replace foreign training infrastructure</p>	Media: decrease in the number of mentions of high-profile joint exercises showcased in media (domestic and international)

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
			of officers and special units			
Military sanctions	Military Cooperation	Sanctions on Military Leaders and Entities	Procurement difficulties: decreased access to sanctioned training and contractors Operational understanding: decreased understanding of the operational picture abroad	Decrease in high-level visits: number of visits by military/political establishment Elite cohesion: internal reshuffling around sanctioned figures	Asset freezes: value of blocked offshore holdings, real estate, and financial instruments	
Military sanctions	Sanctions on military hardware	Arms embargoes	Combat readiness: units ready for combat/fully equipped Use of Western military equipment: qualitative assessment of the use of Western military/dual-use equipment/components by the sanctioned state Replacement capacity: origin of the arms used Limited stockpiles: use of outdated arms on the battlefield Ammunition stockpiles: change in the ammunition stockpiles, particularly for	Statements: number of countries abiding to arms embargo Power centralisation: the state consolidates weapons production and armed forces (incl. local defence forces) under government control Oligarchs gain power: new oligarchs close to the central administration that help to circumvent embargos Substitute partners: number of arms treaties signed with third countries	Arms exports/imports: relative value change in arms exports/imports (SIPRI) Origin of arms exports/imports: data on the origin of exported/imported arms (SIPRI) Re-export of arms: value of "second-hand" arms sold to the sanctioned country Rise of consumer prices: % increase of consumer	Reduction/increase in violent crimes: change in violent crimes, indicating black market proliferation Rise in corruption perception: % respondents in surveys indicating that corruption is a problem in the country Change of local economies in border regions: decrease of GDP per capita in border regions, indicating the rise of shadow economy Sovereign resistance narrative: narratives in national media as "fortress

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
			weapons under embargo Ammunition/arms variety: the amount of similar weapons systems with varying calibres and ammunition used		prices due to increased production of arms	under siege", blaming external actors
Military sanctions	Sanctions on military hardware	Ban on Military Technology and Dual-Use Goods	Combat readiness: units ready for combat/fully equipped Use of Western military equipment: qualitative assessment of the use of Western military/dual-use equipment/components by the sanctioned state Replacement capacity: qualitative assessment of the level of technological rigour of the military/dual-use equipment used Limited stockpiles: use of outdated technology on the battlefield	Power centralisation: the state consolidates weapons production and armed forces (incl. local defence forces) under government control Diplomatic relations: change in the military/research contacts with alternative suppliers	Export of services: value of the services (incl. software) provided to the sanctioned country Pivot in funding: funding allocated to substitute imports	Decline in jobs in the defence sector: number of people employed in the defence sector Public sentiment: % of respondents in surveys agreeing to "Russia is technologically backward" Increase of funds for science: value of direct funds directed towards science Increase of student support: value of stipends for students in technology studies Government narrative: increase in narratives promoting self-reliance

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
Cultural Sanctions	Sports Sanctions	Bans on participation in international competitions		Foreign visits: decreased international outreach through the political elite not being able to visit international events Replacement: creation of alternative leagues or competitions	Decrease of funds for sports: amount of award money won in international competitions	Decrease in exceptions: number of athletes of Russian origin under third country or neutral flag Decrease in visas: change in the number of visas issued to Russian athletes
Cultural Sanctions	Sports Sanctions	Cancelling hosting rights for global sports events		Decrease in legitimacy: decrease in the number of foreign officials travelling to the country Replacement: creation of alternative sports events	Organisational funding: money allocated to the sanctioned state to organise a global sports event (incl. infrastructure, broadcasting rights, etc.)	National pride: % respondents indicating national pride National pride: number of mentions of a global sports event organised in the sanctioned country as a source of national pride Travel: change in the number of tourists travelling to the sanctioned country for global sports events
Cultural Sanctions	Sports Sanctions	Stripping teams or athletes of the right to compete		Elite discourse: framing of athletes who compete under neutral flag as "traitors" Replacement: creation of alternative sports		Discourse: framing of the neutral flag as positive/negative in national media Public pride: % respondents

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
		under their national flag		organisations/games Enforcement: number of organisations that ban sanctioned teams/athletes		who indicated a lack of national pride Athletes/teams competing under neutral/other flag: number of athletes/teams competing under an alternative flag Defection: number of athletes defecting Neutral athletes: number of athletes competing under a neutral flag
Cultural Sanctions	Academic and Educational Sanctions	Suspending student exchange programs.	Reduced foreign knowledge: fewer graduates with foreign training entering defence/dual-use research sectors	Replacement: new exchange agreements with non-sanctioning countries Elites: reduction in the number of children of the sanctioned elite studying in sanctioning countries		Mobility: number of outbound/inbound visas for exchange students Credits issued: change in the number of credits issued to students from sanctioned countries Language proficiency: reduced number of students taking language proficiency tests and scoring high levels in these tests Youth attitudes: change in youth perceptions of EU/West and emigration intent

<b>Level-1 Family</b>	<b>Level-2 Subfamily</b>	<b>Level-3 Instrument</b>	<b>Military indicators</b>	<b>Political indicators</b>	<b>Economic indicators</b>	<b>Socio-cultural indicators</b>
Cultural Sanctions	Academic and Educational Sanctions	Barring universities or research institutions from international cooperation.	Development: prolonged defence tech prototype development	Funding: restrictions on academic cooperation with the sanctioned country Centralisation: centralisation of research under state control and nationalising research Replacement: change in the number of alternative academic alliances with countries not sanctioning		Research cooperation: change in the number of international research projects between academic institutions Knowledge isolation: decline in joint publications, Erasmus-like exchanges, and co-funded projects Brain drain: increased researcher emigration or affiliation switching to foreign institutions Domestic narrative: increase in nationalist education campaigns
Cultural Sanctions	Academic and Educational Sanctions	Restricting access to global conferences or publications.	Knowledge flow disruption: reduced exposure to cutting-edge dual-use technologies in defence-related fields	Replacement: new parallel academic forums/pivot to existing low-level forums Strategic narrative: officials framing restrictions as ideological censorship		Decline in participation: number of prestigious conferences/ publications with Russian authors/presenters (conference/journal statistics) Impact factor changes: relative impact factor changes of Russian academics

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
						<p>International isolation: change in the number of co-authored academic publications with authors of Russian origin</p> <p>Shift of outlets: qualitative analysis of the publications where researchers of the sanctioned state publish</p> <p>Visa denial: number of visas denied for academic travel</p> <p>Virtual participation: number of researchers from the sanctioned state using virtual/alternative ways of participating</p> <p>Intellectual climate: domestic campaigns promoting replacement journals, anti-Western academic rhetoric, or self-sufficiency in science</p>
Cultural Sanctions	Academic and Educational Sanctions	Restricting access to global databases	<p>R&amp;D slowdown: decline in access to dual-use scientific literature and technical standards</p> <p>Military research: reduced citations or co-authorships</p>	<p>State narrative: analysis of state narratives involving technological independence</p> <p>Replacement: partnerships shifting toward non-Western</p>	Decrease in competitiveness: drawback in competitiveness as a	<p>Publications: decrease in quantitative publications</p> <p>Publications: decrease in the number of academic publications based on global databases</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
			<p>in defence-related research fields Reduction in patents: reduction in the number of patents for dual-use and military technology</p>	<p>research databases or open-source alternatives</p>	<p>result of lacking access to quality data</p>	<p>Isolation: Increase in studies using domestic data/studying Russia Employment of researchers: change in the number of researchers with links to sanctioned state/military affiliated to foreign universities/research institutes Academic isolation: drop in cross-border collaborations, conference attendance, and joint publications Brain drain: increased outmigration of researchers/students seeking unrestricted access abroad</p>
Cultural Sanctions	Arts and Cultural sanctions	Cancelling performances, exhibitions, or cultural tours.		Compensatory funds: compensatory funds by the Russian state for the internationally-oriented cultural groups		<p>Limited cultural exchange: number of performances by Russian artists Change in employment in the cultural sector: % people working in the cultural sector Visas: number of visas issued for tourism, culture Reduction of co-</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
						production: reduced co-productions/residencies Reach & engagement: drop in international audience counts (tickets)
Cultural Sanctions	Arts and Cultural sanctions	Preventing artists, musicians, or filmmakers from representing their country abroad.		<p>Increased criticism by the cultural elite: an increase in the number of people from the cultural elite openly confronting the political elite (open letters, criticism in (social) media)</p> <p>Increase in the number of long-term visa applications: an increase in the number of long-term visa applications by Russia's cultural elite</p> <p>Allies speaking out: content analysis of allied state media and diplomatic statements</p> <p>Participation in "alternative" festivals: monitor for the creating of similar international festivals and the countries that agree to participate</p> <p>Redefinition of banned artists: monitor the labelling</p>		<p>Drop in international recognition: reduction in the number of awards received by artists or for artistic products</p> <p>Outflow of cultural elite: rise in the number of artists leaving/condemning Russia</p> <p>Change in narrative: diaspora or exiled artists replace government-supported artists as cultural representatives</p> <p>Quality reduction: % respondents agreeing that culture in Russia is no longer world class</p> <p>Exporting culture: % respondents agreeing that Russia is not successful in exporting its culture</p> <p>Cultural diplomacy: reduction in the number of diplomats working on</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
				of banned artists as national enemies or martyrs		cultural exchange Mobility: visa denials/withdrawals for affiliated artists
Cultural Sanctions	Arts and Cultural sanctions	Banning cultural institutions from international festivals		<p>Condemnation: votes/statements by third countries defending/condemning the ban</p> <p>Participation in "alternative" festivals: monitor for the creating of similar international festivals and the countries that agree to participate</p> <p>Budget reallocation: budget reallocation to domestic culture</p> <p>Increased criticism by the cultural elite: an increase in the number of people from the cultural elite openly confronting the political elite (open letters, criticism in (social) media)</p> <p>Increase in the number of long-term visa applications: an increase in the number of</p>		<p>International exposure: drop in appearances/awards, streaming/catalogue placements tied to festivals.</p> <p>Visitors in domestic festivals: attendance increase/decrease in domestic festivals</p> <p>Mobility: visa denials/withdrawals for affiliated artists</p> <p>Economic impact: lost sponsorships/touring revenue for named institutions</p> <p>Quality reduction: % respondents agreeing that culture in Russia is no longer world class</p> <p>Exporting culture: % respondents agreeing that Russia is not successful in exporting its culture</p>

Level-1 Family	Level-2 Subfamily	Level-3 Instrument	Military indicators	Political indicators	Economic indicators	Socio-cultural indicators
				long-term visa applications by Russia's cultural elite		
Cultural Sanctions	Media and Entertainment Restrictions	Prohibiting state-sponsored media from operating abroad	Reduced recruitment: reduction in the number of foreign nationals volunteering in the Russian military	Number of countries banning: number of countries banning Russian state-sponsored media Number of outlets banned: number of Russian outlets banned in each country Regime narrative adaptation: creation of alternative channels or proxy media networks to bypass bans		Audience reach: statistics on the number of subscribers/viewers abroad Propaganda reach: % respondents stating Russian state-sponsored media as their main source of information Buying the narrative: % change of respondents agreeing to Russian narratives, pre- and post-ban Domestic reaction: % respondents agreeing that Russia is unsuccessful in exporting its narrative
Cultural Sanctions	Media and Entertainment Restrictions	Preventing states from participating in international events		International isolation: count of event cancellations/exclusions Narrative shift: state rhetoric around "fortress" or self-reliance intensifies in official communications		Decline in participation: decline in the number of high-prestige events with the sanctioned state present Public sentiment: polling or social media data on resentment vs. indifference

<b>Level-1 Family</b>	<b>Level-2 Subfamily</b>	<b>Level-3 Instrument</b>	<b>Military indicators</b>	<b>Political indicators</b>	<b>Economic indicators</b>	<b>Socio-cultural indicators</b>
						to exclusion from global arenas
Cultural Sanctions	Media and Entertainment Restrictions	Banning artist from performing in sanctioned states		Mobility of audience: number of visas issued to citizens of the sanctioned state for cultural purposes Mobility of artists: number of visas issued to artists to perform in the sanctioned state		Participation statistics: events with a performance by an artist from a sanctioning state Audience sentiment: % respondents agreeing that the sanctioned state is in international isolation