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The real-time impact of the war on Russian imports: a synthetic control method approach*

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Bank of Italy

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Abstract

In response to the invasion of Ukraine, the EU and most other advanced economies imposed extensive sanctions on Russia, intending to harm its production capabilities and hinder its economic activities by restricting its access to international trade and financial markets. This paper develops an empirical framework based on the synthetic control method to assess the impact of the war and the following sanctions on bilateral and sectoral exports to Russia almost in real time. The war and the following sanctions reduced aggregate exports to Russia by almost half between March-August, with the effects being stronger for sanctioning countries than for non-sanctioning ones, albeit with substantial country-level heterogeneity within each group. Exports to Russia in high-tech sectors–relatively more targeted by trade sanctions–have been disproportionately more affected.

Keywords: Synthetic Control, Russia, Sanctions, International trade, War
JEL Classification: F51, C54, F13

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1 Introduction

Following the Russian invasion of Ukraine in February 2022, the EU and several countries (the USA, the UK, Japan, Canada, and Australia, among others) imposed extensive sanctions on Russia.[1] The restrictions restrained the trade of goods and services, affected the financial sector (e.g., exclusion of most local banks from SWIFT), and even targeted specific individuals related to the Russian government, military, or state-owned enterprises. Moreover, several multinationals, including large transport and logistic firms, exited the Russian market or curtailed local operations.

Providing a credible quantitative assessment of the impact of the war and sanctions on the Russian economy remains complex because local institutions discontinued the publication of several official statistics (including monthly bilateral merchandise trade). Available figures and anecdotal information point to a significant blow to the Russian economy (Sonnenfeld et al., 2022), with some sectors already recording dramatic contractions in activity (e.g., car production dropped 77% year-on-year in September). The evolution of Russia's imports provides a valuable metric to glean the implications of the conflict and sanctions on its economy as it relates tightly to short- and long-run growth.[2] Russian domestic production relies on foreign intermediate and capital goods in many sectors (Grzegorczyk et al., 2022). In addition, reducing foreign, available varieties may decrease consumers' welfare, also through increased prices (Broda and Weinstein, 2004). However, focusing on nominal trade flows requires an appropriate counterfactual to account for the current dynamics of international trade characterized by high inflation and growing volumes.

This paper contributes to the debate on the real consequences of the war and the following sanctions (see Boungou and Yatié, 2022; Ferriani and Gazzani, 2022, for an analysis of the financial effects) by developing an empirical framework to assess their impact on Russian imports almost in real time.[3] This prompt and easy-to-update assessment could inform the debate among policymakers concerning the design of optimal sanctioning policies. Starting from the official export statistics of Russian partners, we use the synthetic control method to construct a no-war counterfactual for monthly imports in Russia. To the best of our knowledge, this is the first work that evaluates the *causal* impact of the war and the following sanctions on Russian imports.

[1] See Bown (2022) for a comprehensive timeline of the provisions adopted in the context of the war.

[2] See, e.g. Coe and Helpman (1995); Lawrence and Weinstein (1999) on the link between imports and growth.

[3] Other papers have assessed the long-run implications of the war using general equilibrium model-based approaches (e.g. Borin et al., 2022; Mahlstein et al., 2022).

We find that the war and the following sanctions almost halved exports to Russia over March-August 2022. Initially, both shipments from sanctioning and non-sanctioning countries were considerably affected. Then, when export bans and restrictions started to bind,[4] exports from sanctioning countries did not rebound and stood below 50% of the corresponding benchmark. Conversely, exports from non-sanctioning countries bounced back even exceeding the no-war counterfactual. Sectoral decomposition of exports shows that high-tech imports–such as motor vehicles and electronics industries, relatively more targeted by trade sanctions compared to other sectors–have been impacted the most (-60% compared to their counterfactual). Considering a naïve counterfactual, such as the pre-war level of Russian imports, instead of the synthetic control, would lead to underestimating the drop in Russian imports by almost a third.

2 Methods and data

We use the synthetic control method to build a no-war counterfactual for exports to Russia. The methodology has been used widely in the literature on policy evaluation (e.g., Abadie and Gardeazabal, 2003; Abadie et al., 2010, 2015), also in international trade (Saia, 2017), and even to analyze the effects of sanctions on GDP (Gharehgozli, 2017).[5]

More specifically, for a given flow to Russia from a country in our sample, the synthetic control method yields a no-war counterfactual, which relies on the convex combination of exports to other countries from the same origin country such that the weights minimize the distance between counterfactual and observed exports before the war.[6] Given that, we aggregate the distinct counterfactual flows to construct the total exports to Russia in a no-war scenario. As we compute a counterfactual for each trade flow to Russia, we can use this bottom-up approach also to disentangle the evolution of exports from distinct groups of countries (e.g., sanctioning vs. non-sanctioning countries). Moreover, our design also helps us delve into sectoral trade flows to assess the impact of the war and the following sanctions on specific goods (e.g., high-tech items exports).

The analysis relies on the Trade Data Monitor panel of monthly bilateral and

[4]Due to wind-down periods and exceptions, export bans and restrictions were not particularly binding in the first months following the start of the conflict.

[5]See Athey and Imbens (2017); Abadie (2021); Gilchrist et al. (2022) for a review and a discussion of the methodology.

[6]We detail the empirical approach in Appendix - Details on empirical strategy and report the weights attached to each flow in Appendix - Weights of the synthetic control.

sectoral trade flows for January 2020-August 2022 for about 80 exporting countries and 150 trading partners. The donor pool excludes the flows involving countries directly affected by the war or indicated as potential hubs for trade with Russia.[7] We consider January 2020-January 2022 as the pre-treatment period and February 2022-August 2022 as the treatment period. In line with the literature on the synthetic control method approach and international trade, we consider the outcome of interest (i.e., export flow to Russia) to be a function of some predictors. In particular, we select (*i*) the sum of the logs of the average GDP of the trading partners for the period 2015-2019, (*ii*) multilateral resistance between considered trading partners, (*iii*) bilateral monthly trade flows between considered trading partners averaged over the period 2020-2022, (*iv*) export shares of the most relevant sectors in Russian imports. Further details on data sources are in the Appendix - Data sources.

3 Results

3.1 The effects of the war and the following sanctions on aggregate Russian imports

Figure 1 compares the evolution of observed exports to Russia with the synthetic counterpart.[8] Before the conflict, the synthetic control matches observed exports to Russia. Following the invasion, we observe sharp decoupling between the two series. Actual exports plummeted in March and April while the synthetic control increased, generating the widest gap between them in April (actual flows 54% below their counterfactual). In the latest available data points, actual imports recorded a sharp rebound, suggesting an ongoing reorganization of logistics, payment systems, and supply chains. In August, exports to Russia stood 22% below their counterfactual, while 15% below their pre-war February level. This evidence suggests that a naïve counterfactual, such as that implied by a no-change scenario, would underestimate the drop in Russian imports by almost a third.

[7] In particular, we exclude Ukraine, Kazakhstan, Belarus, Turkey.

[8] We follow Parast et al. (2020) by discarding bad matches. Our final sample covering more than 80% percent of total Russian imports includes *China*, Germany, South Korea, Poland, Italy, Netherlands, Japan, France, *Kazakhstan*, United States, *Turkey*, Belgium, *Hong Kong*, Finland, Czech Republic, United Kingdom, Switzerland, *India*, Spain, Sweden, Austria, *Indonesia*, Romania, *Thailand*, Slovenia, *Ecuador*, *Serbia*, Denmark, *Malaysia*, Estonia, *Paraguay*, Ireland, Chile, *Iran*, Canada, Bulgaria, Singapore, *Argentina*, *South Africa*, Greece, Croatia, Portugal, *Peru*, Luxembourg, New Zealand, *Sri Lanka*, *Morocco*, *Kenya*, *Bosnia and Herzegovina*. Non-sanctioning countries are in italic.

Exports from both sanctioning and non-sanctioning countries sharply contracted (Figure 2). Initially, exports from sanctioning economies were 64% lower than without the war. Flows from non-sanctioning countries were markedly below their counterfactual too (-42%). This suggests that exports bans and other trade sanctions were not the only drivers at play in determining the sharp contraction of exports to Russia, at least at the initial stage of the war. Other factors may be critical (e.g., restrictions on international payments, logistics disruptions, the contraction of Russian demand and the exit of multinationals from the Russian market). In the following months, exports from non-sanctioning countries strongly rebounded, while those from sanctioning countries remained subdue. In August, flows from sanctioning countries were 55% below the estimated no-war scenario. Instead, exports from non-sanctioning economies exceeded their counterfactual by 16%.

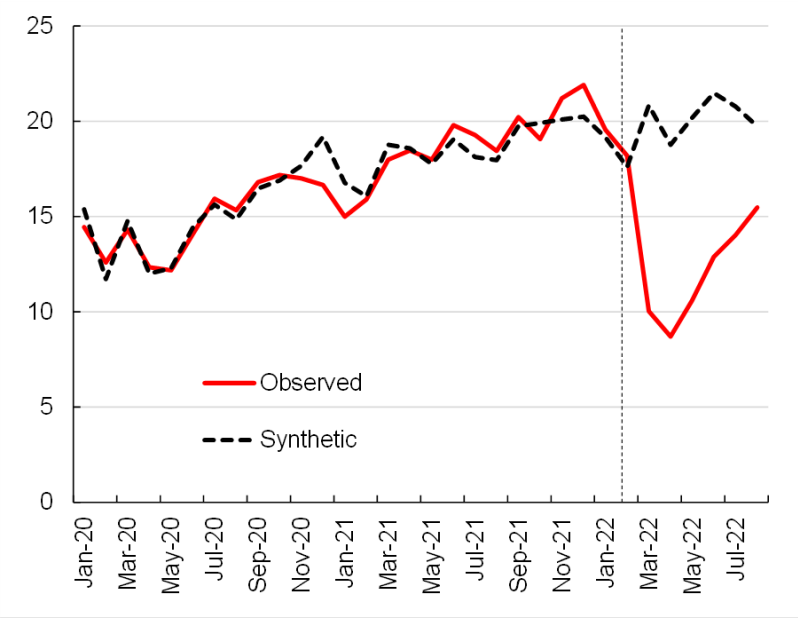

Figure 1: Effects of war and sanctions on exports to Russia. On the vertical axis, we report observed and synthetic exports to Russia in USD bn.

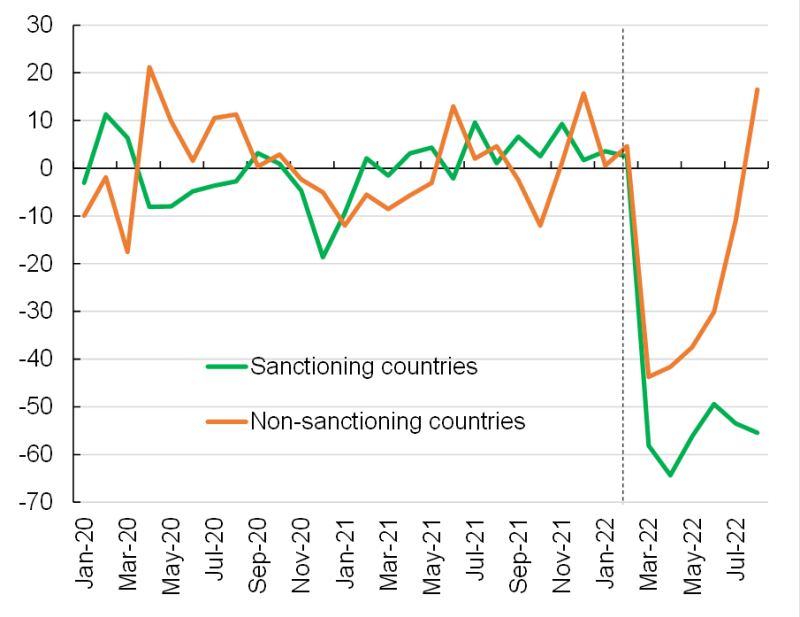

Figure 2: Effects of war and sanctions on exports to Russia, sanctioning vs. non-sanctioning countries. On the vertical axis, we report the percentage difference between the observed and counterfactual exports to Russia for sanctioning and non-sanctioning countries.

3.2 Country- and sector-level evidence

The impact of the war has been very heterogeneous, even within sanctioning and non-sanctioning groups. In the former group, the US recorded the sharpest fall in export to Russia, 87% below their counterfactual. Most sanctioning countries recently narrowed the gaps with their no-war counterfactual (Figure 3). Among non-sanctioning countries, Turkey is a stark outlier: after contracting in March and April, its exports to Russia rebounded sharply, exceeding the no-war counterfactual by more than 80% in July-August.

The war has disproportionately affected exports to Russia in the motor vehicle and electronics sectors due to sanctions targeted at specific products related to these industries (e.g., dual-use items). Exports in those industries were 60% lower than in the no-war counterfactual (Figure 4) in the first few months of the war and were still more than 30% below the respective counterfactual in July-August.[9] This result is almost entirely driven by the gap in exports from sanctioning countries (Figure 5),

[9]Together with mechanical engineering, these sectors account for half of exports to Russia.

another evidence of the role of export bans and restrictions. The sharp drop in these high- and mid-tech flows may hurt the Russian economy in the short term and hinder its potential long-term growth. Russia is highly dependent on imports of such products, and substitution with domestic products seems not viable because of the high technological content.[10]

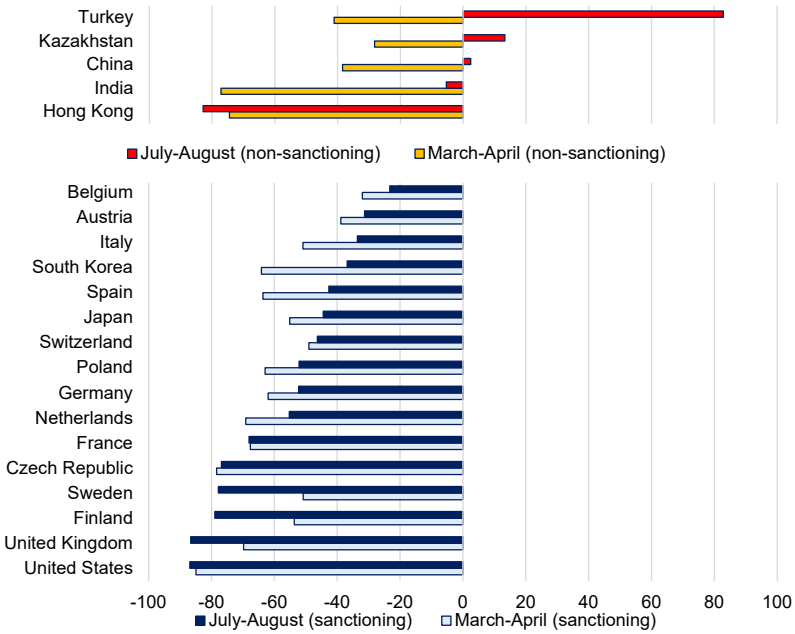

Figure 3: Effects of war and sanctions on exports to Russia by origin country (March-April vs. July-August). Differences from the counterfactual are in percentage points.

[10]Foreign production satisfies 63% of Russia's demand in these industries vs. an average of 35% for the other manufacturing sectors (OECD TiVA 2018 data and Belotti et al., 2021).

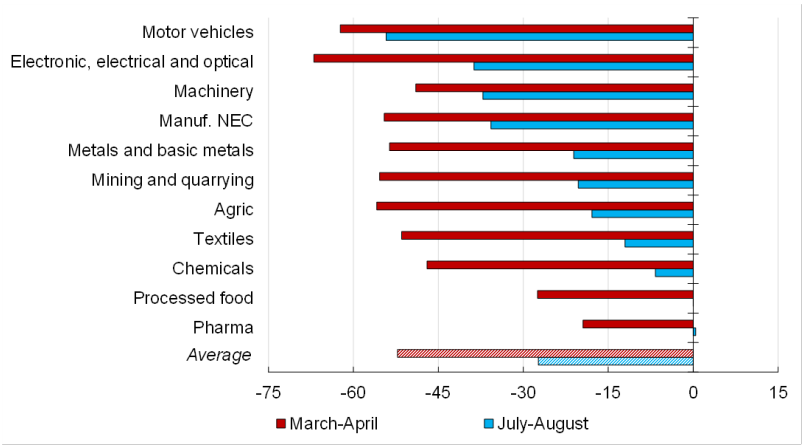

Figure 4: Effects of war and sanctions on manufacturing exports to Russia (March-April vs. July-August). Differences from the counterfactual are in percentage points.

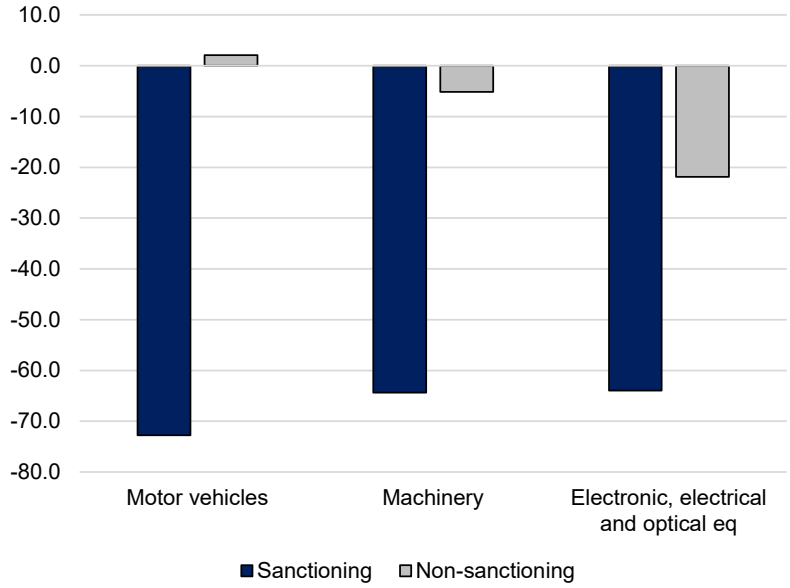

Figure 5: Effects of war and sanctions on exports to Russia from sanctioning countries (July-August), selected sectors. Differences from the counterfactual are in percentage points.

3.3 A closer look at potential triangulation and sanctions avoidance

Distinguishing trade diversion from potential triangulation attempts and assessing their relative importance would require more information than currently available (e.g., firm-level data). Nonetheless, disaggregated data at our disposal may provide some suggestive evidence regarding the possible presence of the aforementioned phenomena. Since sanctions imposed on exports to Russia have targeted items with a relatively high technological content, we focus on high-tech products in this section.[11] More specifically, we analyze the pattern of these flows from sanctioning countries to Turkey, given that its merchandise exports to Russia are well above their corresponding counterfactual in July and August (as shown in Figure 3).

The first evidence is that Turkish exports to Russia in the high-tech sectors have increased considerably since April, after an initial decline following the outbreak of the war (Figure 6, left panel). A necessary condition to support the evidence that exporters may use Turkey as a hub to circumvent sanctions is an increase in sanctioning countries' exports to Turkey in the high-tech sectors. The right panel of Figure 6 shows that the flows to Turkey associated with this product category are indeed above the corresponding counterfactual in the last few months. The two pieces of evidence are consistent with the hypothesis that Turkey may represent a hub to circumvent sanctions; however, it is also worth stressing that the discrepancy in absolute terms observed in the last few months is in line with discrepancies between the counterfactual and observed data before the start of the war (e.g., the second half of 2020).

Furthermore, we assess the sources of the rise in Turkish high-tech imports, with reference to the sanctioning countries group. We find that a stark rise in imports from Poland, larger than the corresponding counterfactual by 50%; panel (Figure 7, left and right panels, respectively). The gap in relative terms between the counterfactual and observed data for the largest European economies is modest (ranging between 15% and 25%). In absolute terms, imports from Germany exceed their counterfactual by USD 1.2 bn (Figure 7, right panel), reflecting the sectoral specialization of the country. More distant countries like the US and Japan display a reduction of exports to Turkey in the high-tech sectors as Turkey does not likely represent a suitable substitute destination for exports to Russia of such items.

[11] Technology products as proxied by the sum across machinery and mechanical appliances (HS 84), electrical equipment (HS 85), motor vehicles (HS 87), aircraft, spacecraft, and parts thereof (HS 88) and optical, medical etc. equipment (HS 90).

Figure 6: Effects of war and sanctions in the high-tech sectors, the case of Turkey. Left panel, exports from Turkey to Russia. Right panel, exports from sanctioning countries to Turkey. On the vertical axis, we report observed and synthetic trade flows in USD bn. High-tech sectors correspond to Chapters 84, 85, 87, 88, 89, and 90 of the Harmonized System.

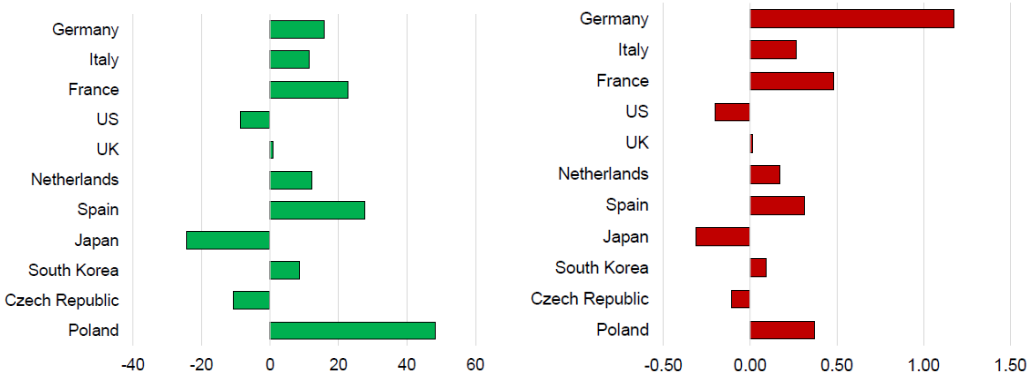

Figure 7: Effects of war and sanctions in the high-tech sectors, the case of Turkey. Differences from the counterfactual are in percentage points in the left panel and in USD bn in the right panel. Both panels refer to the period March-August 2022. High-tech sectors correspond to Chapters 84, 85, 87, 88, 89, and 90 of the Harmonized System.

3.4 Robustness checks

To evaluate the robustness of our analysis, we perform an "in-time" placebo test, changing the date of the shock (i.e., the war) to June 2021. The test shows that the observed series and its synthetic counterpart are really close, without any clear decoupling since June 2021 (Figure 8). Furthermore, we rerun the analysis, includ-

ing the observations starting from January 2015, without any major change in the results.[12]

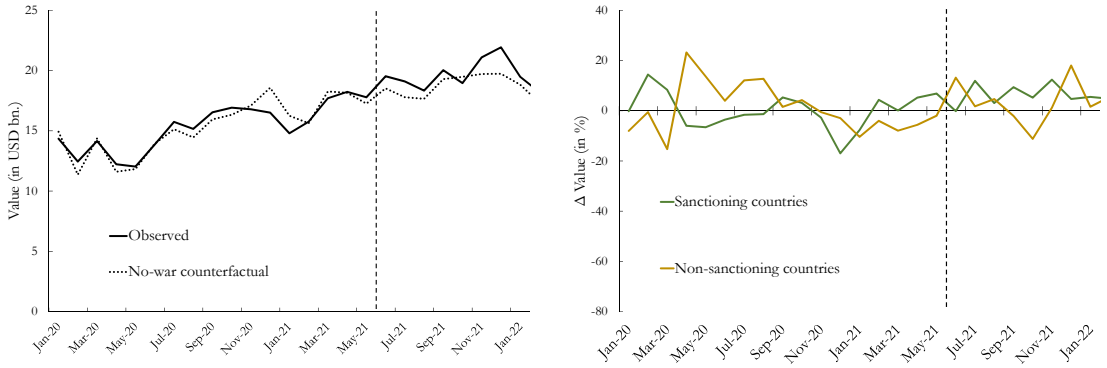

Figure 8: "In-time" placebo effect (shock in June 2021). Left panel, aggregate Russian imports, observed and synthetic exports to Russia in USD bn. Right panel, sanctioning vs. non-sanctioning countries, percentage difference between the observed and counterfactual exports to Russia for sanctioning and non-sanctioning countries.

4 Conclusions

We apply the synthetic control method to estimate trade flows in a no-war counterfactual using bilateral, sectoral trade statistics at monthly frequency. We find that the war and the following sanctions have significantly impaired the ability of Russia to import goods from sanctioning countries by drastically hitting some critical, high-technology sectors. Even if exports from non-sanctioning economies exceeded their no-war counterfactual in recent months, suggesting that some trade diversion is taking place, the overall capability to source specific products has been crippled by the imposed restrictions. The substantial shortage of key inputs and consumer goods is likely to reduce substantially Russian welfare and growth in the short and long run.

Additional research on the impact of specific sanctions and bans is needed. For instance, the sharp contraction of exports from non-sanctioning countries at the initial stage of the war suggests that factors such as restrictions on international

[12]Results available upon request.

payments and logistics disruptions might have played a relevant role, beyond the bans imposed on exports from sanctioning countries. However, the effects of these other factors might have been short-lived, since later on shipments from non-sanctioning economies swiftly rebounded.

The empirical approach proposed in this study–which relies on disaggregated, timely bilateral and sectoral trade flows at a monthly frequency–could be useful to assess the effect of any shock on trade flows almost in real time and inform the debate among policymakers concerning the design of optimal sanctioning policies.

Appendix - Details on empirical strategy

The synthetic control method (Abadie and Gardeazabal, 2003; Abadie et al., 2010, 2015; Abadie, 2021) allows us to estimate the treatment effect of a policy intervention on an outcome of interest. In particular, the policy impact is the difference between the observed outcome and a no-intervention counterfactual consisting of the convex combination of untreated units (*donors*) that minimizes the distance between the outcome of interest of the treated unit and the convex combination itself before the shock. The underlying idea of this approach is that the relationship between the treated and untreated units used as donors would have continued to hold without the policy intervention.

In the application presented in this paper, we are interested in obtaining a no-war counterfactual of world exports to Russia. One way to proceed is to consider the trade flow to Russia from each origin country i separately and determine the no-war counterfactual for such a trade flow. Then, we can obtain the counterfactual total exports to Russia by simply aggregating the distinct counterfactual trade flow to Russia.

To fix ideas, we consider exports from country i to Russia, $X_{i\to\text{Russia}}$, as the treated unit. For such trade flow, there are J^i untreated trade flows that can be used to construct the counterfactual. In line with the literature (e.g., Head and Mayer, 2014; Saia, 2017), we assume that the exports from country i to j are some function of k predictors, $\mathbf{Z}^{i\to j} = (Z_{1,i\to j}, \ldots, Z_{k,i\to j})$. We denote as $\mathbf{Z}^i$ the $k \times J^i$ matrix of predictors of untreated trade flows originating from country i to the J^i destinations. By analogy, $\mathbf{Z}^{i\to\text{Russia}}$ represents the vector of predictors of the trade flows from country i to Russia. Let $T_0 = 2022M02$ represent the starting time of the war.

We are interested in obtaining the effect of war and sanctions on trade flows to Russia, $\tau_{i\to\text{Russia},t}$, at time t, i.e.,

$$\tau_{i\to\text{Russia},t} = X^W_{i\to\text{Russia},t} - X^{NW}_{i\to\text{Russia},t} \tag{1}$$

for $t > T_0$, where $X^W_{i\to\text{Russia},t}$ are the exports from i to Russia under war at time t and $X^{NW}_{i\to\text{Russia},t}$ are the exports from i to Russia at time t under no war. It follows that the observed trade exports to Russia correspond to the war scenario, i.e., $X_{i\to\text{Russia},t} = X^W_{i\to\text{Russia},t}$ for $t > T_0$. Hence, to obtain $\tau_{i\to\text{Russia},t}$ we need to compute $X^{NW}_{i\to\text{Russia},t}$. As anticipated, given a set of appropriately chosen weights, $X^{NW}_{i\to\text{Russia},t}$ is given by

$$\hat{X}^{NW}_{i\to\text{Russia},t} = \sum_{j=1}^{J^i} w_{i,j} X_{i\to j,t} \tag{2}$$

where $w_{i,j}$ represents the weight for the j-th untreated export from i to j, with $w_{i,j} \in [0,1]$ and $\sum_j w_{i,j} = 1$. It follows that the synthetic counterpart for $\tau_{i\to\text{Russia},t}$ is given by

$$\hat{\tau}_{i\to\text{Russia},t} = X^{W}_{i\to\text{Russia},t} - \hat{X}^{NW}_{i\to\text{Russia},t} \tag{3}$$

Let $\mathbf{v}_i = (v_{i,1}, \ldots, v_{i,k})$ denote a set of weights assigned to each of the k predictors for the flows originating from country i. The problem of finding the optimal weights $w_{i,j}$ and v_i can then be written as

$$\begin{aligned} \min_{(\mathbf{w}^i, \mathbf{V}^i)} & \left(\mathbf{Z}^{i\to\text{Russia}} - \mathbf{w}^i Z^i\right)' \mathbf{V}^i \left(\mathbf{Z}^{i\to\text{Russia}} - \mathbf{w}^i Z^i\right) \\ & \text{s.to } \mathbf{w}^i \in [0,1]^{J^i} \ \wedge \ \sum_{j=1}^{J^i} w_{i,j} = 1 \end{aligned} \tag{4}$$

where $\mathbf{V}^i$ represents a k-dimensional diagonal matrix obtained from the k-dimensional vector $\mathbf{v}^i$, and $\mathbf{w}^i$ represents a J^i-dimensional vector of weights $w_{i,j}$.

To obtain $\hat{X}_{i\to Russia,t}$, we repeat the described procedure for all origin countries i' for which export to Russia and other $J^{i'}$ destinations are available. By aggregating over all origins i, we obtain the counterfactual total exports to Russia, $\hat{X}^{NW}_{\to\text{Russia},t}$, as

$$\hat{X}^{NW}_{\to\text{Russia},t} = \sum_i \hat{X}^{NW}_{i\to\text{Russia},t}. \tag{5}$$

Appendix - Data sources

The predictors used in the synthetic control are the following

1. sum of the logs of real GDPs of the trading partners averaged between 2015-2019 (source: ITPD-E; see Borchert et al., 2021, 2022);

2. linear approximation of the multilateral resistance between the trading partners based on distance, common language, and contiguity (source: ITPD-E; see Borchert et al., 2021, 2022);

3. average value of the bilateral trade flows between the trading partners between January 2020-January 2022 (source: Trade Data Monitor);

4. export shares from the origin country to the trading partner of the four most important exporting sectors from the origin country to Russia in 2021 (source: Trade Data Monitor).

The first three predictors broadly follow Saia (2017) and are commonly used in international trade within the gravity framework (Head and Mayer, 2014). Instead, the predictor associated with the sectoral export shares helps us select importers from the donor pool whose sourcing of foreign goods is as close as possible to that of Russia.

Appendix - Weights of the synthetic control

Origin country	donor 1: weight	donor 2: weight	donor 3: weight	donor 4: weight	donor 5: weight	donor 6: weight	donor 7: weight	donor 8: weight
AT	*CN*: 0.42	IL: 0.22	IR: 0.21	RS: 0.16				
BE	*CN*: 0.48	RS: 0.23	DZ: 0.14	IR: 0.13	IQ: 0.02			
BG	*CN*: 0.37	IR: 0.26	UZ: 0.14	XK: 0.1	CH: 0.09	IN: 0.05		
CA	RS: 0.56	BR: 0.31	ZM: 0.13					
CH	*PL*: 0.26	IR: 0.26	JP: 0.23	BR: 0.15	CA: 0.07	IQ: 0.03		
CN	IN: 0.5	FR: 0.14	DE: 0.11	MM: 0.1	AF: 0.08	TJ: 0.07		
CZ	*CN*: 0.54	HU: 0.22	FR: 0.13	AF: 0.11				
DE	DZ: 0.33	RS: 0.25	*CN*: 0.22	BR: 0.2				
DK	RS: 0.52	BR: 0.32	*CN*: 0.15					
EC	SA: 0.53	*PL*: 0.19	*CN*: 0.13	DE: 0.08	US: 0.07			
EE	*LV*: 0.5	CO: 0.39	JM: 0.11					
ES	BA: 0.32	JP: 0.27	KW: 0.25	*CN*: 0.14	BR: 0.01			
FI	US: 0.55	*NO*: 0.46						
FR	BR: 0.32	DZ: 0.21	*CN*: 0.18	*NO*: 0.16	UZ: 0.14			
GB	DZ: 0.3	BR: 0.28	AT: 0.14	*CN*: 0.11	ZW: 0.08	SK: 0.03	UZ: 0.03	LU: 0.02
GR	MY: 0.78	*CN*: 0.22						
HK	BR: 0.69	DE: 0.31						
HR	IN: 0.89	BA: 0.11						
ID	FR: 0.37	BR: 0.28	MM: 0.21	IT: 0.13	AU: 0.01			
IN	JP: 0.37	AT: 0.2	FR: 0.18	TM: 0.14	UZ: 0.12			
IT	*CN*: 0.41	BR: 0.24	RS: 0.23	IR: 0.11				
JP	BR: 0.98	*CN*: 0.02						
KE	DE: 0.5	IR: 0.35	*NO*: 0.11	*CN*: 0.01	PK: 0.01	CO: 0.01	DZ: 0.01	
KR	BR: 0.82	CD: 0.15	*CN*: 0.03					
LK	*CN*: 0.58	BO: 0.23	IR: 0.12	LY: 0.07				
MA	QA: 0.53	CA: 0.37	NL: 0.1					
NL	*CN*: 0.41	RS: 0.33	BR: 0.17	DZ: 0.09				
PL	GB: 0.52	JP: 0.38	CV: 0.1					
PT	IR: 0.51	*CN*: 0.27	RS: 0.22					
PY	*LV*: 0.45	IL: 0.24	CL: 0.19	BR: 0.12				
RO	*AZ*: 0.56	GB: 0.41	*CN*: 0.03					
RS	IT: 0.5	MC: 0.5						
SE	RS: 0.73	*CN*: 0.26	CH: 0.01					
SG	AT: 0.32	BR: 0.29	PE: 0.15	LA: 0.12	IR: 0.11			
SI	*CN*: 0.48	IN: 0.24	RS: 0.15	CH: 0.08	TM: 0.05			
TH	IR: 0.36	FR: 0.21	SA: 0.17	UZ: 0.09	BR: 0.08	AT: 0.04	BD: 0.04	
TR	IT: 0.38	NZ: 0.29	AU: 0.15	*LV*: 0.11	DE: 0.07			
US	AT: 0.93	FR: 0.03	BR: 0.03	IR: 0.01				
ZA	IQ: 0.44	CA: 0.22	*NO*: 0.16	FR: 0.12	CZ: 0.04	*CN*: 0.01		

Donor pool and export to Russia. "Origin country" represents the the source of the export flows to Russia. The columns "donor 1: weight"-"donor 8: weight" report the contributor to the respective flows (with the attached weight) and are ordered in terms of weights. Countries are reported according to their ISO 3166-2 code. Countries bordering with Russia are in italic.

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