Trade destruction and trade diversion – effects of trade sanctions on trade with Russia

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Motivation

- Russia attacked Ukraine in 2014, and the even more destructive phase of the war began on February 24, 2022
- As a result of Russia's illegal and brutal attack, the European Union, the United States etc. have introduced several packages of sanctions on Russia in order to degrade its capability to wage war against Ukraine
- Sanctions relate to exports to Russia, finance, Russian assets etc.
- In this paper we want to see whether sanctions have decreased Russia's access to sanctioned goods, i.e. how much trade diversion there has been from the EU etc. to other countries, which do not have sanctions against Russia

Literature on previous trade sanctions against Russia

- Crozet and Hinz (2020), traditional gravity model, Russia lost some $54 billion in exports from the beginning of sanctions to the end of 2015, or some 7% of total predicted exports; Western countries imposing sanctions lost approximately $42 billion in exports to Russia, with more than 90% of this loss was borne by the EU countries. This $42 billion, in turn, was 0.3% of sanctioning countries' total exports
- Belin and Hanousek (2021) compare effects of trade sanctions from both sides: Export ban on extraction equipment from the Western side and import ban on foodstuffs from the Russian side. They find that the latter is much more effective in lowering the value of trade
- Cheptea and Gaigné (2018) find that less than half of the drop in the EU exports to Russia in goods that Russia sanctioned was due to sanctions themselves. The bulk of the export decline came from a weaker ruble and the decrease in Russian purchasing power.
- Fritz et al. (2017) apply a counterfactual analysis based on an econometric model to assess sanctions' effect on the EU countries' exports to Russia. They find that EU exports to Russia between 2014 and 2016 were $35 billion lower (11% lower compared to the baseline) than they would have been without the sanctions.

What do we do?

- We have acquired monthly export value data to Russia between M1/2018 and M6/2023 for 20 sanctioning and 14 non-sanctioning countries for (mostly) technology goods (HS codes 84 and 85 at six-digit disaggregation); https://www.globaltradetracker.com/
- 84: Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
- 85: Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles

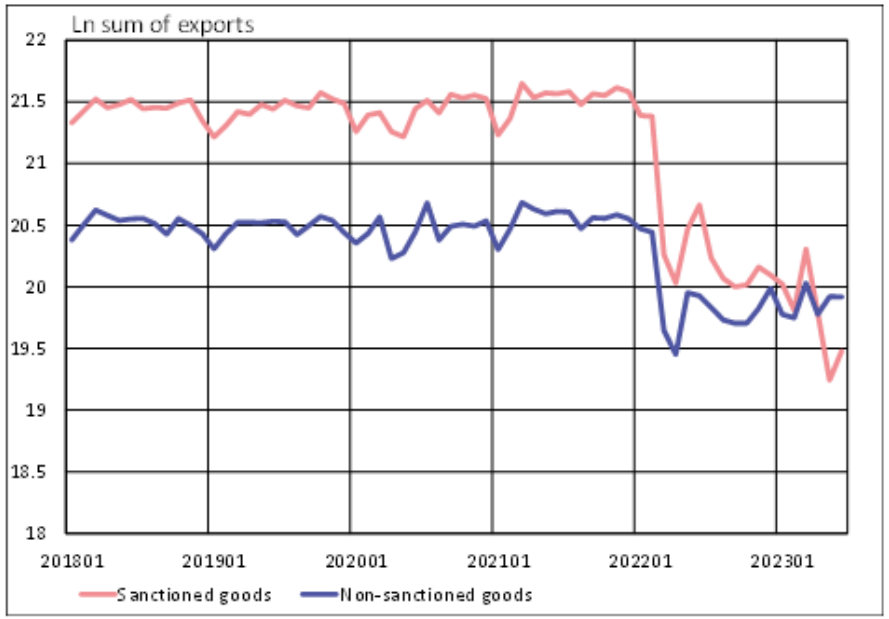
Some examples of high priority battlefield items

TIER 2

HS code (5)	Text
8517.62	Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus
8526.91	Radio navigational aid apparatus
8532.21	Other fixed capacitors: Tantalum capacitors
8532.24	Other fixed capacitors: Ceramic dielectric, multilayer
8548.00	Electrical parts of machinery or apparatus, not specified or included elsewhere in chapter 85

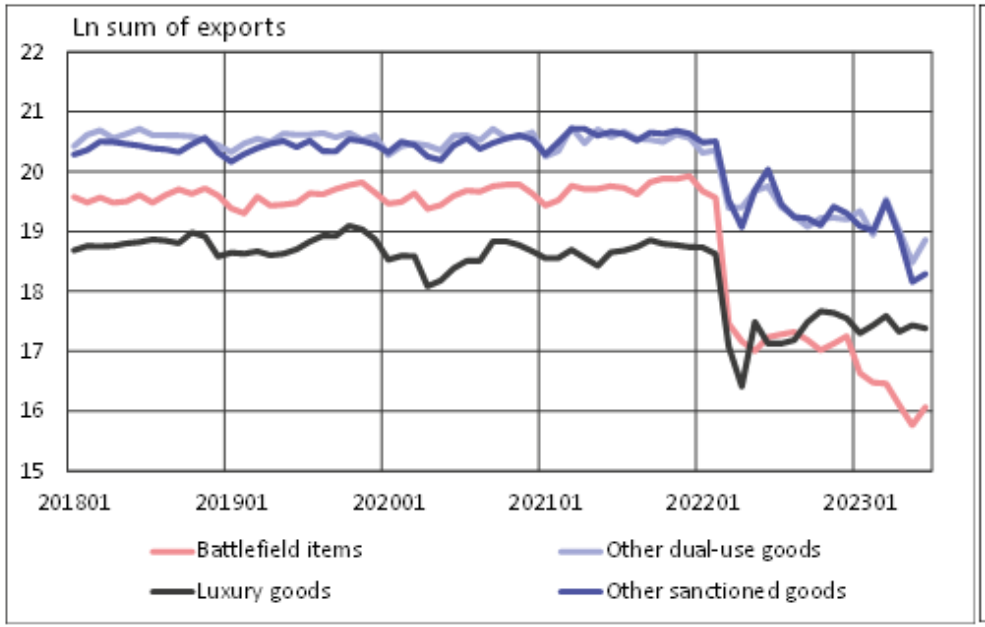
Big picture 1

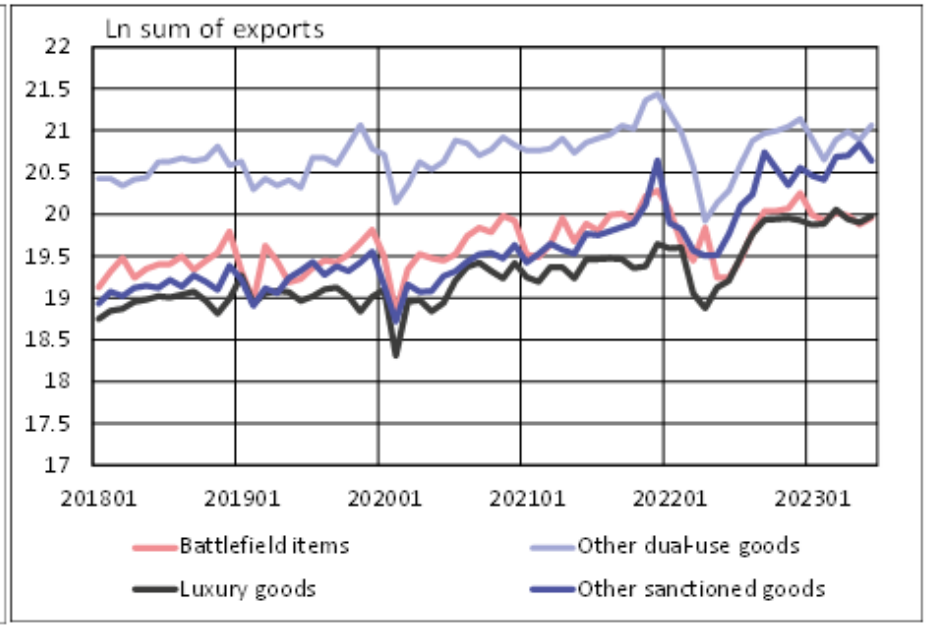
Figure 1. Development of technology exports to Russia in 2018-2023 for A) sanctioning countries and B) non-sanctioning countries.



Big picture 2

Figure 2. Development of exports to Russia of various products subject to sanctions in 2018-2023 for A) sanctioning countries and B) non-sanctioning countries.





Difference-in-difference

- $Log(Export_{ijt}) = SanctionTime*SanctionProduct + FE_{it} + e_{ijt}$
- The dependent variable is the log of exports of product j from country i to Russia in time t.
- 443 products that are subject to EU export restrictions in our sample. Of those, 33 are high-priority battlefield items, 152 other dual-use goods, 45 luxury goods and 213 other sanctioned technology goods
- SanctionTime=1 from March 2022 onwards

First results

Table 1. Baseline regressions.

Dependent variable: log ($Export_{ijt}$)		
	Sanctioning countries	*Non-sanctioning countries*
All sanctioned goods	-0.3927*** (0.0651)	0.7206*** (0.0853)
Country-time fixed effects	x	x
N	786,654	390,852
R^2	0.14	0.37

Drilling down on non-sanctioning countries

Table 2. Regressions for non-sanctioning countries

Dependent variable: log ($Export_{ijt}$), non-sanctioning countries				
	All countries	Ex. China and Hong Kong	All countries	Ex. China and Hong Kong
All sanctioned goods	0.7206*** (0.0853)	0.6791*** (0.0867)		
High-priority Battlefield Items			2.4089*** (0.1904)	1.8406*** (0.1899)
Other dual-use goods			0.7671*** (0.1150)	0.7384*** (0.1171)
Luxury goods			0.8473*** (0.1837)	0.8356*** (0.1900)
Other sanctioned goods			0.2509** (0.1056)	0.3159*** (0.1085)
Country-time fixed effects	x	x	x	x
N	390,852	321,552	390,852	321,552
R^2	0.37	0.17	0.37	0.17

Concluding remarks

- By utilizing a very disaggregated data we can show that trade sanctions imposed by the European Union and its allies have been successful in limiting sanctioning countries' exports to Russia. In the sector of technological goods especially exports of high priority battlefield items have collapsed
- On the other hand, overall technology exports from non-sanctioning countries to Russia have already recovered and are over the pre-invasion levels. Level of sanctioned goods' exports has risen more than non-sanctioned goods' exports since the invasion, and this effect is the most pronounced in the high priority battlefield items
- Especially in this subcategory of sanctioned goods role of China (and to some extent Hong Kong) is substantial, but also other non-sanctioning countries' exports have risen, in comparison to non-sanctioned goods.

Extra slides

Two groups of countries

Table 1. Sanctioning countries

Austria	Korea
Bulgaria	Latvia
Czech Rep.	Lithuania
Estonia	Netherlands
Finland	Poland
France	Italy
Germany	Switzerland
Hungary	Taiwan
Italy	UK
Japan	US

Table 2. Non-sanctioning countries

Azerbaijan	Kazakhstan
Brazil	Malaysia
China	Serbia
Georgia	South Africa
Hong Kong	Thailand
Indonesia	Turkey
India	Vietnam