SUERF Policy Brief
No 420, September 2022

Smart or Smash? The Effect of Financial Sanctions on Trade in Goods and Services



By Tibor Besedeš (Georgia Institute of Technology), Stefan Goldbach (Deutsche Bundesbank), and Volker Nitsch (Technische Universität Darmstadt and CESifo)

Keywords: sanction; restriction; cross-border transaction; trade in goods; trade in services; financial flows
JEL codes: F20; F36; F38

We examine the extent to which financial sanctions imposed by Germany through its European Union and United Nations commitments cause collateral damage on Germany's trade in goods and services. Financial sanctions reduce Germany's inflows and outflows of financial assets, as well as imports and exports of goods and services. The relative effects on trade in goods and services are weaker than on financial assets, about half as large in the case of goods and two-thirds as large in the case of services. The effect on trade in goods is entirely due to episodes where financial sanctions are accompanied by export restrictions of specific goods. In the case of services trade, only exports are affected by financial sanctions once export restrictions are considered.

What We Do

Sanctions have long been used as a foreign policy tool to achieve a variety of objectives. While sanctions often vary in their mechanics and specific targets, their goal is usually similar – to inflict economic pain to force a change in policy. Generally, sanctions can be complete, trying to fully cutoff the target, or partial, aiming at a subset of activities or specific actors and their access to the global economy. As documented by Felbermayr, Kirilakha, Syropoulos, Yalcin and Yotov (2020), however, the more recent cases of sanctions tend to be mainly of the partial type, and policy makers often refer to them as 'smart': targeting only specific activities and specific individuals, firms and organizations, thereby minimizing their spillover effects or collateral damage. In this analysis, we extend our efforts to understand the effects of financial sanctions imposed by Germany.[1] In particular, we compare the effect of financial sanctions on cross-border financial flows with their effects on flows of goods and services. The latter can be interpreted as a spillover effect.

In our study, we use four data sets. The main data set is based on information from the Deutsche Bundesbank's service center "Financial Sanctions" and contains data on financial sanctions that Germany implemented between January 2001 and September 2020. The list includes 29 episodes of sanctions that freeze financial assets and resources of individuals and/or companies/organizations. About half of the financial sanctions also include export restrictions on specific goods that might be used for military purposes. This applies to nuclear technology, chemicals or military equipment, among other things. We match this information with three other data sets: data on trade in goods from Eurostat (Comext), data on trade in services ("International Trade in Services Statistics") and data on cross-border capital flows ("Statistics on International Financial and Capital Transactions") from Deutsche Bundesbank.

What We Find

We are interested in the effect of financial sanctions on Germany's cross-border bilateral economic activities. Therefore, following Besedeš, Goldbach and Nitsch (2021), we estimate gravity equations using the Poisson pseudo-maximum likelihood estimator (PPML). Figure 1 presents the estimated effects. All time-invariant influences on German flows with a country (such as, for instance, the partner's geographic distance from Germany) are accounted for by country fixed effects, while a comprehensive set of time fixed effects captures monthly variations in capital flows common to all partners. Estimated coefficients on an indicator variable that takes the value of one when financial sanctions are imposed are consistently negative and statistically significant. Financial sanctions reduce German imports from targeted countries by 26 percent and exports to targeted countries by 24 percent. The effect on services trade is somewhat stronger with German services imports from target countries reduced by 31 percent and exports to target countries reduced by 33 percent. Thus, it seems this first investigation of the effect of financial sanctions on trade does indicate collateral damage. Consistent with the notion of collateral damage being a secondary effect, financial sanctions have a stronger effect on financial flows, reducing inflows of financial assets from targeted countries decrease by 50 percent and outflows by 48 percent.[2] Thus, comparing the estimated relative effects, financial sanctions have half as large an effect on trade in goods and two-thirds as large an effect on trade in services as they have on flows of financial assets.

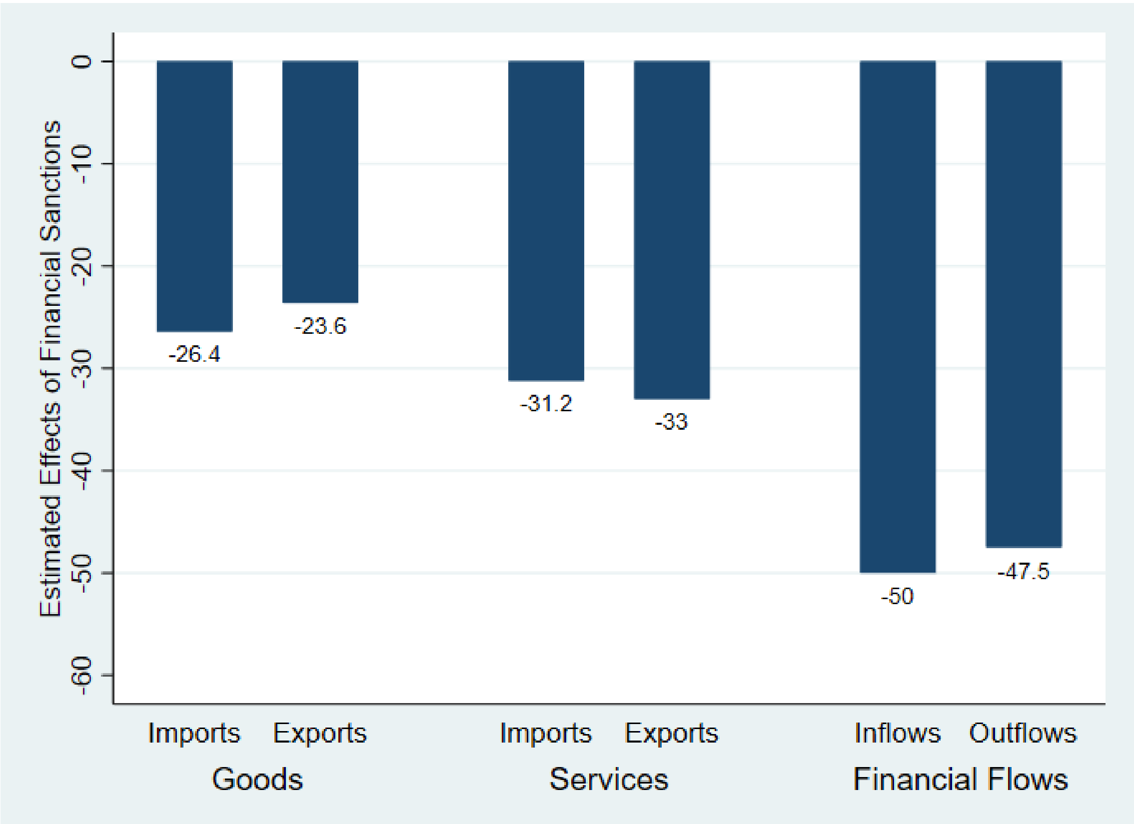
[1] See Besedeš, Goldbach and Nitsch (2017); Efing, Goldbach and Nitsch (2018) and Besedeš, Goldbach and Nitsch (2021).

[2] Both of these estimates are in line with results in Besedeš, Goldbach and Nitsch (2017) who focus on the effect financial sanctions on financial flows over a short time period.

Our main question of interest is whether financial sanctions produce spillover effects (or collateral damage) on trade in goods and services. If there are no effects, one could make a strong case that financial sanctions are indeed smart in the sense that their economic effect and damage is narrowly focused on reducing financial cross-border flows. Our results so far imply that financial sanctions do create collateral damage. They reduce both imports and exports of goods and services.

However, this may not be a complete picture. The reason is that 13 of the 29 sanctions episodes in our data set also have provisions that restrict trade in certain types of goods, usually related to their military use. It is entirely possible that the negative effect of financial sanctions we have identified on trade in goods and services is due to these episodes that have non-finance related stipulations. In order to investigate this possibility in more detail, we modify our regression specification such that we are able to separately identify the effect of sanctions with export restrictions. With this extension, it turns out that financial sanctions do not affect either imports or exports of goods unless they are accompanied by specific export restrictions. In such cases, these additional restrictions reduce imports by 32 percent and exports by 26 percent. As far as trade in services is concerned, the results are somewhat less conclusive. While imports of services are no longer affected in a statistically meaningful way, financial sanctions do reduce Germany's exports of services with no differential effect of sanctions that entail additional export restrictions. The effect of financial sanctions on financial flows increases in this expanded specification to 56 percent and 54 percent for inflows and outflows, with no significant differential effect of sanctions with export restrictions. Our conclusion is that the extent of collateral damage caused by financial sanctions is limited and that these sanctions are likely smart: their main and strongest effects are to reduce their primary target – financial flows.

Figure 1: The Effect of (Financial) Sanctions on Trade in Goods/Services/Financial Flows (in percent)



What We Learn

Financial sanctions reduce cross-border capital flows by around 50 percent. In addition, the effects of financial sanctions seem to spill over to trade in goods and services: trade in goods falls by 25 percent and trade in services falls by 33 percent. Additional analyses take into account the information on export restrictions. Financial sanctions affect trade in goods only negatively if countries also imposed export restrictions during the sanction episodes. The decline in trade in services, on the other hand, cannot be explained by the additional export restrictions and is therefore linked to financial sanctions.

In the current geopolitical environment, countries have imposed particularly strong sanctions against Russia since the end of February 2022. These restrictions exceed the measures in the period under review in this research project. In addition, several large multinationals have deliberately withdrawn business from the Russian market. This is likely to have an additional negative effect on cross-border activities with Russia. Therefore, the results of this study may provide only a lower bound estimate for the effect of financial sanctions.

References

Baier, S. and J. Bergstrand. 2007. "Do Free Trade Agreements Actually Increase Members' International Trade?" Journal of International Economics, 71(1): 72-95.

Besedeš, T., S. Goldbach, and V. Nitsch. 2017. "You're Banned! The Effect of Sanctions on German Cross-Border Financial Flows," Economic Policy. 32(April): 263-318.

Besedeš, T., S. Goldbach, and V. Nitsch. 2021. "Cheap Talk? Financial Sanctions and Non-Financial Activity," European Economic Review. 134, 103688.

Besedeš, T., S. Goldbach, and V. Nitsch. 2022. "Smart or smash? The effect of financial sanctions on trade in goods and services," Bundesbank Discussion Paper No. 28/2022.

Efing, M., S. Goldbach, and V. Nitsch. 2018. "Freeze! Financial sanctions and bank responses," Bundesbank Discussion Paper No. 45/2018.

Felbermayr, G., A. Kirilakha, C. Syropoulos, E. Yalcin, and Y.V. Yotov. 2020. "The Global Sanctions Database," European Economic Review. 129, 103561.

About the authors

Tibor Besedeš *is the Mary S. and Richard B. Inman, Jr. Professor of Economics at Georgia Institute of Technology as well as a Director of the Forum for Research in Empirical International Trade. He was previously an Assistant Professor of Economics at Louisiana State University. He holds a Ph.D. in Economics from Rutgers University.*

Stefan Goldbach *is a Senior Economist in the Balance of Payments, Exchange Rates and Capital Markets Analysis Division at Deutsche Bundesbank. He holds a Ph.D. in economics from TU Darmstadt. His main research interests include international trade, international finance and corporate finance.*

Volker Nitsch *is Professor of International Economics at Technical University of Darmstadt. Prior to taking this position in 2009, he was Head of the International Economics Division at KOF Swiss Economic Institute at ETH Zurich, an Assistant Professor of Economics at the Free University Berlin, and a Senior Economist at Bankgesellschaft Berlin. He holds a Ph.D. in Economics from Humboldt University Berlin.*