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No More Gouda in Moscow? Distributive Effects of the Imposition of Sanctions

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Abstract

How do private firms respond when they are hit by economic sanctions? Economic sanctions are a vitally important element of the European Union's foreign policy toolbox. While their importance and frequency of use increased, not much is known about the economic impact of the economic sanctions at the micro level. Yet the sanctions imposition has been recently politicized within the EU, especially in the reaction to the sanctions that EU imposed on Russia, and the counter -sanctions that ensued. Drawing on export data for all Dutch companies over the period 2013 – 2016, we examine how Dutch companies responded to Russian counter -sanctions imposed on the EU after the annexation of Crimea. Our statistical matching approach suggests that while the companies exposed to the sanctions are more likely to go bankrupt compared to their unexposed counterparts, those who survive are able to weather the impact rather well in the medium -long term.

Keywords: European Union; sanctions; Russia; firms

Introduction

Sanctions have become the instrument of choice in coercive diplomacy in the last two decades, even being dubbed 'war by other means' (Blackwill and Harris, 2016). The EU, like other actors, has increasingly resorted to the use of economic sanctions to achieve foreign policy objectives, primarily vis-à-vis weaker parties (Farrell and Newman, 2019; Giumelli, 2013; Portela, 2012). The importance of sanctions for the exercise of the EU's foreign policy is likely to increase over time: the Von der Leyen's 'geopolitical Commission' has put a premium on the EU's ability to impose sanctions on third parties (European Commission, 2020b). Although sanctions have long been subject to political disputes (Klotz, 1995, 1999) and their utility has been questioned, they have recently also become salient issues domestically (McLean and Roblyer, 2016; Onderco, 2017). This phenomenon is not unique, but is part of a wider trend towards the politicization of foreign policy and international governance (Zürn, 2014).

Two key arguments have been levelled against the use of sanctions as a foreign policy tool. The first argument is that sanctions do not work (Pape, 1998; van Bergeijk, 2014). Theoretical arguments based on conflict expectation or issue salience have been used against sanctions (Drezner, 1999; Rowe, 2010). Empirical studies have been undertaken in numerous settings (Drezner, 1998; Dreyer and Luengo-Cabrera, 2015; Moret *et al*., 2016; Portela, 2012). Scholars have argued for a broadening of our understanding of what it means for sanctions to work (Adler-Nissen, 2014; Giumelli, 2013; Nincic, 2005; Zarakol, 2014). Whether sanctions work or not seems to depend on the goal of the sanctions, which more often than not remains unstated (Hufbauer *et al*., 2007; Peksen, 2019).

The second argument levelled against the sanctions is that the imposition of sanctions harms the sender's economy. This argument is fuelled by the growing public salience of foreign policy. Traditionally, EU foreign policy-making was driven by the joint decision-making of member states in Brussels, where democratic accountability was low (Juncos and Pomorska, 2011). Nevertheless, EU foreign policy-making has become politicized over time – as have other areas of EU policy (Costa, 2019). The cost of sanctions plays a role here. While the imposition of sanctions is meant to harm the target's economy, the costs to the sender's economy have rarely been seen as an impediment. As van Bergeijk (1994) notes, in the majority of sanctions cases, the economy of the sender dwarfed that of the sanction's target in size. After all, the economy of North Korea or Zimbabwe is hardly crucial to any major Western economy – even to China, North Korea's primary economic partner, North Korea is an insignificant economic partner (Beal, 2011). Stakes are higher regarding the use of sanctions on Iran or, more recently, on Russia: target countries with which European countries have much livelier economic relations. The EU's relationship with Russia in particular has deteriorated by the imposition of counter-sanctions by Russia on the EU (Hedberg, 2018), which has raised concerns about the domestic costs of economic sanctions in European countries. Scholars have studied which countries bear the brunt of the economic costs of sanctions (Giumelli, 2017); as well as how Russia designed its counter-sanctions to maximize the economic pain felt by the European countries in sectors where it hurt (Hedberg, 2018). This brings to mind David Baldwin's (1985) observation that the states' ability to use coercive tools of foreign policy depends, in large part, on the ability of the sender's own economy to weather the coercion (Baldwin, 1985). Understanding the impact of sanctions is crucial for the EU, given the changing nature of the domestic environment of EU foreign policy-making (Fürrutter, 2019).

Nonetheless, sanctions scholarship has, thus far, eschewed measuring the impact of sanctions at the level of the primary economic actors; namely firms. Our understanding of the sanctions' impact on firms' actions and on their economic turnover is therefore still limited.

In this article we seek to overcome this limitation by theorizing and measuring how economic sanctions impact on the firms. Using micro-level data from Statistics Netherlands (*Centraal Bureau voor de Statistiek*, CBS) and a quasi-experimental research design, we study how the imposition of sanctions on Russia, and the subsequent imposition of counter-sanctions by Russia, impacted the Dutch businesses' bottom line over the period 2013–16. We focus on the impact of the sanctions imposed by Russia for two reasons. Firstly, the EU-imposed sanctions influenced only a small part of EU exporters, whereas Russian counter-sanctions, widely understood to have been imposed in retaliation to EU's sanctions, impact on entire sections of EU economies. Secondly, the EU sanctions and Russian counter-sanctions are often conflated in popular discourse, and Russian counter-sanctions are seen as a result of the EU-imposed sanctions.

We ask two main questions: first, what was the economic impact of sanctions on the incomes of companies that were affected by them? Second, did these companies divert their exports, and if so, where? Our results demonstrate that while companies exposed to sanctions are more likely to go bankrupt than their unexposed counterparts, those who survive are able to weather the impact rather well in the medium to long term. Firms

react to the imposition of sanctions by diverting their exports to nearby markets with strong economic or political links to the sanctioning state.

The remainder of the article continues as follows: in the first section we review existing scholarship on sanctions and foreign policy. In the second section we outline the theoretical framework guiding our considerations. Subsequently, we outline the methods as well as the data used in the study. The results of our article are split into two parts. In the first, we analyse the extent to which Dutch companies were financially affected by the sanctions. In the second part, we analyse the diversion strategies of these firms. The final section concludes.

Distributive Effects of Sanctions

Besides a small number of exceptions, the distributive effects of economic sanctions in the EU context and beyond have been largely ignored by scholarship on sanctions. This is surprising, given how much the heterogeneous impact of sanctions on domestic firms matters to the public support for sanctions. Sanctions impact on domestic stakeholders unequally (Kaempfer and Lowenberg, 1986; McGillivray and Stam, 2004). In democratic societies this unequal impact may lead political actors to mobilize against the maintenance of sanctions, which may ultimately lead to their withdrawal. Yet we know very little about the domestic winners and losers of economic sanctions. This lacuna is very interesting, given that the distributive effects of government policies – whether national or international – have been studied extensively by political scientists.

Economists and political scientists have demonstrated that political tensions – whether involving the imposition of sanctions or not – create economic costs for exporters (Crozet and Hinz, 2016; Fuchs and Klann, 2013; Heilmann, 2016; Kolstad, 2016; Michaels and Zhi, 2010; Morgan and Bapat, 2003). The early scholars of sanctions and coercive diplomacy recognized that if these costs are too high, the sender's willingness to carry out the threat of sanctions (Schelling, 1960) or sustain sanctions for a long time (Baldwin, 1985) declines. Scholars have also long warned that the effect of sanctions is very heterogeneous: companies are affected by sanctions in unequal measure, both in the sender countries (Felbermayr *et al*., 2019; Meunier, 2013) and the target countries (Draca *et al*., 2019; Haidar, 2017).

These distributive effects play a significant role with respect to sanctions on Russia. After the EU imposed sanctions, Russia retaliated by imposing counter-sanctions on European imports. Russia tailored these sanctions to hit relevant export products in the most important European nations (Hedberg, 2018), aiming to inflict maximum economic damage and weaken domestic support for the EU sanctions on Russia. For example, in 2019, the Dutch and Belgian agricultural sector organizations appealed to the EU to lift these sanctions so that they could export to Russia again, even though they were aware that it is was Russia that was banning agricultural exports (van Velzen, 2019).

This consideration is not only theoretical. EU leaders are increasingly willing to impose sanctions that result in real political costs (Portela, 2015), but this willingness has also been subject to domestic contestation. In a 2016 referendum the Dutch public voted on the association agreement between the EU and Ukraine, and the opponents of the referendum used damage to trade with Russia as an argument against the agreement.

Similarly, populist leaders in Italy, Germany or the Czech Republic opposed sanctions on Russia precisely because of the supposed harm they would do to the domestic economy. Yet the brunt of the sanctions' impact is felt by the European economies that are most strongly supportive of the sanctions, whereas economies in the countries in which the leading politicians rallied against such sanctions were comparatively less affected by them (Giumelli, 2017). Trade economists estimate that French firms' exports to Russia dropped by eight points to 14 per cent, and the value of export dropped by three points to 7 per cent (Crozet and Hinz, 2016). Yet this analysis focuses only on the effect of exports in 2014; the year when the sanctions were imposed, and thus fails to provide a definitive answer to the longer term effects of sanctions on firms' exports. Surveys of firms, however, tend to support the grim assessment that the impact of sanctions is long-lasting (Stępień and Weber, 2019).

In our article we take a look at the distributive effect of sanctions on firms in countries affected by EU sanctions on Russia and by extension, Russian counter-sanctions. This question is of importance in so far as it addresses the question of the domestic impact of foreign policy and speaks to a key concern on sanctions policy today: who pays the cost of sanctions' imposition?

Hypotheses

The purpose of imposing sanctions for the sender is to impose costs on the target – costs high enough to force the target to change its behaviour. This action creates costs for both the target and sender. Most of the economic costs are being borne by firms, who, as private actors, are the conduits of most of economic exchange in the 21st century. In the EU–Russia scenario, the imposition of EU sanctions as well as Russian counter-sanctions created costs for European (in our case, Dutch) firms. The firms lost partners and lost benefits from the economic exchange with established trading partners, potentially leading to the loss of revenue. The imposition of sanctions obviously creates limits to economic exchange and increases the costs of conducting business by creating new hurdles. Sanctions may also allow new competitors to participate in established markets, or allow domestic producers to expand through import substitution (Hedberg, 2018; Klotz, 1999; Lektzian and Biglaiser, 2013). Lastly, there are also potential reputational costs for European firms in the Russian (sender's) market (Barry and Kleinberg, 2015).

Given these costs to economic actors, we hypothesize that firms engaged in exporting sanctioned goods will see revenue losses. Moreover, they are more likely to fail and thus to stop exporting altogether. We expect these effects to manifest particularly in the short term: firms affected by sanctions will invariably face short-term losses, but long-term effects will depend on the success of firms' responses to sanctions. We hypothesized as follows:

H1a: In the short term, firms hit by sanctions will lose revenue compared with equivalent firms that are not hit by sanctions.

H1b: Firms hit by sanctions are more likely to fail than equivalent firms that are not hit by sanctions.

European firms can diversify their business as a strategy to rebound from the sanctions. As we know from work on the effectiveness of economic statecraft, states that have relatively diverse economies are more difficult to coerce economically (Blanchard *et al*., 2000 Drezner, 1999; Pape, 1998). In an economically diverse and export-oriented economy the negative impact of sanctions should be limited over time. Firms that do not fail after the imposition of sanctions should be able to recover, find new markets and continue trading. They are often already competitive on the world markets, and thus it should not be too difficult for them to rebound. We therefore hypothesize that firms recover revenue losses in the long run, and expect that, after failed firms disappear from the sample, differences in export revenue between sanctioned and non-sanctioned companies disappear.

H2: Over time, negative export revenue differences between firms that are hit by sanctions and those that are not will become smaller.

Furthermore, firms in European countries that are primarily driven by economic profit are more prone to disregard Russian sanctions. This may be because monitoring compliance with sanctions is a costly activity for Russia, but also because the exporters are more worried about the sanctions enforcement by their national authorities in the European countries, which are generally not concerned with enforcing third party sanctions. European exporters might be expected to be either open to continue exporting directly to Russia or to find new markets in the areas close to the sender (Haidar, 2017). This is what scholars call external substitution (Kavaklı *et al*., 2020). Exporting to the economies close to Russia is likely as firms may already have regional expertise or a footprint that allows them to divert their exports to other countries in the region. However, firms are also likely to export to countries geographically close to Russia because the goods are still able to enter the sender's market via such a detour, and often under favourable conditions, as these countries enjoy free trade agreements with Russia. European firms can thus maintain their position on the market and are able to maintain their existing business relationships, while avoiding reputation losses and other costs.

H3a: Exporters divert their exports to the countries geographically close to Russia.

In addition to the geographical proximity, exporters can also reasonably be expected to increase exports to the countries that have either politically or economically close relations with Russia. Driven by the desire to maintain trade relations with the sender, exporting to such countries allows firms to find middlemen willing to re-export goods to Russia. Such middlemen may be purely business-oriented, but may also, for example, be formed on the basis of diaspora networks or be motivated by other political considerations.

H3b: Exporters divert their exports to the countries politically close to Russia or where there are Russian diaspora groups.

However, trade diversion creates additional costs for firms in terms of transshipment. These additional costs make trade more expensive and hence less competitive. Therefore,

the alternative explanation to the trade diversion hypothesis is that companies do not engage in trade diversion because it makes their exports less attractive.[1]

H3c: Exporters do not divert their exports.

Methods and Data

These hypotheses were tested as regards Dutch firms and how they have been affected by the 2014 sanctions on Russia. We do so for two reasons. Firstly, looking at Russian sanctions is useful as they were imposed at short notice, which implies that the exporters could not engage in stockpiling; a phenomenon observed through the study of threatened versus immediately imposed sanctions (Afesorgbor, 2019). Secondly, the Netherlands is a relatively large and very open economy that is strongly export-driven. It is also the second largest exporter of agricultural products, surpassed only by the much larger USA. As the Russian-imposed round of sanctions in 2014 was especially designed to target EU food exports, these sanctions have been economically important and politically salient in the Netherlands. Lastly, we do not assess the consequences of the EU sanctions on dual-use products (that is, products with military potential) that preceded Russian sanctions on Dutch firms: these affect a very small number of firms, thus precluding statistical analysis.

We used firm-level microdata from Statistics Netherlands, the statistical office of the Dutch government. Our dataset contains international trade data for every Dutch firm that exported any number of goods to any other country in the world over the period 2013–16, as tracked by EU customs officials. Exported goods are categorized by EU-specific product codes, which further subdivide the roughly 5,000 product codes in the harmonized system of the World Customs Organization (European Commission, 2020a). These allowed us to trace aggregate exports on a product-company-year basis. The data are based on the customs declarations filled out by exporters when their goods leave the Netherlands. These goods are carefully traced within and up to the EU borders, after which it is assumed that they reach their declared destinations. Our dataset has over 14 million observations at the product-firm-year level. We aggregated these observations to the firm-year level and dropped all observations of firms not exporting any goods included in the Russian 2014 ban. Our final dataset includes 2,747 observations at the firm-year level, of which all the firms had exported goods in 2013 that were subsequently banned.

A coarsened exact matching (CEM) procedure helped create the quasi-experimental conditions whereby we estimated the consequences of sanctions on the affected firms compared with equivalent firms that were not affected (Iacus *et al*., 2012). This monotonic imbalance bounding method improves the estimation of the causal effect of a treatment by matching comparable observations from the treated and control groups on relevant pre-treatment covariates. Matching occurs by sorting observations into strata that are created by temporarily coarsening covariates into categorical variables. Observations without close matches on these covariates across groups are removed from

[1]We thank a JCMS reviewer for pointing this eventuality out to us.

subsequent analyses. In this way, CEM statistically emulates a randomized experimental design and yields less biased and model-dependent estimates than would be obtained without such a pre-processing step (Iacus *et al*., 2009).

Compared with other methods of statistical matching, CEM's major benefit is that the use of coarsening allows the researcher to set the maximum imbalance thresholds between treated and control groups ex ante, rather than ex post through estimation (Iacus *et al*., 2012). This allows researchers to set theoretically grounded and intuitively sensible boundaries on the matching process (see Supporting information Tables A1–A3 in Appendix A for details on the matching process). Moreover, whereas reweighting approaches such as entropy balancing (see Hainmueller, 2012) are powerful, they do not guarantee exact matches on the desired covariates and may use extreme weights to tie outliers to more typical observations. This can result in problematic inferences when using high-dimensional data. CEM drops these unmatched observations instead, which decreases model dependence but restricts the validity of inferences to the sub-sample for which matches were possible.[2]

In our case, the full sample consists of all Dutch firms that exported any volume of a commodity in 2013 that was subsequently banned by Russia in 2014. Our treatment variable, *sanctioned*, is a dichotomous measure capturing whether in 2013 a firm exported any to-be-banned goods to Russia. Our dependent variables come in four specifications: the first two are used to understand the impact of sanctions on a company's bottom line. *Export revenue* captures the log of the total revenue of a firm-year in euros, which is the firm's aggregate revenue of exports of *all* (banned and non-banned) goods to *any* region in a given year. *Failure* is a dichotomous measure capturing whether the aggregate export revenue for a given company-year is 0.

The second set allows us to estimate company responses to the sanctions by tracing whether and where companies divert exports. We create these variables for a number of alternative destinations of interest, to capture both geographically close countries, and countries that are politically close (Cuba) or have large Russian diasporas (Israel). We therefore look at the diversion of exports to the Baltics, the eastern EU border (Finland and Baltics), Belarus and Moldova, Ukraine, the Caucasus (Azerbaijan, Georgia and Armenia), Romania, Bulgaria, Turkey, Central Asia (Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan and Turkmenistan), Eastern Asia (Mongolia and China), Israel and Cuba. *Export increase* is a dichotomous measure capturing whether a company increased its exports of banned goods to this region in any given year, compared to its exports of banned goods to that region in 2013. *Export diversion* is a similar measure that captures whether a firm began exporting banned goods to the region in a given year while its exports to this region were 0 in 2013.

We use four covariates to match treated and non-treated firms. The first is *exports in 2013,* which is the log of a firm's total export revenue in euros in 2013. This measure is used to control for firm size. We also include three dichotomous variables that indicate to which category the largest share of a company's exports in 2013 belongs: *animal*

[2]We provide a re-estimation of all models using entropy balancing as a robustness check (see Supporting information Appendix B). Our findings are substantively identical across matching methods. However, since entropy balancing retains all observations, this method yields a marked increase in statistically significant estimates. Given that our findings hold across methods, while CEM retains only observations that have strong matches across treatment conditions, we argue this only strengthens the reliability of our findings.

Table 1: Matching Results

Sample	*Full*		*2014*		*2015*		*2016*	
Group	*C*	*T*	*C*	*T*	*C*	*T*	*C*	*T*
All (N)	2464	283	2083	272	1755	215	1694	205
Matched (N)	901	194	828	185	785	171	733	165
Unmatched (N)	1563	89	1,255	87	970	44	961	40
L_1 (pre-matching)	0.646		0.773		0.764		0.763	
L_1 (post-matching)	0.522		0.524		0.529		0.52	

C, control, T, treated group

products, foodstuffs, minerals and chemicals, while using *fruits and vegetables* as a reference category. Finally, we include two different measures of portfolio diversity in 2013. *Max. export share* captures the share of a firm's largest export product at the HS02 level as a proportion of the firm's total export revenue in 2013. Low scores on this variable imply more diverse export portfolios. *Banned export share* measures the share of export revenue from products banned by Russia in 2014 as a proportion of the firm's total export revenue in 2013, and also indicates a firm's exposure to Russian sanctions before they were imposed. We use the overview compiled by Masha Hedberg (2018) to identify goods banned by Russia.

We use linear and logistic ordinary least squares regression models to estimate the average treatment effects of sanctions on our outcome variables across our matched samples. After matching, these regressions can be regarded as simple difference in mean tests (between treated and non-treated firms) that control for any remaining between-group imbalance through the inclusion of the matching covariates as weights in the models. In our analyses of company failure we match treated and non-treated firms on the full sample of companies. For the analyses of *export revenue*, *export increase* and *export diversion* in 2014–16 we iteratively drop failed companies from the sample and re-match the data to ensure that the matching of non-failed to failed companies does not occur.

Table 1 shows the results of the matching process for each sample, including how many observations are dropped from the samples because there were no suitable matching options (unmatched). During matching, we managed to eliminate virtually all univariate imbalances on the matching covariates between the treated and control groups. The L_1 statistic in Table 1 gives the multivariate imbalance between the empirical distributions of covariates of the treated (T) and control (C) groups before and after matching and provides useful information on the relative reduction of imbalance that is conditional on the data and covariates (Iacus *et al*., 2011). As the statistic indicates, our matching procedure yields substantial reductions in multivariate imbalances between our treated and control groups, especially in the annual subsamples. More details on the matching procedure can be found in Supporting information Appendix A.

Results

Before turning to the results drawn from our models, it is important to note that not all firms in our sample stopped exporting banned goods to Russia after 2014. Our microdata

include 1,153 observations at the product-firm-year level of banned goods that continued to be exported to Russia after 2014 (691 in 2015 and 462 in 2016). As EU customs officials track these exports throughout the EU, we can assume that these goods actually reached their intended destination if they crossed the borders of the Baltics. This may suggest the Russian ban is not rigorously enforced by Russian authorities or that our firms have found alternative ways to comply, for example by repackaging products bound for Russia in non-EU transit countries. However, if these exports were moved through Belarus they may still have been stopped at the Russian border without the confiscation being registered by EU customs officials. Our data do not permit us to determine what exactly happened to these goods. The difficulties in enforcing airtight import restrictions are not surprising and fit the argument that enforcing export sanctions is easier than enforcing import sanctions (Brooks, 2002).

Revenue Loss and Firm Failure

Table 2 presents the results for our models predicting the effect of sanctions on export revenue and firm failure. As the logit estimates for firm failure indicate, the average treatment effect (*Sanctioned*) is significantly positive for 2015 and 2016. Firms that were hit by Russian sanctions are 86.5 per cent and 96.0 per cent more likely to have ceased all exporting operations (to all countries) by 2015 and 2016, respectively, compared to firms that were not exposed. These results corroborate H_{1b}. The insignificance of the treatment effect in 2014 is explained by the fact that this variable is zero if a firm exported any goods in 2014, including before the imposition of sanctions by Russia.

The models predicting aggregate export revenue indicate that there seems to be no difference between export revenue of sanctioned and non-sanctioned companies after iteratively removing failed companies from the samples in each year after 2013. All estimates of the average treatment effect are small and highly insignificant. These findings negate H_{1a} and suggest that treated firms that do not fail do not perform worse than those that are not exposed to sanctions.

In terms of matching covariates, larger companies are consistently and significantly less likely to fail over the period 2014–16. As *Exports in 2013* is on the log scale, a one-unit change is roughly comparable to a 172 per cent increase in exports in 2013. This change is associated with a 30.9–34.4 per cent decrease in the probability of firm failure, as well as with increases in aggregate export revenue of 192 per cent and 174 per cent in 2014 and 2015, respectively, against 165 per cent in 2016. Firms operating in the animal products industry are also significantly more likely to fail in 2015, whereas firms in the chemicals and minerals industry are more likely to face export losses in 2015 and 2016. Firms with less diverse export portfolios are also more likely to export less in 2016.

Do the negative effects of sanctions on a firm's bottom line also vary with the degree of firm exposure? Figures 1 and 2 plot the failure rates (share of failed firms per cluster) and median export revenue of firms as clustered by their degree of exposure to Russian sanctions in 2013.[3] As Figure 1 suggests, firms with higher degrees of exposure are also more likely to stop exporting in 2014–16. This further corroborates H_{1b}, yet the

[3]This clustering is based on a multinomial relaxation of our dichotomous treatment variable. Unfortunately, we were not able to use any kind of multinomial treatment variable in the matching process as this yielded too few matched observations across groups to warrant subsequent analysis.

Table 2: Results of Bottom-line Models

Outcome: failure															
Failure	*2014*					*2015*					*2016*				
	Est. (β)	*SE*	*t*	*P*	*Exp (β)*	*Est. (β)*	*SE*	*t*	*P*	*Exp (β)*	*Est. (β)*	*SE*	*t*	*P*	*Exp (β)*
(Intercept)	0.06	1.392	0.043	0.966	1.062	3.668	0.744	4.93	0	39.173	3.724	0.696	5.353	0	41.43
Sanctioned	0.209	0.39	0.537	0.591	1.232	0.623	0.234	2.657	0.008	1.865	0.673	0.217	3.103	0.002	1.96
Animal products	−0.366	0.364	−1.006	0.314	0.694	0.529	0.215	2.467	0.014	1.697	0.322	0.202	1.591	0.112	1.38
Foodstuffs	0.282	0.706	0.4	0.689	1.326	−0.184	0.452	−0.408	0.683	0.832	−0.92	0.492	−1.87	0.061	0.399
Min. & chemicals	0.42	1.018	0.413	0.68	1.522	−0.125	0.568	−0.22	0.826	0.882	0.119	0.478	0.249	0.803	1.126
Max. export share	1.975	1.141	1.732	0.083	7.207	0.635	0.548	1.157	0.247	1.887	0.117	0.48	0.243	0.808	1.124
Ban. export share	1.1	0.789	1.394	0.163	3.004	0.224	0.415	0.54	0.589	1.251	0.246	0.378	0.651	0.515	1.279
Exports 2013 (log)	−0.37	0.075	−4.932	0	0.691	−0.422	0.048	−8.863	0	0.656	−0.378	0.044	−8.529	0	0.685
N	1095					1095					1095				
Outcome: export revenue (logged)															
	2014					*2015*					*2016*				
	Est. (β)	*SE*	*t*	*P*		*Est. (β)*	*SE*	*t*	*P*		*Est. (β)*	*SE*	*t*	*P*	
(Intercept)	−1.047	0.29	−3.606	0		−0.148	0.4	−0.37	0.711		0.583	0.45	1.295	0.196	
Sanctioned	−0.074	0.086	−0.867	0.386		0.059	0.104	0.564	0.573		−0.015	0.116	−0.132	0.895	
Animal products	0.032	0.079	0.409	0.683		0.068	0.105	0.648	0.517		0.005	0.117	0.04	0.968	
Foodstuffs	−0.165	0.123	−1.339	0.181		0.161	0.136	1.184	0.237		0.134	0.155	0.867	0.386	
Min. & chemicals	−0.077	0.165	−0.466	0.641		−1.208	0.192	−6.282	0		−0.868	0.223	−3.897	0	
Max. export share	−0.125	0.16	−0.786	0.432		−0.284	0.188	−1.513	0.131		−0.501	0.217	−2.312	0.021	
Ban. export share	−0.205	0.117	−1.754	0.08		0.085	0.137	0.621	0.535		0.21	0.154	1.358	0.175	
Exports 2013 (log)	1.071	0.017	61.776	0		1.009	0.024	42.848	0		0.973	0.026	37.757	0	
N	1013					956					898				

Figure 1: Failure rate by firm exposure.

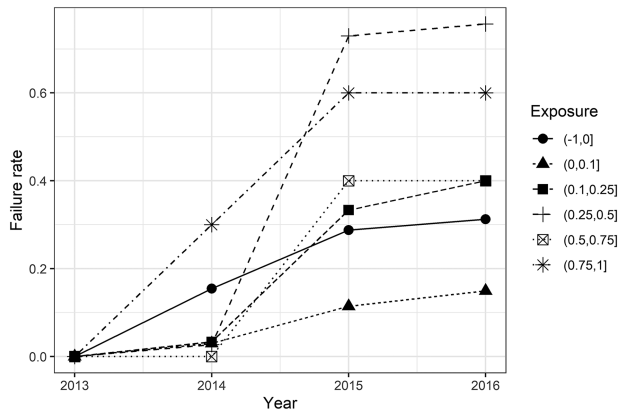
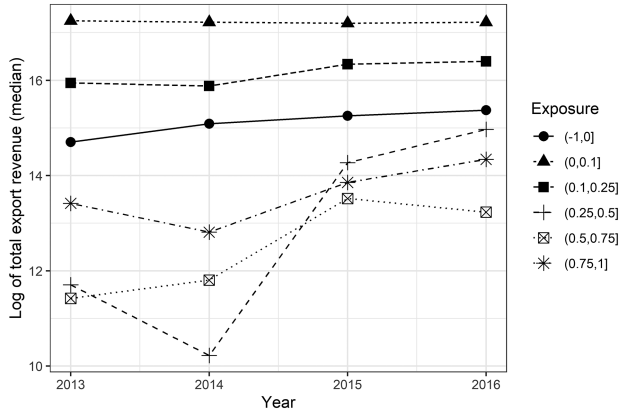


Figure 2: Median export revenue by firm exposure.



distributions of failure rates across clusters also shows two notable exceptions. First, companies with more than 0 per cent but less than 10 per cent exposure are least likely to fail, even compared with firms without any exposure. The reason for this is most likely that this category includes the majority of large Dutch multinationals with very diverse export portfolios and that export all over the world. These firms are much less likely to fail than smaller firms. These companies are also much more likely to have resources needed to engage lawyers and consultants, as well as to develop the niche expertise in sanctions implementation (Giumelli and Onderco, 2021).

Second, firms with an exposure rate of 25–50 per cent actually failed more often than firms with more exposure to Russian sanctions after 2014. Upon closer inspection, we find that this category consists primarily of relatively small firms in the chemicals and minerals industry. The failure rate of firms in this industry was 66 per cent and 71 per cent in 2015 and 2016, respectively, against 14 per cent and 17 per cent, for firms in other

categories. Figure 2 tells a similar story: firms with higher exposure rates faced more short-term revenue losses than firms with less exposure. However, this figure again suggests that firms across exposure categories managed to recover and actually increase export revenue if they did not fail after the imposition of sanctions. Soon after the imposition of Russian sanctions on Dutch exporters, a Rabobank analysis identified sectors with an 'above-average orientation to Russia' (among them agriculture) as being particularly vulnerable (Boonstra and Legierse, 2014). An executive from an agricultural business stated in an interview in the summer of 2019 that exports to Russia are still happening, but exporters not only need strong local and political connections but also must be willing to undertake risk.[4] In their research on firm compliance with EU sanctions, Giumelli and Onderco (2021) demonstrated that smaller companies have much bigger difficulties recognizing, enforcing and adjusting to the sanctions being put in place. This same exporter noted that Russian domestic businesses are now a growing threat to Dutch exporters. This view was highlighted also by Meeuwes Brouwer, the agricultural counsellor at the Dutch Embassy in Moscow in a 2020 interview, during which he emphasized that the time of Russia being reliant on foreign export 'was over' (Ministerie van Landbouw Natuur en Voedselkwaliteit, 2020).

Export Diversion

So where do firms that successfully avoid the negative impact of sanctions find new markets to export to? Table 3 presents the results of our models predicting whether firms start exporting (diversion) or increase existing exports to our regions of interest. For reasons of brevity, we present only the effect of our treatment variable here and present the full models in the Supporting information Appendix A (Tables S4–S5).

In terms of export increases, we find positive average treatment effects for nearly all regions and time points that are significant at the traditional 5 per cent threshold ($P = 0.05$), except Cuba and the eastern EU border. The most likely explanation for these effects is that firms that were active in Russia in 2013 were also more likely to operate in the regions around Russia than their matched counterparts. This means these findings are most likely explained by the upturn in the economic climate that has occurred since 2013, which is confirmed, for example, by the non-significant treatment effects for Cuba. It is therefore more informative to look at the second set of treatment effects in our models predicting export diversion to these regions. In these cases we find positive significant effects for a number of geographically adjacent countries with close economic ties to Russia: Belarus and Moldova (2015–16), the Caucasus (2014–16) and Mongolia and China (2014–16). These countries are geographically close to Russia and most of them enjoy a free trade agreement with Russia. The results thus corroborate H_{3a}. Moreover, we also find some support for H_{3b}: treated firms were more likely to begin exporting to Belarus and Moldova (2015–16), Israel (2014–16) and Cuba (2016), countries with a Russian diaspora or politically close to Russia.

The findings correspond to previous research which suggested that European goods are being repackaged in Belarus to be re-exported to Russia (Youngs, 2017). During an interview in 2019 another Dutch agricultural business executive confirmed that their

[4]Interview 1 (Confidential e-mail interview, summer 2019)

Table 3: Results of Export Diversion Models

Export increase															
	2014					*2015*					*2016*				
Treatment effect	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*
Baltics	0.915	2.497	0.226	4.044	0	0.584	1.793	0.247	2.363	0.018	0.439	1.551	0.247	1.776	0.076
Belarus or Moldova	0.877	2.404	0.275	3.189	0.001	1.941	6.966	0.323	6.015	0	2.2	9.025	0.356	6.177	0
Bulgaria	0.821	2.273	0.255	3.221	0.001	0.683	1.98	0.262	2.608	0.009	0.764	2.147	0.272	2.808	0.005
Caucasus	1.08	2.945	0.362	2.982	0.003	1.223	3.397	0.331	3.694	0	1.396	4.039	0.344	4.055	0
Cuba	0.265	1.303	0.676	0.391	0.696	−0.122	0.885	0.824	−0.148	0.882	0.744	2.104	0.735	1.012	0.311
Eastern Asia	1.444	4.238	0.262	5.507	0	1.419	4.133	0.28	5.064	0	0.867	2.38	0.298	2.906	0.004
East EU border	0.313	1.368	0.202	1.548	0.122	0.093	1.097	0.208	0.447	0.655	0.026	1.026	0.212	0.124	0.901
Israel	1.623	5.068	0.346	4.692	0	1.451	4.267	0.29	5.007	0	1.898	6.673	0.305	6.224	0
Romania	0.652	1.919	0.226	2.886	0.004	0.666	1.946	0.216	3.08	0.002	0.595	1.813	0.221	2.692	0.007
Central Asia	1.155	3.174	0.261	4.43	0	1.013	2.754	0.276	3.676	0	0.975	2.651	0.308	3.164	0.002
Turkey	0.881	2.413	0.312	2.829	0.005	0.541	1.718	0.319	1.699	0.089	0.916	2.499	0.323	2.839	0.005
Ukraine	1.307	3.695	0.308	4.247	0	1.127	3.086	0.389	2.9	0.004	0.587	1.799	0.348	1.685	0.092
N	1013					956					898				
Export diversion															
	2014					*2015*					*2016*				
Treatment effect	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*	*Est. (β)*	*Exp (β)*	*SE*	*t*	*P*
Baltics	−0.054	0.947	0.384	−0.14	0.888	−0.294	0.745	0.428	−0.687	0.492	−0.383	0.682	0.406	−0.944	0.345
Belarus or Moldova	0.058	1.06	0.375	0.154	0.877	2.121	8.339	0.433	4.9	0	2.531	12.566	0.567	4.468	0
Bulgaria	0.098	1.103	0.37	0.265	0.791	−0.114	0.892	0.346	−0.33	0.741	0.169	1.184	0.328	0.515	0.607
Caucasus	1.037	2.821	0.418	2.477	0.013	1.476	4.375	0.41	3.595	0	1.298	3.662	0.407	3.187	0.001
Cuba	2.153	8.611	1.232	1.747	0.081	−17.708	0	4876.829	−0.004	0.997	2.875	17.725	1.55	1.854	0.064
Eastern Asia	1.435	4.2	0.372	3.853	0	1.224	3.401	0.34	3.596	0	0.718	2.05	0.376	1.912	0.056
East EU border	0.051	1.052	0.331	0.155	0.877	−0.053	0.948	0.349	−0.151	0.88	0.297	1.346	0.316	0.941	0.347
Israel	1.275	3.579	0.458	2.783	0.005	1.013	2.754	0.358	2.829	0.005	1.458	4.297	0.393	3.708	0
Romania	0.511	1.667	0.293	1.742	0.081	0.576	1.779	0.254	2.263	0.024	0.33	1.391	0.258	1.279	0.201
Cental Asia	0.359	1.432	0.37	0.97	0.332	0.651	1.917	0.385	1.691	0.091	−0.453	0.636	0.555	−0.817	0.414
Turkey	0.1	1.105	0.473	0.211	0.833	−0.171	0.843	0.518	−0.33	0.742	−0.152	0.859	0.514	−0.295	0.768
Ukraine	0.368	1.445	0.395	0.932	0.352	0.733	2.081	0.444	1.652	0.098	−0.025	0.975	0.423	−0.06	0.952
N	1013					956					898				

company increased re-exports to Russia, as well as expanded its presence in neighbouring countries.[5]

We find no evidence for diversion to other EU countries (except Romania in 2015–16), which may be explained by the fact that EU markets are more accessible to Dutch firms than any other markets. If firms exported to Russia in 2013, they were likely to have already been active in other EU countries also. Central Asia (landlocked) and Turkey (no land border with Russia) may not be attractive diversion routes if Belarus, Moldova and the Caucasus are also open for business. Lastly, Ukraine's ongoing military conflict with Russia may explain why diversion to this country did not occur.

Conclusion

In this article we looked at the impact of the imposition of sanctions on EU firms. The impact of economic statecraft on firms has rarely been studied by political scientists, which is surprising given the growing importance of sanctions in the EU foreign policy toolbox and the growing likelihood that the targets of EU sanctions will fight back and counter-sanction European firms. Moreover, our focus on firms themselves is novel, although firms are the the primary economic actors in a capitalist society. This is also rather surprising, considering that the impact of other public policies on general publics and societal actors is a regular subject of research in political science.

We studied this impact in the case of the Netherlands and analysed the responses of Dutch firms to the imposition of sanctions by Russia, which were themselves imposed as a reaction to EU sanctions on Russia. We hypothesized that in the short term, firms exposed to the sanctions by having previously exported sanctioned goods to Russia would suffer a loss of revenue from exports and would have a higher chance of bankruptcy (failure). However, we also expected that the firms that did not go bankrupt would bounce back, not least by finding ways around the sanctions and exporting to markets that are politically or geographically close to Russia.

Our results broadly confirm these hypotheses, with some notable exceptions. We find that while the companies that are hit by sanctions are more likely to fail than their non-exposed counterparts, those that avoid failure do not perform significantly worse. The political strategies aimed at helping companies affected by sanctions should, therefore, focus on the initial period after the imposition of sanctions, as firms tend to recover and find alternative markets. Instead, firms' export diversion and diversification strategies appear to be decisive factors in determining their ability to survive being hit by sanctions: firms that do not divert their exports risk financial failure, but firms that do divert their exports elsewhere are not significantly worse off than their non-sanctioned counterparts. Our results also suggest that firms appear to retain access to the sender's market by rerouting exports via states with close economic or political links with the sender state.

These results have a number of important implications. Firstly, they contribute to our understanding of the coping strategies that firms undertake when they are hit by sanctions. We can therefore more accurately study the steps that the European companies make in facing the sanctions, and also, we can more precisely measure the impact of sanctions on European companies over a longer period of time.

[5]Interview 2 (Confidential e-mail interview, summer 2019)

Moreover, and in line with earlier studies (Fürrutter, 2019), our results call for the diversification of the study of sanctions. Whereas our quasi-experimental design allows us to unearth patterns of export diversion, we can only infer the importance of firms' diversion strategies. Future research should investigate in more detail the extent to which firms have diversion strategies and what makes such strategies successful. In particular relation to Russian counter-sanctions, as recent work by academics (Hedberg, 2018) and journalists (Belton, 2020) argued, there are domestic political and economic reasons for Russian counter-sanctions, and hence future research should look at how these diversionary strategies by target firms support or undermine the sender's foreign and domestic policy goals. Our results may be also affected by the fact that we conducted the analysis in a setting of a very open economy in which businesses are globally oriented. Future researchers might find it useful to compare the results with those in less open or less diverse economies, where businesses face different pressures. Cross-national comparisons are also important because different national governments adopt different approaches to enforce sanctions (Giumelli, 2018). Different government responses open opportunities to explore variation in businesses' reactions.

Our findings are also important for policymakers and pundits alike. Foremost, they speak to an important policy issue that is of public salience. The impact of Russian counter-sanctions has often been conflated with the effect of the European sanctions in public discourse, which has in turn led to the costs of the sanctions fuelling opposition to EU sanctions. As we find emphasized in the literature on economic statecraft, the ability to sustain the costs of economic coercion by the sender is crucial to their success (Hirschman, 1980).

We find that the impact of international sanctions on business is limited, even as regards a major economic actor who fights back (Russia). In the long term, businesses suffer virtually no negative impact from losing direct access to the sender's market, in large part because they are able to bypass the sanctions by diverting their exports to other countries. In the particular case of Russia, our results demonstrate that businesses were most likely to divert their exports to countries with close political and economic ties to Moscow. This also implies that sanctioned governments can offset the short-term impact of increased firm failure by developing explicit strategies that aid firms in diversifying exports. The bottom line is that Russian counter-sanctions yielded limited damage to the European economy. By now, the continuation of the sanctions (and counter-sanctions) no longer hurts European businesses. Economic arguments based on the impact on firms should therefore not animate thinking about the maintenance of European sanctions.

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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