International Politics and Oil:

Evidence from Russian Oil Exports[*]

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Abstract

Oil is often considered a "political" good affected by the changes in international political relations. Using a novel dataset on Russian oil-exporting companies over 1999–2011, we find that a worsening in political relations between Russia and an oil-importing country results in a considerable reduction in oil shipments by Russian oil exporting firms into that country, the effect being stronger for state-owned firms. Using leadership changes in oil importing countries as exogenous shocks to political relations we show that this relationship is causal. However, total exports revenue of Russian oil exporting firms is not affected much, as they seem to be able to recover losses incurred in one market by increasing their sales in other markets. At the same time, the countries importing oil from Russia (especially the ones heavily-dependent on Russian oil) see their total oil and energy imports decline.

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1. Introduction

Since the 1967 Arab-Israeli War, many policymakers and commentators have been considering oil as a political good affected by the changes in international political relations. Several decades later, Russia was on the news for the alleged use of her energy exports as a weapon against Belarus and Ukraine. [1] Some experts, however, maintain that the world oil market is "one great pool," because crude oil, being a relatively homogenous good traded on an organized market, is fungible. If the oil market is a single integrated world market, the using oil as a weapon employed is largely ineffective. Therefore, the incidence of the oil weapon remains elusive.

This paper documents the use of oil as a weapon for the case of one of the largest oil exporters — Russia. Presently, there are numerous stories in the news suggesting that Russia uses its natural resources, such as oil and natural gas, as a way to punish political adversaries and reward loyal allies. Indeed, it is widely documented that the Soviet Union used various methods of subsidizing energy supplies to the member countries of the Council on Mutual Economic Assistance during the Cold War, so that oil and gas were sold to Eastern Europe at below world market prices in exchange for machinery and equipment (e.g., Closson, 2011). What may be less clear is whether Russia continues to adopt a similar policy?[2]

Using oil exports from Russia as a laboratory for our study has the following advantages. First, Russia is a major player in the international crude oil market. It is not a member of the OPEC, which allows it to make independent production and export decisions. Second, there are considerable changes in political relations between Russia and the countries importing Russian oil during our sample period 1999-2011. This makes the effect of politics easier to measure in the data. Finally, there are granular administrative data available in the case of Russian oil exporting companies, which allows us to study the impact of political relations at a very high level of detail.

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[1] Such concerns are still ongoing. Bloomberg news in the news article from July 20, 2021 wrote: "The U.S. and Germany are close to a deal on the Nord Stream 2 pipeline that would threaten sanctions and other retaliation if Russia tries to use energy as a weapon against Ukraine" https://www.bloomberg.com/news/articles/2021-07-20/u-s-germany-send-russia-warning-in-draft-nord-stream-2-accord (accessed on July 21, 2021)

[2] It is also possible that importing countries *are* punishing oil exporters. In the discussion of our results below we try to assess such possibility.

Namely, we use transaction-level international trade data from Russian State Customs Service over 1999-2011. Such granular data allows us to analyze export decisions to different destination countries by a particular oil exporting company. To measure the effect of political relations on exports of oil into different countries we couple this dataset with the Affinity of Nations Index developed by Gartzke (2010), which proxies the similarity of voting between country pairs in the United Nations General Assembly. Additionally, to analyze the impact on countries importing oil from Russia we utilize the UN-COMTRADE database, which contains bilateral trade flows in different goods for all country pairs. We use this dataset to assess whether countries importing Russian oil are able to substitute for it with oil from other sources or other goods to produce energy from: e.g. natural gas, etc.

We have four main results. First, as political relations between Russia and an oil-importing country deteriorate, the value and weight of Russian oil exports to that country decrease considerably. The effect is working both at the intensive margin (decrease in oil exports) and the extensive margin (complete stop of exports), with extensive margin being particularly important for state-owned companies and foreign-owned[3] companies. The effect is not only statistically significant, but also large in economic sense. For a one standard deviation increase in political distance between Russia and some country (which roughly corresponds to the worsening in relations between the US and Russia during the second term of George W. Bush in 2005-2008 or worsening of relations between the Ukraine and Russia after the Orange Revolution of 2004-2005), oil exports into that country decline by more than 50 percent. The effect seems to be smaller (40 percent) for private domestic companies and larger (65 percent) for state-owned oil exporters. We present evidence that causality runs from worsening in political relations to the decrease in oil exports using political leadership changes in oil importing countries as the source of exogenous (within-country) variation in political relations with Russia.[4]

[3] Here and throughout the paper "foreign-owned" denotes companies registered in Russia with participation of foreign investors.

[4] Notably, we do not observe similar effects in the case of other commodities. Our results, thus, underscore the specific nature of oil as a "strategic" commodity. A similar point is made in recent contribution by Bove, Deiana, and Nistico (2021) who find that oil-dependent economies are willing to supply military equipment to oil producing countries to guarantee uninterrupted supply of oil

Second, the deterioration in political relations does not seem to affect total export revenue of Russian oil exporters. We identify one potential channel for why this happens: diversification of political risk across export markets. We find that companies that export to one or only a few export destinations do see their total export revenue drop when political relations with their key exports markets decline. At the same time an average Russian company seems to able to recoup its losses by sales in other markets; the end effect being that total export revenue is not changing much even when political relations worsen with the markets important to this firm, as reflected in the prior period higher exports.

Third, oil importing countries, on the other hand, fail to fully compensate for the decline in Russian oil exports following a deterioration in political relations with Russia, as their total oil imports, total natural gas imports, and total energy imports (from all sources: i.e. including refined products such as gasoline, diesel, etc.) are adversely affected. Moreover, we find that these effects are more pronounced when a targeted country is (initially) dependent on Russian oil. For a one standard deviation increase in political distance, such countries experience a fall in total oil imports (from all sources) by more than 30 percent and their total energy imports decline by more than 15 percent. While some of the countries seem to be able to substitute by importing more of natural gas this strategy seems to work only for countries not dependent much on Russian oil to begin with.

An interesting question remains: what is the proper way to interpret the findings above? Is it indeed Russia punishing its adversaries and rewarding its allies? Or, vice versa, importing countries trying to retaliate by diversifying away from the Russian oil? In this regard, we present tentative evidence to the former story than to the latter. Namely, we show that the effect of international politics on Russian oil exports seems to be a relatively recent phenomenon, observed over 2000-2011. While oil exporting companies-level data are available only over 1999-2011, we can measure the impact of political relations on oil importing countries for 1992-1999 (from NBER-Comtrade bilateral trade data) and find no effect of political relations on Russian oil exports during that earlier period. Interestingly enough 2000-2011 timeframe coincides with the rise of Vladimir Putin to power in Russia and the resulting greater government involvement in oil and natural gas industries.

This paper is related to several strands of literature. First, it contributes to the growing literature that

explores the role of international politics on trade. An early contribution by Summary (1989) documented several political factors, such as transfer of arms and the number of foreign agents registered in the United States, which affect bilateral trade flows between the United States and other countries. Berger et al. (2013) show that, during the Cold War, a foreign government imported more American products following a CIA intervention. Using more recent data, Michaels and Zhi (2010) find that the deterioration of relations between the United States and France from 2002-2003 reduced trade. Fuchs and Klann (2013) find that China decreases its imports from a country if the country hosts a visit by Dalai Lama, as China perceives such visits as interference in its internal affairs. Fouka and Voth (2016) show that German car sales dropped in Greece during the recent Greek debt crisis, particularly in areas hit hardest by German troops during WWII.

Unlike most of the papers in this literature, we utilize data at the individual exporter-by-destination country level. This allows us not only to document the decrease in oil exports (both at the intensive and extensive margins) but also enables us to estimate the impact on Russian exporting companies when political relations with their major export markets deteriorate as well as assess the role of diversification of political risk at the exporting company-level. In this regard, our paper is closest to Fisman, Hamao, and Wang (2014) who analyze the adverse impact of worsening of Sino-Japanese political relations on performance of individual Japanese (Chinese) stocks depending on issuing firms' exposure to operations with China (Japan).

Our paper also contributes to the literature on international oil and energy markets. In particular, it challenges a popular view that crude oil is fungible and oil market is "one great pool" where oil moves to the nearest market to minimize transportation cost (e.g., Adelman, 1984, 1992, Nordhaus, 2009). Our results indicate that breakdowns in political relations cause reductions in crude oil trade flows. This process has adverse effects on the importing countries, as they cannot fully compensate for the decreased oil export. But it does not seem to impose much cost on the average Russian exporting company who seem to be able to successfully diversify away such shocks.

This paper proceeds as follows: Section 2 discusses the Russian oil industry. Section 3 describes the data. Section 4 presents our empirical framework and the main results. Section 5 concludes.

2. The Russian Oil Industry

After the collapse of Soviet Union in 1991, Russia continued to rely on oil exports as the major source of government revenues. Production and exports of oil by Russia increased considerably since 1990s, and in late 2000s Russia became world largest producer and exporter of oil. According to the U.S. Energy Information Administration, Russia had been producing around 9-10 million bbl/day over 2000-2011, and exports of crude oil and natural gas constitute more than 40 percent of state budget revenue. Most of Russian oil exports (more than 70 percent) go to Europe, in particular to Germany, Netherlands, Belarus and Poland. Many European countries are heavily dependent on Russian oil. In 2015 Russia accounted for almost 30 percent of crude oil imports into the European Union, with some countries like Slovakia, Latvia and Lithuania importing 90 percent of oil from Russia (Eurostat).

Russia produces oil of several different grades, the main export grade being the Urals blend, which is a mix of heavy-sour crude from Urals-Volga region and light sweet crudes from West Siberia. The quality of the mixture could vary slightly but Urals blend is generally a medium (about 31°) gravity sour (about 1.4% sulfur content) crude oil blend. The Urals blend trades at a discount for Northern Sea Brent grade, as it is a heavier crude that makes it costlier to produce gasoline from. As oil refining process is highly specialized to the type of oil used, it makes Urals blend rather difficult to substitute from in the short-run by the imports of other crudes. Thus, oil trade between Russia and European countries represent a relationship with strong bilateral dependence potentially making any disruption in trade costly (at least in the short-run) for the parties involved.

The case of Russia is of interest also because there have been considerable changes in international politics between Russia and its trading partners. Our sample covers both the 2003 Georgia's Rose Revolution and the 2004 Ukraine's Orange Revolution. More generally, 1999-2011 was the period of the major shift in geopolitical activity of Russia, which over time led to more disagreements between Russia and Western countries and more alignment between Russia and China.

At the same time, unlike most other major oil exporters, Russia is not a member of OPEC. Russia often positions herself to her Western trading partners as a viable alternative to middle eastern producers, and there

is no evidence that Russia had been coordinating her oil production with OPEC during the early 2000s. The case of Russian oil exports, therefore, provides a relatively clean setup to examine the impact of political relations on oil exports from a major independent oil producer.

3. Data Description and Summary Statistics

We combine several novel datasets to analyze the impact of political relations on oil exports from Russia.

3.1. Company-level oil exports

We use dataset of company-level oil exports to different countries that comes from the whole population of export/import transactions conducted in Russia over the years 1999-2011. Those entries are constructed from individual customs forms submitted to the Russian Customs Services every time any good crosses border legally.[5]

This dataset provides the following information about each export/import transaction: description of the shipment (type, value, and weight of the goods), sending/receiving domestic company identifying information (company name, address, taxpayer number) and information about foreign counterpart of the transaction. For the purposes of our analysis, we focus on transactions related to oil exports. The data classify goods according to Harmonized System Nomenclature 2007 employed by the World Customs Organization. We extract all entries pertaining to category 2709 "Petroleum Oils and Oils Obtained from Bituminous Minerals". We use domestic company identification numbers to identify individual exporters in our dataset and sum all (values and weights of) oil exports to a particular country by a given Russian exporter within each year.

[5] These datasets are available for purchase from several online vendors in Russia: see e.g. www.russbd.com. This dataset was leaked from the Federal Customs Service of Russia. Similarly obtained datasets have already been used in prior research on Russian economy. Russian government does not publicly admit that the data were ever leaked, but it is willing to support and use research done on the basis of such data in the design of its policy. See Braguinsky, Mityakov, and Liscovich (2014), Mironov and Zhuravskaya (2016), Fisman, Hardy, and Mityakov (forthcoming).

3.2. Political distance measure

Our measure of political distance between Russia and its oil-trading partners is based on the Affinity of Nations Index (Gartzke, 2010 and Voeten et al 2017). This index provides a metric that reflects the similarity of voting positions of pairs of countries in the United Nations General Assembly and varies between -1 (completely opposite voting) to 1 (completely similar voting). To get a political distance measure varying between 0 and 1, we transform original Affinity Index according to the formula:

$$PD = \frac{1 - Affinity}{2} \quad (1)$$

Alesina and Dollar (2000) argue that UN votes are a reliable indication of the political alliances between countries, as the pattern of the votes is strongly correlated with alliances and similarity of economic and geopolitical interests. Following Dreher and Sturm (2012) and the majority of the literature, we focus on all votes (that is, both key and non-key votes).[6]

To illustrate the variation in our political distance measure, Figure 1 plots the political distance between Russia and four countries. Panel A shows how the political distance between Russia and the United States increased after Vladimir Putin came into power and then slightly decreased after 2009 "Reset" in political relation between the US and Russia during the first term of Barack Obama. Panel B illustrates that the political distance between Russia and Ukraine almost doubled after the Orange Revolution. The political distance with Germany, a major Russian oil importer, also increased over time (Panel C), especially after 2005, which notably coincides with the transition from Gerhard Shroder to Angela Merkel. For some countries such as China, however, we observe quite stable political relations (with Russia) with no upward trend in political distance (Panel D).

3.3. Country-level import data

We also analyze the impact on countries importing oil from Russia. We utilize country-level import data from UN-COMTRADE database (comtrade.un.org) and the NBER-UN world trade data compiled by Feenstra et al.

[6] Affinity Index is a common measure of political impediments to trade: see, for example, Bove, Deiana, and Nistico (2021) for a recent contribution.

(2005), which contains information on bilateral trade flows at a commodity level for a given exportingXimporting countries pair.

We use this dataset to construct country level imports of oil (product code 2709), natural gas (product code 2711), and total energy (all product codes in 27xx range). Unlike Russian oil exports data, this dataset is available prior to 1999, so in our country-level analysis of the impact on oil importing countries we also use 1992-1999 period to study potential changes in the effects before and after Vladimir Putin rise to power in 1999-2000.[7]

3.4. Summary statistics

Table 1 provides summary statistics for all variables used in our analysis. Panel A of Table 1 presents summary statistics of exports for all companies. The average annual value of oil export is 9.04 million dollars, and the average weight is 28,700 tons.[8] Panel B of Table 1 shows the firms characteristics from Spark-Interfax and company specific political distance. Average return on sales (ROS) is 4% (0.039).

Panel C of Table 1 shows country-level statistics on oil, energy, and natural gas imports from UN-COMTRADE database. On average, Russia accounts for $2B worth of oil imports per year, which is a sizeable amount given that total oil imports on average are around $14.4B per year. We also see that oil represents an important part (more than a half) of overall energy imports, which on average stands at $25B per year. Total natural gas imports are sizeable $3B on average but much smaller than oil. There is also considerable variation in countries' dependence on Russian oil, as the share of Russian oil imports (for the sample of countries that do import some oil from Russia) varies between 0.002 to 1, with a standard deviation of around 0.4.

[7] 1992 being the first year of data for Russia after the collapse of the Soviet Union in 1991.

[8] State-owned companies have higher values and weights of oil exports than privately owned firms: 29.9 and 74.2 for state-owned vs 8.1 and 29.8 for private companies. However, the average political distance is about the same across different groups, 0.21 with a standard deviation of 0.1, suggesting that state and private companies are selling to very similar countries.

4. Empirical Findings

We conduct our analysis of the effect of international politics on Russian oil exports in three steps. First, we estimate the effect of political relations on individual oil company's export decision. Then, we examine the impact of changes in political relations on total export revenue of Russian oil exporting companies. Finally, we study how political relations with Russia affect countries that rely on Russia for their oil imports.

4.1. Political relations and oil exports from Russia

We begin by estimating the effects of international politics on Russian oil exports. In our analysis we use both weight as well as value of oil shipments. In particular, we estimate the relationship between company-level annual exports into a country and the political distance between Russia and that country using the standard model in international trade: the gravity equation, which has had great empirical success in explaining bilateral trade flows.[9]

4.1.1. Oil exports and political relations: Empirical methodology

In its simplest form, the gravity equation links trade flows between countries to distance between them and their (economic and/or demographic) sizes. Distance in this model can be understood quite generally. It includes not only geographical distance but also could account for other factors that reduce trade. In our paper, we focus on political relations as an impediment to trade. In its multiplicative constant-elasticity form, the gravity equation for trade states that oil exports of firm i from Russia to country j at year t, denoted by E_{ijt} is inversely proportional to their distance D_{jt} and proportional to the product of the two countries' GDPs, denoted by Y_{jt} and Y_t^{Russia}:

$$E_{ijt} = e^{\alpha}(D_{jt})^{\beta}(Y_{jt})^{\gamma}\left(Y_t^{Russia}\right)^{\delta}e^{\eta_{ijt}}, \quad (2)$$

[9] Started in the 1960s as a purely empirical proposition to explain bilateral trade flows, the gravity equation had little or no theoretical underpinnings. During the 1970s, a series of articles were published to provide theoretical foundations of the gravity equation. See Anderson (2011) for discussion. Recently, the literature provides different micro theoretical foundations underlying gravity equations, see e.g. Melitz (2003), Anderson and Van Wincoop (2003), Chaney (2008), Eaton, Kortum, and Kramarz (2011) etc.

where α, β, γ, and δ are unknown parameters, and η_{ijt} is an error term. One can also log-linearize the equation above to obtain the log-linear representation of the gravity equation.

$$\ln E_{ijt} = \alpha + \beta \ln D_{jt} + \gamma \ln Y_{jt} + \delta \ln Y_t^{Russia} + \eta_{ijt} \quad . \tag{3}$$

Our point of departure from the traditional gravity model is the focus on international politics, and hence lnD_{jt} represents the one-year lag of political distance between Russia and country j in year t: $PD_{j,t-1}$. Namely we consider the following empirical specification:

$$\ln E_{ijt} = \alpha + \beta PD_{jt-1} + \gamma \ln Y_{jt} + \phi_j + f_t + \eta_{ijt} \quad . \tag{4}$$

In our specification, we control for country fixed effects ϕ_j, so the main coefficient of interest β shows the change in oil exports from Russia in response to changes in political relations at a given country level. We also include year fixed effects f_t to account for potential time-specific shocks to the whole oil market.[10] Note that geographic distance and other fixed country-level characteristics are absorbed by country fixed effects, while Russian GDP and other Russia-specific time-varying variables are absorbed by year fixed effects. In particular, shocks to world-wide oil prices are absorbed by such time fixed effects as well.

One consequence of the log-linearization is that zero trade observations are dropped from the sample. Such specification effectively estimates the intensive margin of trade: how much to export conditionally on exporting. As such, this specification omits extensive margin of trade: decision whether to export. A standard way to incorporate both intensive (decision how much to export) and extensive margins (decision whether to export at all) is to use Poisson pseudo-maximum-likelihood (PPML) estimator proposed by Santos Silva and Tenreyro (2006). In our analysis below, we report the estimation results both at the intensive margin (OLS) and for the intensive and extensive margins combined (PPML).

[10] We also control for exporting company fixed effects as a robustness check.

4.1.2. Impact of political relations on oil exports from Russia

Table 2 reports our estimation of the gravity equation specification (4). In Panel A we use PPML estimator, which combines intensive and extensive margins, while in Panel B we use OLS, which uses only positive observations on trade flows (intensive margin).[11]

Column 1 of Table 2 presents the results for the effect of political distance on value of company oil exports for the sample of all oil exporting companies, while columns 2-4 contains the results for private domestic, state-owned, and foreign-owned oil exporters, respectively.

PPML estimates (Panel A of Table 2) imply that an increase in political distance between Russia and a particular importing country is associated with a decrease in the oil exports into that country (or complete halt of exports into that country). Estimated effects are not only statistically significant but also imply economic effects of sizeable magnitudes. An increase in political distance by one standard deviation (0.1) translates into a decrease in weight of oil exports by around 50 percent (=exp(-7.6*0.1)-1). There is also notable heterogeneity in this effect depending on oil exporting company ownership type. The effect is smaller for private domestic companies and is larger for state-owned companies: 40 vs 65 percent decrease in oil exports for the same increase in political distance by one standard deviation. Foreign-owned companies being somewhat in between in terms of the magnitude of the effect.

OLS estimates (Panel B of Table 2), which use only non-zero observations, portray very similar qualitative picture. An increase in political distance is associated with a decrease in the value of oil shipments by Russian oil exporters for both private domestic and state-owned companies. Notably, there is no effect at the intensive margin for foreign-owned companies. This suggests that the increase in political distance for foreign-owned oil companies operating in Russia is more likely to result in a complete stop of oil exports (extensive margin) rather than work through a decreased value of shipments (intensive margin). The impact at the intensive margin for state-owned companies (while considerable in size and statistically significant) is also

[11] When using PPML estimator one needs to impute zeros for missing trade observations. To avoid imputing zeros for non-existent companies, we use SPARK database to verify existence of a company in a given year for which zeroes are imputed.

smaller than the total impact when both margins are combined, suggesting that the suspension of oil exports altogether might play an important role in the response of state-owned companies to a worsening in political relations.[12]

4.1.3. Direction of causality

One may question a causal interpretation of the correlations we present above. A reverse causality argument could be made, where changes in oil exports from Russia impact countries' political relations with Russia. To address potential endogeneity of our political distance measure we employ instrumental variables approach based on changes of leaders in the countries importing oil from Russia. A number of recent studies have shown how leadership changes affect economic policy and political outcomes (e.g., Jones and Olken, 2005, Dreher and Jensen (2012)).

We employ dummies for individual political leaders in office as instrumental variables for our political distance measure. The data on leaders are taken from Archigos database on leaders from Goemans et al (2016).

The exclusion restriction behind this IV approach is that higher demand for oil imports from Russia (or expectations of a higher demand for oil imports from Russia in the future) is not the main determining factor for the choice of political leaders. To be more precise, since we include country-specific fixed effects, the fact that oil imports from Russia might have differential importance for different countries (and as a result might have an impact on the type of leaders *usually* chosen in those countries) is controlled for; i.e. this specification explicitly accounts for the fact that if country A imports more oil from Russia than country B then the leaders of country A might be more lenient towards Russia than the leaders of country B.

What our IV approach requires is that the *changes* in a given country's demand for oil imports from Russia do not to drive the *changes* in the type of political leaders chosen. To give particular examples, we use the transition from George W. Bush to Barack Obama in 2008-2009 as a source of exogenous variation in political distance between the US and Russia or from Gerhard Schröder to Angela Merkel in 2005 in the case

[12] We also estimated a probit specification for the probability of positive oil exports and found that extensive margin seems to be more important for foreign and state-owned companies (See Table A1.6).

of Germany. [13] But we do *not* use as identifying variation the differences in political distance to Russia due to the differences between Bush vs Schröder (or Obama vs Merkel). Given that most of the oil importers in our sample are Western democratic countries, we think that this exclusion restriction is satisfied, as there are likely to be many other important factors that constituency in those countries takes into consideration when selecting their leaders besides oil imports from Russia.

To further make sure that political leadership dummies do not proxy for country-period-specific shocks to demand for oil imports (e.g. due to a change in the energy policy associated with a change in country leadership), which might in turn directly affect country's total oil imports including those from Russia, we explicitly control for such demand shocks by including total country oil imports in a given year from all sources except Russia.[14]

Given the inherent instability of non-linear methods to the inclusion of multiple dummy variables in shorter panel data, we present instrumental variables estimation only for log-linear specification (4), i.e. at the intensive margin. Estimation results from such instrumental variables approach, presented in Panel A of Table 3, portray virtually the same picture as PPML and OLS estimates above. An increase in political distance between Russia and a given oil importing country causes a considerable decrease in oil exports by private domestic and state-owned oil exporters. Again, we do not find much of an effect at the intensive margin for foreign-owned companies.

[13] The case of German transition from Gerhard Schröder to Angela Merkel is particularly informative about how different politicians might exert different personal effects on their countries' relationships with Russian oil-exporting firms. Newham (2011) provides an account of how Schröder, who was widely considered a proponent of closer business ties with Russia, played a key role in negotiating and building the Nord Stream gas pipeline project. As a particular example Newham (2011) mentions that Schröder during the last month in office (following his defeat by Merkel) provided loan guarantees for this project. At the same time the following news article (https://www.irishtimes.com/news/russian-oil-cuts-eroding-trust-says-merkel-1.1192093) describes the entirely different approach taken by the Merkel government, which took a much less conciliatory policy stance towards Russia regarding energy issues.

[14] We include country's total oil imports from all sources *excluding* Russia since country's total oil imports (even though constructed from a different dataset: UN-COMTRADE) would include oil exports by a particular Russian exporting company. The results are similar if we consider total country oil imports (as exogenous control or instrumented by imports from all sources except Russia), or omit those variables altogether. We also include those measures of country total oil imports shocks in our OLS and PPML specifications and find the same results as in Table 2 Panels A and B, respectively. See Tables A1.4 and A1.5 in Appendix A1.

We also performed an additional robustness check for our IV estimates. Since one could argue that in a country (even a democratic one) that heavily depends on Russian oil, changes in leadership choice might still (to some extent) depend on fluctuations in the demand for Russian oil, we conducted IV estimation on the subsample of countries that are not heavily dependent on Russian oil. The idea being that, for such countries, changes in political leadership are likely to be unrelated to considerations about imports of oil from Russia. As a result, the changes in political distance induced by the changes in political leadership in those countries are likely to be exogenous to Russian companies' oil exports.

In Panel B of Table 3 we report instrumental variables estimation on the subsample of exports into countries, which in 2000 imported from Russia less than 5 percent of their total oil imports. We use Feenstra et al (2005) COMTRADE-NBER global bilateral trade flows database to measure the share of oil imports coming from Russia. Since we use the shares measured in 2000, we conduct the estimation for 2001-2011 period. We again find the similar negative response of Russian oil exporters to increases in political distance.

These results support the causal interpretation of the patterns we find above: worsening in the political relations between Russia and some country results in Russian oil exporters sending less oil into that country.

4.1.4. Falsification tests

We also performed several falsifications tests to further support such causal interpretation. First, to alleviate the concern that we are picking the impact of *Russian* political relations on Russian oil exports rather than some concurrent country-specific shocks resulting in reduced oil imports from all sources, we analyze the patterns of oil exports done by another major oil exporter Saudi Arabia. Namely, we use NBER-Comtrade database to calculate E_{jt}^{SA} exports of oil from Saudi Arabia to a particular country j in year t over the same period as our study and correlated it with (lagged) political distance between Russia and that country in the same year: PD_{jt-1}^{RUS} Estimation results, presented in Appendix A3 (See Table A3.1), suggest no relationship between Russian-level political distance and oil exports from Saudi Arabia either at the intensive margin (column 2) or when both margins are combined in the PPML estimation (column 1).

We also checked whether the effect of political distance is observed in the case of other goods. Namely, we looked at other major Russian exports: an unprocessed raw material (HS4404: Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared) in Table A3.2, homogeneous primary commodity (HS72: iron and steel in Table A3.3 and somewhat more differentiated product "HS7304 Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel" (Table A3.4). The choice of those products was motivated by two factors. First, a product has to be a sufficiently important exports for Russia. Second, we consider a gamut of product types from raw materials to more processed products.

We do not find evidence that an increase in political distance leads to adverse effects in the exports of those commodities. Estimated coefficients are not statistically significant, we also do not see any clear (negative) pattern between intensive (OLS) and combined margins (PPML) estimates. We conjecture that the lack of a clear adverse effect of political distance in the case of those commodities underscores the specific nature of oil. Oil is often considered as a "strategic" commodity as most economies require a continuous and uninterrupted stream of oil to function, yet only a few countries have sufficient internal supplies to cover their needs.[15] This gives power to a major supplier of oil to use its exports as a political weapon. This is likely to be true for post-2000 Russia, where the government achieved a tight control of the oil industry during the presidency of Vladimir Putin.

4.1.5. Additional robustness checks

The pattern for oil exports in terms of weight is similar in both direction and magnitudes (See Table A1.1 in Appendix A1). This suggests that the reduction in oil shipments in response to an increase in political distance works mainly through the quantity instead of the price margin.[16]

[15] A recent contribution by Bove, Deiana, and Nistico (2021) provides additional evidence to that effect. Namely, they show how oil-rich countries supply military equipment to oil-rich countries to guarantee safety of their supplies od oil.
[16] We further verified this by estimating equation (4) for log of oil price implied by the data on value and volume. We conducted this analysis and report it in Table A1.2 in Appendix A1. While in OLS specification we find some evidence that an higher political distance might be associated with a *lower* price, this effect seems to be coming from foreign-owned firms' subsample and evaporates when IV estimation is used. There does not seem to be any effect on prices in the case of private domestic or state-owned firms in either IV or OLS. Thus, we argue that the main margin where adjustment happens is volume of trade rather than price.

As another robustness check we reestimate gravity equation (4) on the subsample of crude-oil producing companies only. This allows us to abstract from export decision of intermediaries (wholesale trading companies, transportation companies, etc) whose financial structure and hence incentives and behavior might potentially be different from that of oil producing companies. Estimates for oil producers (See Appendix Table A1.3) exhibit the same pattern as the estimates for all exporters reported above.[17]

We further investigated the robustness of our findings with respect to more flexible empirical specifications. Namely, we included exporting firm-by-country fixed effects, which absorb all dyadic time invariant characteristics (e.g. any form of connection between a given exporting firm and a given destination market). The results (in Panels A of Tables A6.1 and A6.2) are similar to the ones in the main text. We additionally tried to account for multilateral trade resistance terms as in Anderson and van Wincoop (2003). Since political distance is country-specific measure we cannot include *importing* country-year fixed effects, but we did include exporting firm-by-year fixed effects, which absorb all firm-level time-varying unobservables. The results (in Panels B of Tables A6.1 and A6.2) are again similar to the ones presented in the main text.

We also explored potential non-linearities in the effect of political distance in our baseline specification to make sure that our results are not driven by a handful of outliers with extreme values of political distance. Namely, we allowed for the effect of political distance PD_{jt-1} to have differential (marginal) effect by including interactions between political distance and dummies for quintiles of political distance. The omitted quintile is the 3rd quintile, so the coefficient on the level of political distance, PD_{jt-1}, shows the effect of political distance for this quintile, whereas coefficients on the interactions show the differential effects (if any) due to political distance being at the extremes of the distribution (i.e. outside of the 3rd quintile).

Estimation results are in Table A4.1. In the PPML specification (Panel A) we find that the total effect of political distance is primarily driven by this baseline effect of political distance. The coefficients on

[17] The only notable difference is that we do also find considerable negative impact of political relations at the intensive margin on oil exports done by oil producing companies with foreign ownership. We conjecture that such discrepancy might be due to some offshore (and hence recorded as having foreign-ownership) traders.

interactions of political distance with political distance quintile dummies (while sometimes statistically significant) are much smaller in size than the baseline effects represented by the coefficients on the level of political distance. The similar patterns are observed also at the intensive margin (in Panel B). The only exception being the behavior of foreign-owned exporting firms where we do find a sizeable and statistically significant coefficient on high political distance dummy (represented by the 5th quintile dummy).

In this regard, we argue that the patterns we document (at least for domestic oil exporting firms) are observed throughout the whole distribution of political distance and is not limited to the observations with extremely high/low values of political distance. To showcase this further, we also plotted the value of exports over the political distance, see Figures 2. In panel A we do not include additional controls[18] while in Panel B control for importing country GDP. In both Figures we see that the adverse effect of political distance on volume of oil exports is observed throughout the whole range of political distance and is not driven by a few outlier observations.

We further probed for potential asymmetry in the effect of political distance by allowing the effect to vary depending on whether political distance is increasing or decreasing compared to the prior value. This allows assessing whether decreased oil exports in response to worsening of political relations are used as a "stick" or increased oil exports in response to a decrease in political distance are used as a "carrot". Estimation results in Table A4.2 indicate that there does not seem to be much heterogeneity in these two effects in the whole sample and for private and state-owned oil exporters, suggesting that potentially both stories ("stick" vs. "carrot") might be present and are of similar magnitudes. The notable exception is the case of foreign-owned oil exporting companies, where we do observe such differential effect, where an increase in political distance does have an adverse effect on this oil exports, while improvements in political relations do not seem to affect their exports much.[19]

[18] When constructing this figure, we do include country and year fixed effects as in our regressions we explore within country variation in political distance and would like to account for

[19] This latter effect might be not surprising. Most foreign-owned firms in our sample come from developed Western countries. This makes it less likely that such firms would respond to the demands of Russian government to increase exports into a certain country to reward an ally of Russia.

Overall, we conclude that a deterioration of political relations between Russia and an oil-trading partner causes a considerable decrease in oil shipments to that country by all Russian oil exporters. The effect (at least in the case of domestic oil exporting firms) is observed throughout the distribution of political relations and is not driven by extreme outliers in terms of political distance.

4.2. The impact on Russian oil exporting companies

4.2.1. Impact on total exports

We have shown above that an increase in political distance between Russia and an oil importing country causes a decrease in (or even termination of) oil exports by Russian companies. In this section we assess what impact does deteriorating political relations have on total exports of a given Russian oil exporting company.

The political distance measure used above is country-specific. However, different exporters might have differential exposure to different foreign markets. For example, if political relations between Russia and some country A worsen, exporters who specialize in oil exports to another country B might be not affected much, while those for which country A is the focus export market are likely to be affected considerably.

To incorporate this reasoning in our analysis, we construct a company-specific political distance measure as the weighted average of political distances for all the countries this company exports oil to, with weights being proportional to the market share of a given country in total company oil exports. To avoid automatic correlation between contemporaneous exports we use weights proportional to prior year exports. More specifically, we define company-specific political distance to its trading destinations as:

$$CPD_{i,t} = \sum_{j} w_{i,j,t-1} PD_{j,t} \tag{5}$$

where $w_{i,j,t-1} = \frac{E_{i,j,t-1}}{\sum_c E_{i,c,t-1}}$ is the share of company i oil exports to country j in $t-1$ ($E_{i,j,t-1}$) relative to total oil exports of that company in that year, and $PD_{j,t}$ is political distance between Russia and country j in year t.[20]

[20] In a robustness check we have used initial year 1999 share of exports to assign time-constant weights $w_{i,j}$ when computing company-level political distance in equation (5). This approach has an advantage that it could account for

We then investigate the relation between changes in this weighted company-specific political distance and company total oil exports in year t: $TotalExports_{i,t}$. Namely, we consider the following empirical specification:

$$\log(TotalExports)_{i,t} = f_i + f_t + \beta CPD_{i,t} + \epsilon_{j,t}. \quad (6)$$

Here $\log(TotalExports_{i,t})$ is the log of total oil exports by firm i in year t. $CPD_{i,t}$ is company-specific political distance measure from (5). We include company-level and time fixed effects (f_i and f_t, respectively) in all specifications. Thus, coefficients β in those regressions indicate a *change* in company's (log of) total oil exports when political distance measure for this company, $CPD_{i,t}$, increases; e.g. due to an increase in political distance between Russia and countries that were in the prior period important export destinations for this particular company (as reflected by the higher weight $w_{i,j,t-1}$ in the calculation of $CPD_{i,t}$).

Estimation results presented in Table 4 Panel A show that there is virtually no impact of an increase in political distance on the total amount of exports by a given Russian company. Estimated coefficients for the full sample of companies (column 1), as well as private domestic (column 2) and state-owned (column 3) are positive but small in terms of implied magnitudes and statistically insignificant. The effect is negative and large in absolute value for foreign companies (column 4), but the number of observations does not allow us to estimate this effect precisely.

One could question the causal interpretation of these estimates. To probe this issue, we construct an instrument based on leadership changes in oil importing countries.[21] For each company *i* and year t we select a country *j(i,t-1)* to which this company sent most of its exports in the prior year, $t-1$. We then use leadership dummies for this country D(*j(I,t-1)*) as instruments for political distance $CPD_{i,t}$ specific to company *i*. This

potential serial correlation in error term problem resulting from lagged dependent variable used in the construction of time-varying weights $w_{i,j,t-1}$. The disadvantage of this approach is that it leads to some sample attrition since not all firms in our sample were present in 1999. Estimation results, presented in Appendix A5 Table A5.1, do not show any evidence that such alternative company-level political distance measure is negatively related to total company oil exports. The results for private domestic firms flip sign and in fact become positive in the IV estimation, while coefficients for state-owned and foreign-owned firms are, while sizeable and negative, are too imprecisely estimated to make any robust conclusion.

[21] As before, we use Archigos database on leaders from Goemans et al (2016).

approach allows us to account for the fact that change in leadership in a given oil-importing country might have different effects on political distance for different oil exporters depending on the importance of this country as an export market for these companies. Instrumental variables estimates from this approach are reported in Panel B of Table 4. They follow similar patterns as OLS estimates in Panel A of the same Table.

On the basis of those estimates, we infer that total exports for the average Russian oil exporter do not seem to be affected much when political relations with some of the destination markets (even important for this particular exporter in the prior periods) worsen. Though exports into an *individual* market drop when political relations with that country decline (as we have found in Section 4.1 above), Russian domestic companies seem to be able to recover such losses in other markets as their *total* exports change very little.

4.2.2. Tentative Mechanism: Diversification across export destinations

We conjecture that the reason for the lack of the response of total company exports to the changes in political relations might stem from the diversification across destination markets. Shocks to political relations are not perfectly correlated across countries. Firms that export to many destination markets might be able to recoup the losses in one market (where political relations has worsened) by higher sales in another markets. This argument suggests that the gains to such diversification should be larger when a given firm exports to more destination markets. To probe this, for each firm i we calculate the log of total number of markets this firm was observed exporting to during our sample period, $\log(NM_i)$. We then consider the following empirical specification:[22]

$$\log(TotalExports_{i,t}) = f_i + f_t + \beta_1 CPD_{i,t} + \beta_2 CPD_{i,t} \log(NM_i) + \epsilon_{j,t}. \quad (7)$$

In this specification the coefficient β_1 shows the baseline effect of company-level political distance, i.e. the effect of political relations on a firm that has only one export destination, as $\log(NM_i) = \log(1) = 0$ in this case. Given the negative relation between political relations and exports that we found in our countryXfirm level analysis in Section 4.1 above, we expect β_1 to be negative: $\beta_1 < 0$.

[22] Firm-level fixed effects f_i absorb all constant firm-level heterogeneity including $\log(NM_i)$.

β_2 is the coefficient of primary interest; it shows the differential effect of political distance for companies that trade with more than one destination market. If our hypotheses about an exporting firm being able to recoup its losses in one of the markets by higher sales in other markets were true, we would expect this coefficient to be positive, $\beta_2 > 0$ attenuating or completely eliminating the baseline effect: $\beta_1 < 0$.

Estimation results in Table 5 support this story. Indeed, in Column 1 Panel A, we find that the baseline effect of company-level political distance is negative, $\beta_1 < 0$, suggesting that firms that have one (or only a few) export destinations are likely to have their total exports decline when political relations with those markets worsen. At the same time, β_2 is positive suggesting that companies that trade with more destination markets do not see much of an effect on their total exports when political relations with (even important in the past)[23] export destination worsen. The effects are observed both in the full sample of Russian exporters (Panel A) and in the subsample of private Russian exporters (Panel B).

The magnitudes of the estimated coefficients suggest that in order to completely eliminate the negative baseline effect of company-level political distance, $CPD_{i,t}$, it is enough for an exporter to have $\log(NM_i) \sim 2$, which translates into trade with around 7-8 unique destination markets throughout the whole sample period. The median number of markets a company trade with is 12 (while the mean is between 13-14) suggesting that an average/median Russian domestic company tends to be immune to the changes in company-level political distance as it is able to recover lost export revenue in one market (even important in the prior periods) by increasing exports into other markets.

To give these estimates a more causal interpretation, we, as in Section 4.1 above, consider an instrument based on leadership changes in oil importing countries. We treat both company level political distance $CPD_{i,t}$ and its interaction with (log of) number of destination markets, $CPD_{i,t}\log(NM_i)$, as

[23] Note that the company-level political distance, $CPD_{i,t}$, is defined as the weighted average political distance with weights reflecting amount of prior period exports. In this regard, a change in this measure at the company level (note that our empirical specification does include firm-fixed effects) is likely to reflect shifts in political relations in markets that were important export destinations to the company.

endogenous and use the full set of leader dummies as well as interactions of all those dummies with $\log(NM_i)$ as excluded instruments for $CPD_{i,t}$ and $CPD_{i,t}\log(NM_i)$.

Estimation results from such IV strategy are presented in Column 4 of Table 5; Panel A contains estimates for the full sample of Russian exporting firms, while Panel B restricts attention only to private domestic companies. We find the same qualitative pattern in both panels, with $\beta_1 < 0$ and $\beta_2 > 0$. Albeit, the coefficients are larger in magnitude and are statistically significant only in the subsample of private firms, suggesting that potentially our diversification story is more important in the case of private domestic companies.

We also looked at a competing source of firm-level heterogeneity: firm size. For example, one could argue that larger firms might have some sway over either foreign government or influence own (Russian) government to achieve better outcomes in terms of trade when political relations change. But we do not find much evidence for such channel.

Namely, we define a dummy $Large_i$ as an indicator for a given exporting firm i to have total assets above the 75th percentile of the total distribution of total assets in 1999. We use the initial year in our sample (1999) to assign companies into "Large" and "non-Large" groups to avoid potential endogeneity due to (potentially) company assets and trade being jointly determined. (Note that year 1999 data are dropped from the analysis automatically since we lose one year due to one year lag necessary to calculate weights in the calculation of company-level political distance.)

Estimation results for the heterogeneity of company-level political distance impact depending on company size are presented in columns 2 (OLS) and 5 (IV) of Table 5. We find little evidence that larger companies are able to shield themselves from political relations better than smaller ones. We also did a "horse race" between the two factors: (log of) number of markets and Large dummy. Estimation results (in columns 3 (OLS) and 6 (IV)) show that (log of) number of markets is a clear "winner" in such "race".

Thus, we conclude that the absence of the effect of political distance on a firms' total oil exports seem to hide an interesting heterogeneity depending on the firm's type. Firms exporting to few markets are still exposed to the fluctuations in political relations between Russia and those markets. While the firms that have

trading partners in more markets seem to be able to be insulated from such fluctuations. It is worth stressing that given the magnitudes of our estimates, the average Russian oil exporter seems to be able to recover losses in exports in one market (even important in prior years) by the increased shipments into other markets. We conjecture that this heterogeneity potentially explains why we find virtually no effect of (company-level) political distance on company-level *total* exports while there is an (adverse) effect of (country-level) political distance on a firm's exports into an *individual* country.

4.2.3. Mechanism: Anecdotal evidence at the firm-level

We would like to emphasize that establishing a new trade relation is costly,[24] but we would conjecture it might be easier to ramp up exports conditional on a relationship being already present. The fact that the average firm in our sample exports to 13-14 destination countries — having been willing to incur the cost of forming trade relationships with so many countries rather than focus on a few key markets — is consistent with the hypothesis that firms are aware of potential trade disruptions due to political pressure from the government and try to hedge that risk by diversifying their exporting decisions.[25]

Additionally, the Russian government does provide some tangible benefits to oil exporters (both private and state-owned) to help them further manage potential disruptions in trade due to political relations.

First, the Russian government provides the necessary infrastructure for oil exporters to easily switch their supplies from one country to another. Russia has inherited from the Soviet Union a very extensive pipeline network which is currently owned by a state-controlled monopolist. This firm (Transneft) provides logistics services for most Russian oil exporting firms and (according to KPMG 2018 report)[26] charges one of the lowest transport fees in the world oil industry. Over the years, the Russian government has-expanded this network, diversifying potential export destinations. For example, during 2006-2009 Transneft created the Eastern

[24] There is a vast trade literature attesting to the presence of such costs: see e.g. Melitz (2003), Helpman, Melitz, and Rubinstein (2008), Eaton, Kortum, and Kramarz (2011). Arkolakis, Ganapati, and Muendler (forthcoming) present a recent empirical contribution to the subject.

[25] See e.g.: https://www.bloomberg.com/opinion/articles/2014-07-14/oil-deals-make-putin-immune-to-sanctions for anecdotal evidence on Russian oil producers actively hedging their political risk exposure

[26] https://en.transneft.ru/news/view/id/19681/?re=en We provide the link to press-release in English, the original KPMG report is available in Russian at this link as well.

Siberia-Pacific Ocean pipeline, which allows exporting Russian crude oil into Asia-Pacific markets. This pipeline was expanded in 2012 and 2015, effectively doubling the original throughput capacity.[27] Notably, these years coincide with increased divergence in political relations between Russia and Europe. This arrangement might go a long way towards reducing switching costs for Russian oil exporting firms as the necessary infrastructure (pipelines, oil terminals, etc) is already present and is continually expanded by the Russian government.

Second, the Russian government (or particular Russian government officials) also provide help in establishing new contractual relationships between Russian oil (and natural gas) exporting firms and clients abroad.[28,29] It is also worth noting that such government officials' personal involvement is not limited to state-owned oil producers.[30]

We argue that the existence of developed oil transporting infrastructure and government help with contractual relations – together with the fact that the average company in our sample has already an established network of destination markets – may plausibly explain why we do not find much adverse effect of political relations on total exports of a given firm.

[27] See https://en.wikipedia.org/wiki/Eastern_Siberia–Pacific_Ocean_oil_pipeline

[28] The following news article (see https://gcaptain.com/rosneft-plans-unprecendented/) documents a landmark deal between Russia's largest oil producer Rosneft and Chinese oil companies. This deal doubled Rosneft's exports into China and was worth a record breaking $270 billion. It is worth noting that the timing of the deal was extremely "lucky" for Rosneft. Particularly, this deal allowed to diversify Rosneft exports away from Europe towards China, right on the verge of Western sanctions in 2014-2015. Incidentally, this deal was announced not by Rosneft CEO but by the Russian President himself.

[29] In May of 2015 (at the height of West-Russia diplomatic disagreements) Putin announced even more deals with Chinese companies in oil and natural gas exporting. Here is the excerpt from Vladimir Putin's address during the joint press conference with the President of China Xi Jinping: "Russia is steadily increasing oil exports to China. In 2014, we delivered 28.5 tonnes, which is an increase of nearly 40 percent on the previous year. Let me stress this figure – 40 percent in just a year. In accordance with the breakthrough agreement signed in May 2014, we will supply 38 billion cubic metres of natural gas every year over a 30-year period via the eastern route gas pipeline. This pipeline's construction is already underway in Russia and construction is due to start soon on the Chinese side too. The next stage will be to deliver natural gas to China via the western route. The main conditions for this project's implementation were cemented today in the agreement signed between Gazprom and PetroChina. We welcome Chinese companies' involvement in gas production in the Russian Arctic and Sakhalin offshore fields. Work is underway to examine and prepare our Chinese partners' participation in developing the large Vankor oil and gas field in the north of Krasnoyarsk Territory." See http://en.kremlin.ru/events/president/transcripts/49433

[30] Tatneft a top 5 oil producer in Russia is on paper a publicly traded company but is de facto owned by the family of the President of Tatarstan Mintimer Shaimiev, who for a long time have been promoting this company interests including joint production ventures in Iran. See https://www.rferl.org/a/1345292.html.

4.3. Impact on importing countries

4.3.1. Effects on total oil imports

Above we found that total export revenue of Russian firms is not affected much by the changes in political relations. In this section, we investigate the impact on countries importing oil from Russia. In particular, we examine to what extent total oil as well as total energy imports to a targeted country are affected by the decline in Russian oil exports when political relations worsen. To do this, we use country-level oil imports data over 1999-2011 from UN-COMTRADE database and consider the following empirical specification based on a gravity-equation model:

$$LogImports_{c,t} = f_c + f_t + \beta PD_{c,t} + \epsilon_{c,t}, \quad (8)$$

where $LogImports$ is the log of total oil imports of country c in year t.[31]

Results at the country-level are reported in Table 6. In accordance with our findings at the company-level, Panel A of Table 6 shows that total import of Russian oil declines as their political relations deteriorate. The effect is both statistically and economically significant: a one-standard-deviation increase in political distance is associated with a decline in import of Russian oil by 30 percent (=1-exp(-4.122*0.09)).

We also investigate the heterogeneity of the effect depending on a country's reliance on oil imports from Russia. More specifically, we estimate specification (8) for subsamples of countries that are mildly, moderately, and strongly dependent on Russia oil imports, defined respectively as: i) those for which import of Russian oil constitutes at least 1 percent, ii) at least 10 percent, and iii) at least 40 percent of the total oil imports. To avoid automatic correlation between the selection criteria (share of Russia in total oil imports of a given country) and dependent variable (country total oil imports), we assigned countries to these subsamples using data from the initial period (1999) and dropped this year from the regression analysis.[32] The results suggest that the political effect on oil exports is increasing in the dependence on Russian oil. An increase in

[31] The country-level data are available from the UN COMTRADE database as discussed in data description section 3.3. To account for possibility of zeros in total imports, we use the PPML estimator. See also Appendix A2 for OLS estimates (intensive margin only).

[32] This latter groups consists primarily of Former USSR republics such as Belarus, Estonia, Lithuania, and Kazakhstan and some former Communist countries: Czech Republic, Hungary, Poland, Serbia, Slovakia, notably Finland and North Macedonia are also included in this group.

political distance by the same one standard deviation (by 0.09) between Russia and a country moderately dependent on Russian oil (with the share of 1999 oil imports from Russia above 10 percent) is associated with a decrease in oil imports from Russia by 40 percent instead of 30 for the whole sample of Russian oil importers.

In Panel B of Table 6 we try to assess whether an oil importing country can compensate for the decreased oil imports from Russia when political relations worsen. Namely, we estimate equation (8) using a country's total oil import from all sources as the dependent variable. We find that for the whole sample of oil-importing countries (column 1) total oil imports are not affected by political distance in a significant way.

However, this result masks the heterogeneity of the effect depending on country's reliance of oil imports from Russia. Column 2 to 4 show that countries that were initially (in 1999) more dependent on Russian oil are affected considerably more when their political relations with Russia become worse. For instance, column 4 suggests that if a country imported at least 40 percent of total oil imports from Russia in 1999, an increase in political distance by one standard deviation (by 0.09) translates into about a 40 percent reduction in total oil imports from all sources. These results suggest that, especially for countries that are highly dependent on Russian oil, the worsening of political relations with Russia results in a reduction in total oil imports (at least in the short run).[33]

Our country-level data also allow us to explore the heterogeneity of political relations impact over time. Our analysis for the effect of political in oil trade at the companyXcountry level above was performed

[33] We also analyzed the impact of political relations on country-level imports of oil outside of Russia to assess whether importers are able to substitute (at least a little) for the loss of oil supplied from Russia. Estimation results are reported in Table A3.5 in Appendix A3. In Panel A we consider the sample of all countries importing oil from Russia, we find no evidence that such substitution is taking place. The coefficient for subsample of countries moderately dependent on Russian oil (share greater than 10 percent) is positive and large in economic sense but is imprecisely estimated (column 3 in Panel A), while the coefficient for countries highly dependent on Russian oil (share greater than 10 percent) is highly negative (column 4 in Panel A). However, these latter results are driven by two important countries: Belarus and Ukraine. Once those are excluded, the coefficient for countries highly dependent on Russian oil flips sign and becomes positive but small and insignificant (column 4 in Panel B). This is probably not surprising as a change in political relations with Russia (for these two countries) might have an effect not only on their oil imports from Russia but on their overall macroeconomic activity. (Additionally, to make sure that our baseline results in Table 5 are not driven by just these two countries we, in Table A3.6 re-estimated specification (8) dropping Belarus and Ukraine and found the same results as in Table 5.) Overall, we argue that there seems to be some evidence that countries are able to substitute somewhat for Russian oil, but this strategy is not available for countries strongly dependent on Russian oil.

over 1999-2011 period because company-level exports data are not available for earlier years. However, country-level oil imports data from COMTRADE database are available for the years prior to 1999. This allows us to investigate whether there is any heterogeneity in political distance effect on importing countries over time. This time heterogeneity is particularly interesting given the internal political shift in Russia associated with the change in political leadership in Russia that happened in 1999-2000 when Vladimir Putin became, at first, prime minister and subsequently the President of Russia.

In Panel C of Table 6, we estimate specification (8) for 1992-1999. We choose 1992 as a starting year since this was the first year after the Soviet Union break up. We keep dividing the countries by their dependence on Russian oil, but use contemporaneous oil share to perform the assignment of countries. Our estimates indicate the negative effect of political distance on total imports is much smaller and not significant (both in statistical and economic senses) in the years prior to 2000. The effects implied by the coefficients in pre-2000 specification are 4-5 times smaller than corresponding effects in post-2000 specification.

Overall, we argue that following a worsening in political relations with Russia oil importing countries have trouble substituting for the resulting loss of oil imports from Russia, as their total oil imports from all sources considerably decline, especially if those countries were heavily dependent on Russian oil to begin with. Moreover, such pattern is a pretty recent phenomenon, as it is observed only after 2000, which notably coincides with the rise of Vladimir Putin to power in Russia and the resulting increase in government involvement in oil and natural gas industries.

4.3.2. Effect on natural gas and total energy imports

Can importers of Russian oil substitute for it by other sources of energy? Table 7 Panel A[34] shows that total energy imports by an oil importing country decline in case of a deterioration of political relations with Russia, provided this country was initially dependent on oil imports from Russia. Estimated coefficients suggest that

[34] In the main text we report estimates from PPML, in Appendix A2 we report estimates using OLS (intensive margin only) and find the same results.

for a one standard deviation increase in political distance between Russia and an oil importing country, total energy imports of that country drop by 15-25 percent depending on initial dependence on Russian oil.

To further explore the possibility of substitution, we also examine the imports of natural gas. Panel B of Table 7 reports PPML estimation results for specification (8) for gas imports. Similar to the case of oil, deterioration in political relations has a negative effect on gas imports from Russia. The estimated coefficient implies that a one-standard-deviation increase in political distance is associated with a decline in Russian gas imports by about 40 percent. The effects are similar in magnitude regardless of the country's dependence on Russian oil.

Panel C of Table 7 shows that some countries seem to be able to compensate for the decline in supply of oil and natural gas, as total imports of natural gas (from all sources) for the whole sample of countries (importing oil from Russia) tend to increase when political relations with Russia worsen. For a one-standard-deviation increase in political distance to Russia, total natural gas imports increase by 35 percent.

However, this substitution strategy is available only for the countries weakly dependent on Russian energy. Countries that moderately or heavily depend on oil imports from Russia, still experience decreases in their total imports of natural gas when their political distances to Russia increase (Columns 2-4 of Panel C). The implied effects, however, are smaller than those in the case of total oil imports. We conjecture that this might stem from the fact that natural gas from different suppliers might be more easily substitutable in the production process than oil which requires specialized retuning process when switching between different blends.

Overall, we conclude that deterioration in political relations with Russia and associated decline in oil exports are likely to have adverse effects on countries that depend on Russia for their oil imports. Some countries, particularly those that are only lightly dependent on Russian oil, seem to be able to compensate for the reduced oil shipments. They seem to find alternative sources of oil supplies and/or utilize alternative sources of energy (particularly natural gas) not from Russia. At the same time, countries that are more heavily reliant on Russian oil seem to be unable to completely insulate themselves from the adverse impacts of decline

in Russian oil and natural gas exports. Their total oil imports, as well as, total natural gas and total energy imports decline when political relations with Russia worsen.

5. Conclusion

In this paper, we study the effect of international politics on crude oil exports from Russia. First, we find that as political relations between Russia and an oil-importing country worsens, Russian companies significantly decrease oil exports into that country. Our estimates suggest that for a one standard deviation increase in political distance Russian oil companies decrease their exports by 50 percent. The effect is stronger for state-owned oil exporting companies: a 64 percent decrease in value of oil exports. We present evidence that the effect of politics on oil exports from Russia is causal using instrumental variables based on political leadership transition in oil-importing countries.

We also show that there is virtually no impact on total export revenue of Russian oil exporters. A given oil exporting company seems to be able to compensate for the losses from a decline in exports when political relations with its previously primary export markets worsen by sales in other markets. We present tentative evidence that the reason for this absence of the effect is diversification of political risk across destination markets: we do find negative effect for companies exporting only to a few destinations, but this effect evaporates for companies trading with even a moderate number of countries (more than 7-8).

At the same time, we find that countries importing oil from Russia are adversely affected by the decline in political relations with Russia, at least in the short run. Their total oil imports and total energy imports (not only those from Russia) considerably decline following a deterioration of political relations with Russia. We also find that some countries seem to be able to (at least) partially substitute by importing more of natural gas but this strategy seems to work only for the countries that are not heavily dependent on Russian oil to begin with.

One could still wonder: what the exact mechanism behind these patterns might be? Are the foreign countries trying to punish Russia or is Russian government using oil as a political weapon? Even though we do not have "smoking gun" evidence to distinguish between the two, some of the patterns we uncover point

towards the latter interpretation. Our country-level analysis reveals that the negative impact of political distance on oil trade is observed only after 1999, which, coincidentally, is the period of more active government involvement in Russian business activities under Vladimir Putin. This involvement was and still is particularly strong in the case of oil industry. It is worth noting that in recent years such issues are likely to become even more important, as Russian government now imposes quotas on its oil producers as a result of Russia's coordination of its oil productions with OPEC+, which gives Russian government even more influence over domestic oil producers.

One of the questions for further analysis is to understand how political relations and associated government involvement affects productivity of Russian oil producers. Though the full-scale productivity analysis is beyond the scope of the current paper, we would like to mention that even according to the official Russian government statistics[35] top-5 Russian oil producers have 2-3 times lower revenue per worker than oil producers from the US and Europe.[36] While we cannot pinpoint the particular causes of such inefficiency, assessing to what extent such efficiency losses are the result of government intervention for (in response to) external political reasons remains a fruitful venue for future research.

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[35] See Figure 8 in Energy Bulletin "Efficiency of Oil companies" #93 published by the Analytical Department of the Russian Government (from Aug 2018) available at https://ac.gov.ru/archive/files/publication/a/17636.pdf (last accessed July 5, 2021)

[36] If one drops "Lukoil" (the largest private and most efficient of all largest Russian oil companies) then this difference becomes staggering 4-6 times less revenue per worker than the US and European oil producers.

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Tables

Table 1: Summary Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
	Panel A: Oil trade data				
Value (millions $)	137,980	9.047	151	0	15800
Weight (000's of tons)	137,980	28.7	439	0	58000
Log value	7,795	16.245	2.655	0.000	23.486
Log weight	7,748	17.640	2.619	0.000	24.784
Political distance	137,980	0.214	0.098	0.058	0.774
Log destination country GDP	137,980	0.126	1.830	-4.746	4.416
	Panel B: Oil exporting companies' data				
Log total exports	953	17.618	2.589	9.158	24.780
Company-level political distance	953	0.226	0.049	0.058	0.494
Number of destination markets	953	13.882	9.943	1.000	48.000
Log total assets	953	21.491	2.492	12.847	28.371
	Panel C: Country-level imports data				
Oil imports from Russia (billions $)	507	2.113	3.323	0.000	27.973
Total oil imports (billions $)	507	14.447	37.056	0.000	363.391
Total energy imports (billions $)	507	25.523	54.754	0.043	501.942
Natural gas imports from Russia (billions $)	507	0.450	1.137	0.000	12.460
Total natural gas imports (billions $)	507	3.536	6.981	0.000	45.376
Share of Russian oil in total imports	507	0.369	0.399	0.002	1.000
Political distance	507	0.237	0.094	0.058	0.774

Notes: Panel A reports summary statistics for oil trade data. The unit of observation is Russian oil exporting companyXdestination country Xyear over 1999-2011. Zeroes are imputed if there are no recorded exports by a company into a particular destination country in a given year. Company existence in a given year is verified by SPARK database. CompanyXcountry pairs with zero/missing exports in all years over 1999-2011 are omitted from the sample. Value and weight are total value and weight of shipments by a given oil exporting company into a given destination country. Political distance is the negative of Affinity index by (Gartzke, 2010). Panel B reports summary statistics for Russian oil exporters. The unit of observation is Russian oil exporting company X year over 1999-2011. Company-level political distance is calculated as weighted average of political distances to which company exports to with weights being proportional to the value of exports. Panel C reports summary statistics for country-level imports over 2000-2011 from UN-Comtrade database.

Table 2: Political distance and value of exports of Russian oil

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	-7.669***	-5.444***	-11.293***	-7.159***
	(1.476)	(1.281)	(2.564)	(2.773)
Observations	137,980	73,354	17,116	17,316
R-squared	0.023	0.019	0.108	0.033
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	-4.014*	-5.336**	-3.756**	0.545
	(2.085)	(2.571)	(1.859)	(6.044)
Observations	7,795	4,492	1,280	1,328
R-squared	0.145	0.155	0.291	0.188
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table 3: Political distance and value of exports of Russian oil: IV estimation

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: All countries				
Dependent variable: log value of company exports into a given country				
Political distance	-8.869***	-9.694***	-5.356	2.973
	(3.290)	(3.375)	(4.513)	(8.828)
Log destination country oil imports	0.104**	0.147**	0.012	0.109
(not from Russia)	(0.045)	(0.057)	(0.091)	(0.113)
Observations	7,038	4,045	1,188	1,182
Weak identification:Kleibergen-Paap stat	177.1	277.3	85.65	69.60
Panel B: Share of Russian oil<0.05				
Dependent variable: log value of company exports into a given country				
Political distance	-13.840***	-7.517*	-4.484	0.906
	(4.230)	(4.366)	(6.269)	(6.771)
Log destination country oil imports	-0.172	-0.168	0.053	-0.244
(not from Russia)	(0.150)	(0.170)	(0.340)	(0.324)
Observations	862	465	156	175
Weak identification:Kleibergen-Paap stat	73.85	52.24	29.55	29.21
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X. Dependent variables are log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). Time period is 1999-2011 in Panel A and 2001-2011 in Panel B. Panel B restricts observations to country-firm pairs for countries with 1999 share of Russian oil less than 5% in total oil imports. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table 4: Political distance and total exports of Russian oil-exporting companies.

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
		Panel A: OLS estimation		
Company Political Distance	1.201	0.747	0.043	-1.988
	(1.660)	(1.690)	(3.906)	(1.922)
Observations	953	590	224	139
R-squared	0.881	0.897	0.869	0.886
		Panel B: 2SLS estimation		
Company Political Distance	0.436	-0.492	-0.421	-3.754
	(1.984)	(2.319)	(4.660)	(2.547)
Observations	706	411	184	109
R-squared	0.308	0.310	0.444	0.461
First stage F	76.21	24.34	3086	89.23
Log firm assets	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: Sample includes all observations for Russian crude oil exporting companies over the period 2000-2011. Samples in columns (1) includes all oil exporting companies. In columns (2) the sample is restricted to private domestic exporters. In columns (3) the sample is restricted to state-owned exporters. In columns (4) the sample is restricted to exporters with foreign ownership. Dependent variable in all columns is the log value of total company-level exports in all markets in a given year. "Company political distance" is calculated as the weighted average of political distances in a given year with weights being proportional to total exports done by a given company to a given destination country in the prior year, as discussed in section 4.2. Specifications in Panel A are estimated by OLS. In Panel B we use 2SLS where "Company political distance" is treated as endogenous variable. Leadership dummies for the country a given company exported most in the prior year oil to are used as excluded instrumental variables. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). "First stage F" is Kleibergen-Paap (2009) Wald F statistic for weak identification test. Time fixed effects and company fixed effects are included in all specifications. Robust standard errors, clustered at the company level, are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table 5: Political distance and total exports of Russian oil-exporting companies. Heterogeneity by company type

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: Log total oil exports					
	Panel A: All Russian oil exporting companies					
Log # destination markets X Company Political Distance	6.281***		6.028***	3.923		3.629
	(1.466)		(1.483)	(2.388)		(2.254)
Large exporter 1999 X Company Political Distance		3.260	1.591		-0.539	-0.992
		(2.972)	(2.971)		(3.572)	(3.480)
Company Political Distance	-13.855***	-0.475	-14.068***	-9.050*	1.288	-7.568
	(3.722)	(1.775)	(3.835)	(5.449)	(2.253)	(5.424)
Observations	953	953	953	706	706	706
R-squared	0.884	0.882	0.884	0.320	0.307	0.319
KP First stage F				.	660.6	.
	Panel B: Private oil exporting companies					
Log # destination markets X Company Political Distance	7.155***		7.744***	4.700*		6.014**
	(1.755)		(1.659)	(2.514)		(2.621)
Large exporter 1999 X Company Political Distance		-0.001	-3.039		-2.414	-5.083
		(3.183)	(2.897)		(4.238)	(4.502)
Company Political Distance	-15.547***	0.747	-15.454***	-11.287*	1.027	-11.474*
	(4.098)	(1.997)	(3.975)	(6.360)	(3.142)	(6.159)
Observations	590	590	590	411	411	411
R-squared	0.901	0.897	0.901	0.325	0.309	0.327
First stage F				70.28	24.59	.
Log firm assets	Yes	Yes	Yes	Yes	Yes	Yes
Exporting Company FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Sample includes all observations for Russian crude oil exporting companies over the period 2000-2011. The samples in Panel A includes all oil exporting companies while in Panel B the sample is restricted to private domestic exporters. Dependent variable in all columns is the log value of total company-level exports in all markets in a given year. "Company political distance" is calculated as the weighted average of political distances in a given year with weights being proportional to total exports done by a given company to a given destination country in the prior year, as discussed in section 4.2. "Log # destination markets" is the log of total # of unique destination markets a company was exporting during the sample period. "Large exporter 1999" is the dummy for the company's total assets in 1999 to be above 75th percentile of overall distribution of company total assets. Specifications (1)-(3) are estimated by OLS. In specifications (4)-(6) "Company political distance" and its interactions are treated as endogenous variable. Leadership dummies for the country a given company exported most in the period year oil to (and their respective interactions) are used as instrumental variables. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). "First stage F" is Kleibergen-Paap (2009) Wald F statistic for weak identification test. Time fixed effects and company fixed effects are included in all specifications. Robust standard errors, clustered at the company level, are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table 6: Political distance impact on importers of Russian oil

	(1)	(2)	(3)	(4)
	Panel A: Oil Imports from Russia: 2000-2011			
Political Distance	-4.023***	-4.553***	-5.680**	-6.252***
	(0.894)	(1.259)	(2.215)	(2.421)
Observations	456	420	240	168
R-squared	0.955	0.957	0.968	0.925
	Panel B: Total Oil Imports: 2000-2011			
Political Distance	-0.365	-1.778**	-2.883	-5.756**
	(0.304)	(0.809)	(2.106)	(2.703)
Observations	468	432	240	168
R-squared	0.995	0.987	0.995	0.938
	Panel C: Total Oil Imports from Russia: 1992-1999			
Political Distance	-0.728	0.357	1.015	4.070***
	(1.018)	(0.900)	(1.016)	(1.359)
Observations	287	254	187	112
R-squared	0.966	0.967	0.965	0.941
Dependence on Russian oil	Imports of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
Common controls in all panels				
Log importing country GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes

Notes: Dependent variables are oil imports from Russia (in Panel A) and total oil imports from all sources (in Panel B) over the period 2000-2011. Dependent variable in Panel C is oil imports from Russia over 1992-1999. In column (1) sample in both Panels includes all countryXyears observations with positive crude oil imports from Russia in a given year (for regressions in both Panels). In columns (2), (3), and (4) samples are restricted to countryXyear observations with 1999 share (contemporaneous share for Panel C) of oil imports from Russia in total oil imports above 1%, 10%, and 40%, respectively. All specifications are estimated by PPML. Destination country and time fixed effects are included in all specifications. Robust standard errors, clustered at the country-level, are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table 7: Political distance and imports of natural gas and energy

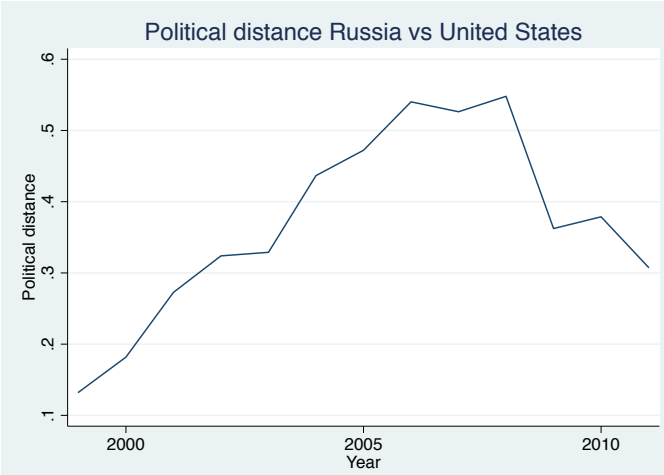
	(1)	(2)	(3)	(4)
	Panel A: Total Energy Imports: 2000-2011			
Political Distance	0.404	-1.229**	-1.627*	-3.201***
	(0.331)	(0.589)	(0.846)	(0.546)
Observations	468	432	240	168
R-squared	0.994	0.989	0.992	0.979
	Panel B: Natural gas imports from Russia: 2000-2011			
Political Distance	-6.342***	-6.124***	-5.067***	-4.654***
	(2.146)	(2.112)	(1.907)	(1.245)
Observations	420	384	228	168
R-squared	0.725	0.720	0.724	0.723
	Panel C: Total natural gas imports: 2000-2011			
Political Distance	3.401**	-1.001	0.494	-2.003
	(1.358)	(1.278)	(2.806)	(1.860)
Observations	468	432	240	168
R-squared	0.898	0.900	0.886	0.935
Dependence on Russian oil (in 1999)	Import of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
Common controls in all panels				
Log importing cntry GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes

Notes: The study period is 2000-2011. In Panel A dependent variable is total imports of energy of a given country in a given year (coded as 27 using the Harmonized System Nomenclature 2007: "Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes") from UN Comtrade database. Dependent variable in Panel B is natural gas imports of a given country in a given year from Russia. In Panel C, dependent variable is total natural gas imports of a given country in a given year from all sources (coded as 2711 using the Harmonized System Nomenclature 2007) from UN Comtrade database. Sample in specification (1) includes all countries with positive oil imports from Russia, samples in specifications (2)-(4) includes countries with (measured in 1999) share of oil imports from Russia of 1%, 10%, and 40%, respectively. (i.e. subsamples considered in specifications (1)-(4) are the same as in Table 6.) All specifications are estimated by PPML. Destination country and time fixed effects are included in all specifications. Standard errors, reported in parenthesis, are clustered at a country level. ***, **, and * indicate statistical significance at 1%, 5%, and 10% respectively.

Figures

Figure 1: Political distance changes over time (common scale)

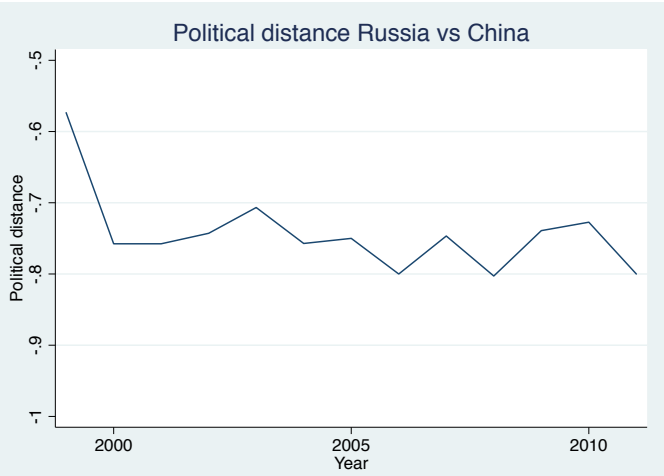
Panel A



Panel B

Panel C

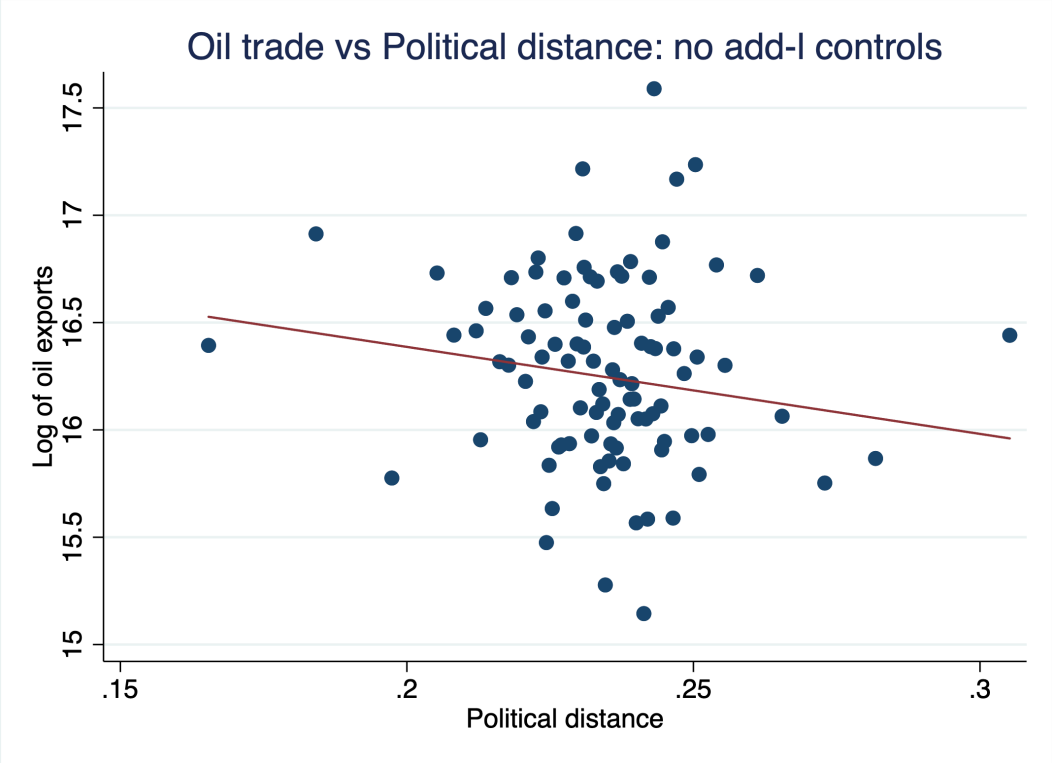
Panel D



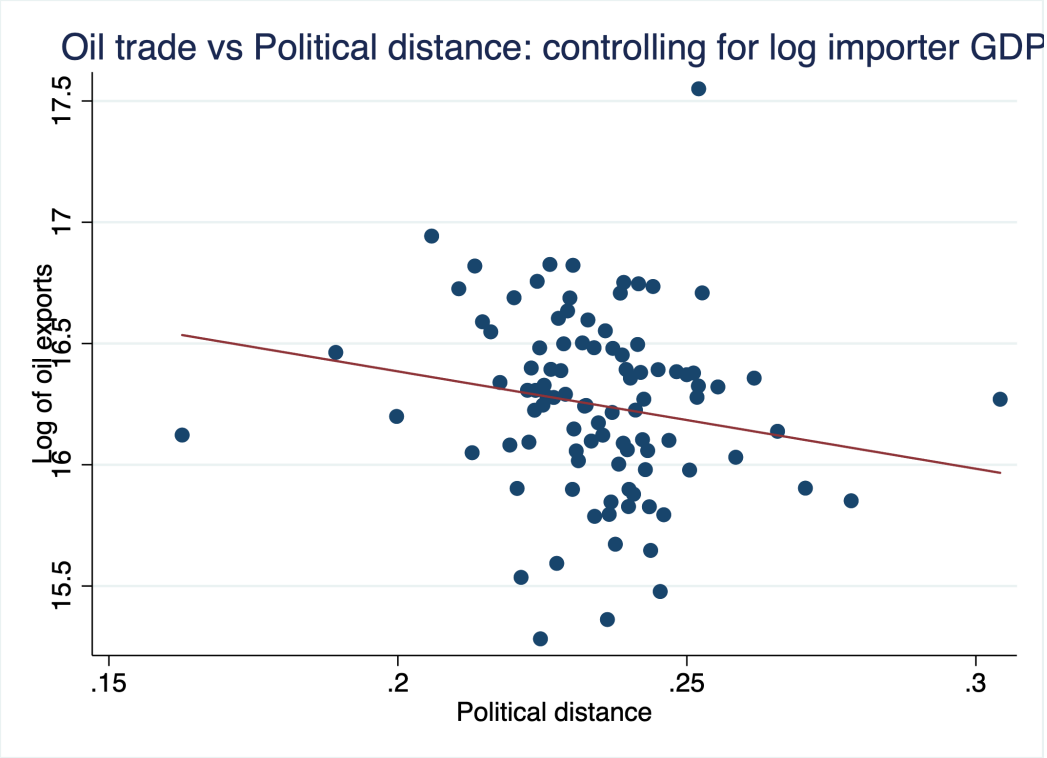
Note: This figure plots the political distance measure between Russia and United States, Ukraine, Germany, and Chine over the main study period 1999-2011 on the common scale. Political distance is measured by the dissimilarity of the voting between country pairs in the UN General Assembly as describes in the data section in the main text.

Figure 2: Scatterplots of oil trade vs political distance: No-common X-Y scale.

Panel A: no additional controls



Panel B: importer's GDP is controlled for



Notes: These figures present the scatterplots between Log of Oil Exports and Political Distance.

Appendix

Appendix A1

Table A1.1: Political distance and exports of Russian oil: weight

	(1)	(2)	(3)	(4)
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Weight of company exports into a given country				
Political distance	-6.803***	-4.967***	-10.478***	-4.614**
	(2.139)	(1.817)	(3.833)	(2.103)
Observations	137,980	73,354	17,116	17,316
R-squared	0.020	0.023	0.079	0.030
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log weight of company exports into a given country				
Political distance	-3.957*	-5.148**	-4.310**	1.271
	(2.226)	(2.451)	(1.931)	(6.677)
Observations	7,748	4,468	1,275	1,310
R-squared	0.095	0.123	0.195	0.119
Panel C: IV estimation: Intensive margin only				
Dependent variable: log weight of company exports into a given country				
Political distance	-9.531***	-9.054**	-7.351	-2.147
	(3.468)	(3.574)	(4.559)	(10.388)
Observations	7,018	4,040	1,185	1,167
R-squared	0.052	0.073	0.094	0.032
First stage F: Kleibergen Paap Wald	227.1	486.1	102.8	395.5
Oil exporting companies	All	Private	State-owned	Foreign
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is weight of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B and C are log of weight of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. Specifications in Panel C are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A1.2: Political distance and exports of Russian oil: price

	(1)	(2)	(3)	(4)
Panel A: OLS estimation				
Dependent variable: log(price per barrel) of company exports into a given country				
Political distance	-0.512*	-0.305	0.243	-1.778**
	(0.258)	(0.337)	(0.399)	(0.811)
Observations	7,733	4,464	1,273	1,302
R-squared	0.843	0.870	0.924	0.791
Panel B: IV estimation				
Dependent variable: log(price per barrel) of company exports into a given country				
Political distance	0.008	-0.099	0.691	-0.435
	(0.553)	(0.673)	(0.643)	(1.679)
Observations	7,004	4,037	1,183	1,159
R-squared	0.805	0.841	0.907	0.716
First stage F: Kleibergen Paap Wald	225.7	452.6	104.6	269.2
Oil exporting companies	All	Private	State-owned	Foreign
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is weight of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B and C are log of weight of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. Specifications in Panel C are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A1.3: Political distance and value of exports of Russian oil: Crude-oil extracting companies only

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	-7.898***	-3.447**	-9.401***	-16.111***
	(2.546)	(1.388)	(2.769)	(3.976)
Observations	63,226	36,008	9,527	10,917
R-squared	0.028	0.034	0.261	0.073
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	-4.747	-7.247	-1.296	-6.756
	(3.840)	(4.934)	(2.690)	(8.462)
Observations	4,507	2,804	843	849
R-squared	0.139	0.167	0.343	0.239
Panel C: IV estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	-3.235	-6.166	-6.896	-4.220
	(3.917)	(3.771)	(4.641)	(13.674)
Log destination country oil imports	0.160***	0.171**	-0.106	0.269**
(not from Russia)	(0.056)	(0.068)	(0.114)	(0.136)
Observations	4,034	2,498	779	746
Weak identification:Kleibergen-Paap stat	90.37	385.5	43.36	37.94
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Sample includes only producers of crude oil. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B and C are log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. Specifications in Panel C are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors (clustered at the country level in Panels A and B) are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A1.4: Political distance and value of exports of Russian oil: All companies

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	-7.453***	-5.317***	-10.813***	-7.391***
	(1.441)	(1.320)	(2.298)	(2.423)
Log destination country oil imports	0.054	0.036	0.265**	-0.038
(not from Russia)	(0.059)	(0.062)	(0.103)	(0.141)
Observations	132,898	71,557	16,832	16,750
R-squared	0.023	0.019	0.110	0.033
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	-3.656*	-4.781**	-3.700*	1.032
	(1.941)	(2.249)	(1.893)	(5.959)
Log destination country oil imports	0.118	0.160*	0.016	0.092
(not from Russia)	(0.078)	(0.087)	(0.092)	(0.147)
Observations	7,772	4,475	1,279	1,326
R-squared	0.145	0.156	0.291	0.189
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Sample includes only producers of crude oil. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B and C are log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. Specifications in Panel C are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors (clustered at the country level in Panels A and B) are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A1.5: Political distance and value of exports of Russian oil: All companies

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	-7.651***	-5.478***	-11.211***	-7.488***
	(1.407)	(1.228)	(2.483)	(2.554)
Log destination country oil imports	0.060	0.067	0.190	-0.119
	(0.067)	(0.058)	(0.134)	(0.182)
Observations	133,488	71,942	16,906	16,832
R-squared	0.023	0.019	0.109	0.033
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	-4.465**	-6.003**	-3.742*	0.523
	(2.151)	(2.677)	(1.874)	(6.108)
Log destination country oil imports	0.087	0.142	-0.010	-0.022
	(0.084)	(0.093)	(0.101)	(0.126)
Observations	7,774	4,476	1,280	1,326
R-squared	0.145	0.156	0.291	0.188
Panel C: IV estimation: Intensive margin only (both political distance and oil imports endogenous)				
Dependent variable: log value of company exports into a given country				
Political distance	-9.413***	-10.477***	-5.277	1.970
	(3.224)	(3.346)	(4.522)	(8.546)
Log destination country oil imports	0.139**	0.200***	0.031	0.077
	(0.055)	(0.070)	(0.111)	(0.133)
Observations	7,038	4,045	1,188	1,182
Weak identification:Kleibergen-Paap stat	166.4	306.5	78.01	51.94
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Sample includes only producers of crude oil. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B and C are log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. Specifications in Panel C are estimated by instrumental variables with political distance treated as an endogenous variable. Dummies for tenure of a given leader of a given importing country are used as instruments. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors (clustered at the country level in Panels A and B) are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A1.6: Political distance and exports of Russian oil: extensive margin

	(1)	(2)	(3)	(4)
Extensive margin only (Probit estimates)				
Dependent variable: Value of company exports into a given country				
Political distance	-0.090	-0.091	-0.153	-0.163
	(0.061)	(0.082)	(0.100)	(0.114)
Observations	137,980	73,354	17,116	17,316
Oil exporting companies	All	Private	State-owned	Foreign
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is weight of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year. Company X country pairs with zero (missing) exports in all years are omitted from the sample. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications are estimated by probit with marginal effects. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Appendix A2: Intensive margin for country-level regressions

Table A2.1: Political Distance and total oil imports: intensive margin

	(1)	(2)	(3)	(4)
		Panel A: Log Oil Imports from Russia		
Political Distance	-0.860	-1.456	-6.599**	-7.811**
	(1.773)	(2.501)	(2.972)	(3.498)
Observations	391	356	204	150
		Panel B. Log Total Oil Imports		
Political Distance	-2.059*	-2.751*	-6.039**	-7.245**
	(1.069)	(1.377)	(2.731)	(3.327)
Observations	391	356	204	150
Dependence on Russian oil (in 1999)	Import of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
Log importer GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes

Notes: Dependent variables are log total oil imports from Russia (in Panel A) and log total oil imports from all sources (in Panel B) over the period 2000-2011. In column (1) sample in both Panels includes all countryXyears observations with positive crude oil imports from Russia in a given year (for regressions in both Panels). In columns (2), (3), and (4) samples are restricted to countryXyear observations which in 1999 had the share of oil imports from Russia in total oil imports above 1%, 10%, and 40%, respectively. All specifications are estimated by OLS. Destination country and time fixed effects are included in all specifications. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A2.2: Political distance and imports of natural gas and total energy imports: intensive margin:

	(1)	(2)	(3)	(4)
	Panel A: Log Natural gas imports from Russia: 2000-2011			
Political Distance	-19.436*	-19.625*	-6.629	-7.524*
	(11.059)	(11.170)	(4.419)	(3.760)
Observations	265	258	171	150
	Panel B: Log Total natural gas imports: 2000-2011			
Political Distance	0.802	-0.565	-4.310**	-2.656
	(1.305)	(1.122)	(2.053)	(1.953)
Observations	391	356	204	150
	Panel C: Total Energy Imports from All Countries: 2000-2011			
Political Distance	-1.205*	-1.822**	-2.770***	-3.580***
	(0.661)	(0.760)	(0.692)	(0.891)
Observations	391	356	204	150
Dependence on Russian oil (in 1999)	Import of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
Log importing country GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
County FEs	Yes	Yes	Yes	Yes

Notes: In Panel A dependent variable is log total natural gas imports of a given country in a given year (coded as 2711 using the Harmonized System Nomenclature 2007) from UN Comtrade database. Dependent variable in Panel B is log natural gas imports of a given country in a given year from all sources except Russia. The study period is over 2000-2011. Sample in specification (1) includes all countries with positive oil imports from Russia, samples in specifications (2)-(4) includes countries with (measured in 1999) share of oil imports from Russia of 1%, 10%, and 40%, respectively. (i.e. subsamples considered in specifications (1)-(4) are the same as in Table 6.) All specifications are estimated by OLS. Destination country and time fixed effects are included in all specifications. Standard errors, reported in parenthesis, are clustered at a country level. ***, **, and * indicate statistical significance at 1%, 5%, and 10% respectively.

Appendix A3: Falsification tests

Table A3.1: Exports from Saudi Arabia

	(1) Oil Export	(2) Log(Oil Export)
	PPML	OLS
Political distance of Russia	-0.069	-0.348
	(0.252)	(1.517)
Observations	526	377
R-squared	0.980	0.869
Destination country FE	Yes	Yes
Year FE	Yes	Yes
Importing company log GDP	Yes	Yes

Notes: Dependent variable in is value of oil exports from Saudi Arabia in column (1) and log of oil exports from Saudi Arabia in column (2). The unit of observation is destination country X year over 1999-2011. Zeroes are imputed if there are no recorded exports by Saudi Arabia into a destination country in a given year. Political distance of Russia is the political distance between a given importing (from Saudi Arabia) country and Russia in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specification (1) estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specification (2) are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively

Table A3.2. Other goods: HS4404: Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	3.766***	3.591***	-1.741	3.219
	(1.139)	(1.199)	(6.221)	(2.113)
Observations	2,634,445	1,520,175	21,456	149,275
R-squared	0.031	0.040	0.150	0.029
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	0.349	0.387	3.011	-0.995
	(0.844)	(1.000)	(1.855)	(1.614)
Observations	37,562	23,123	792	3,022
R-squared	0.243	0.253	0.305	0.257
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of HS4404 "Wood in the rough, whether or not stripped of bark or sapwood, or roughly squared" exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A3.3. Other goods: HS72 Iron and steel

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	4.607	6.050*	-0.717	2.887
	(3.024)	(3.428)	(6.333)	(3.936)
Observations	2,372,513	1,495,642	8,910	171,378
R-squared	0.006	0.007	0.063	0.017
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	1.585	1.621*	18.299*	-0.887
	(0.995)	(0.957)	(9.256)	(1.816)
Observations	23,568	16,801	196	2,606
R-squared	0.161	0.189	0.431	0.176
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of HS72 "Iron and steel" exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A3.4. Other goods: HS7304 Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
Panel A: PPML estimation: Intensive and extensive margins combined				
Dependent variable: Value of company exports into a given country				
Political distance	-0.281	-0.598	1.050	4.150
	(1.961)	(2.093)	(9.360)	(6.370)
Observations	701,017	395,608	2,476	33,110
R-squared	0.003	0.004	0.067	0.012
Panel B: OLS estimation: Intensive margin only				
Dependent variable: log value of company exports into a given country				
Political distance	0.423	0.595	0.486	-0.264
	(1.589)	(2.260)	(16.144)	(6.883)
Observations	6,735	4,669	87	501
R-squared	0.130	0.147	0.563	0.364
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of HS7304 "Tubes, pipes and hollow profiles, seamless, of iron (other than cast iron) or steel" exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A3.5. Imports of oil outside of Russia

	(1)	(2)	(3)	(4)
	Panel A: Oil imports NOT from Russia: 2000-2011			
Political Distance	0.219	-1.014	2.213	-9.019**
	(0.324)	(0.632)	(1.573)	(3.905)
Observations	456	420	240	168
R-squared	0.992	0.989	0.994	0.849
	Panel B: Oil imports NOT from Russia: 2000-2011 (excluding Belarus and Ukraine)			
Political Distance	-0.105	-0.985	3.668***	0.351
	(0.239)	(0.639)	(1.316)	(2.454)
Observations	444	408	216	144
R-squared	0.997	0.989	0.995	0.911
Dependence on Russian oil (in 1999)	Import of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
	Common controls for all panels			
Importing country log GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
County FEs	Yes	Yes	Yes	Yes

Notes: The study period is 2000-2011. In Panel A dependent variable is total imports of energy net of imports from Russia of a given country in a given year (coded as 27 using the Harmonized System Nomenclature 2007: "Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes") from UN Comtrade database. Dependent variable in Panel B is total oil net of imports from Russia of a given country in a given year. In Panel C, dependent variable is total natural gas imports net of imports from Russia of a given country in a given year from all sources (coded as 2711 using the Harmonized System Nomenclature 2007) from UN Comtrade database. Sample in specification (1) includes all countries with positive oil imports from Russia, samples in specifications (2)-(4) includes countries with (measured in 1999) share of oil imports from Russia of 1%, 10%, and 40%, respectively. (i.e. subsamples considered in specifications (1)-(4) are the same as in Table 6.) All specifications are estimated by PPML. Destination country and time fixed effects are included in all specifications. Standard errors, reported in parenthesis, are clustered at a country level. ***, **, and * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A3.6: Political distance impact on importers of Russian oil: results excluding Belarus and Ukraine

	(1)	(2)	(3)	(4)
	Panel A: Oil Imports from Russia: 2000-2011			
Political Distance	-3.484***	-3.639***	-6.100**	-7.162**
	(0.500)	(0.844)	(2.752)	(2.851)
Observations	432	396	216	144
R-squared	0.963	0.965	0.979	0.949
	Panel B: Total Oil Imports: 2000-2011			
Political Distance	-0.291	-1.425**	-0.259	-4.887**
	(0.265)	(0.636)	(1.501)	(2.419)
Observations	444	408	216	144
R-squared	0.996	0.989	0.996	0.953
Dependence on Russian oil	Imports of Russian Oil>0	Share of Russian Oil>0.01	Share of Russian Oil >0.1	Share of Russian Oil >0.4
Common controls in all panels				
Log importing country GDP	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes
Country FEs	Yes	Yes	Yes	Yes

Notes: Dependent variables are oil imports from Russia (in Panel A) and total oil imports from all sources (in Panel B) over the period 2000-2011. In column (1) sample in both Panels includes all countryXyears observations with positive crude oil imports from Russia in a given year (for regressions in both Panels). In columns (2), (3), and (4) samples are restricted to countryXyear observations with 1999 share of oil imports from Russia in total oil imports above 1%, 10%, and 40%, respectively. All specifications are estimated by PPML. Destination country and time fixed effects are included in all specifications. Robust standard errors, clustered at the country-level, are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10%, respectively.

Appendix A4: Non-linearities in the effect of political distance

Table A4.1: Differential effect of political distance by the quantiles of political distance distribution.

	(1)	(2)	(3)	(4)
Panel A: PPML estimation:				
Dependent variable: Value of company exports into a given country				
Political Distance	-8.238***	-5.881*	-10.782***	-8.159**
	(2.578)	(3.010)	(3.351)	(3.911)
1st quantile of political distance X	1.090	2.754	5.731**	-3.841
Political Distance	(3.137)	(2.818)	(2.651)	(4.740)
2nd quantile of political distance X	0.081	1.204*	0.427	-2.331**
Political Distance	(0.791)	(0.664)	(1.838)	(1.157)
4th quantile of political distance X	0.523	0.758	-1.009	-0.649
Political Distance	(0.635)	(0.669)	(1.226)	(0.987)
5th quantile of political distance X	0.295	0.508	-0.779	-0.276
Political Distance	(1.096)	(1.391)	(1.465)	(1.314)
Observations	137,980	73,354	17,116	17,316
Panel B: OLS estimation				
Dependent variable: log value of company exports into a given country				
Political Distance	-2.769	-3.745	-7.319**	12.743
	(3.581)	(3.019)	(3.636)	(9.343)
1st quantile of political distance X	1.056	1.338	4.595	-0.345
Political Distance	(1.930)	(3.693)	(4.258)	(3.527)
2nd quantile of political distance X	-0.330	0.784	-1.665	-1.494
Political Distance	(0.814)	(0.805)	(1.443)	(2.750)
4th quantile of political distance X	0.105	0.138	0.655	-3.217
Political Distance	(0.772)	(0.880)	(0.776)	(2.038)
5th quantile of political distance X	-1.017	-0.877	1.449	-7.384**
Political Distance	(1.335)	(1.358)	(1.579)	(2.922)
Observations	7,795	4,492	1,280	1,328
Oil exporting companies	All	Private	State-owned	Foreign
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. "i-th quantile of political distance" is the dummy for political distance to be in ith quintile of political distance distribution. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A4.2: Heterogeneity of the political distance effect: Increase vs decrease in political distance compared to the previous period.

	(1)	(2)	(3)	(4)
Panel A: PPML estimation:				
Dependent variable: Weight of company exports into a given country				
Political Distance	-6.102***	-5.570**	-11.111***	-0.674
	(1.887)	(2.451)	(3.168)	(2.391)
Political Distance X	-0.100	0.427	0.111	-1.507*
1(Δ Political Distance>0)	(0.429)	(0.485)	(0.693)	(0.906)
Observations	100,288	50,170	12,387	13,781
R-squared	0.027	0.023	0.118	0.036
Panel B: OLS estimation				
Dependent variable: log weight of company exports into a given country				
Political Distance	-3.610	-3.932	-3.422	3.878
	(2.719)	(3.797)	(2.264)	(5.435)
Political Distance X	-0.440	-0.315	-0.214	-2.199***
1(Δ Political Distance>0)	(0.514)	(0.644)	(0.429)	(0.766)
Observations	6,306	3,614	1,043	1,142
Oil exporting companies	All	Private	State-owned	Foreign
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Oil company FE	No	No	No	No
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable in Panel A is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Dependent variable in Panels B is log of value of oil exports by a given oil exporter into a given country in a given year. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. "1(Δ Political Distance>0)" is the dummy for political distance in the current period to be higher than political distance in the previous period. Specifications in Panel A are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). Specifications in Panel B are estimated by OLS. All specifications include log destination country GDP, destination country, and time fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Appendix A5: Alternative company-level political distance

Table A5.1: Political distance and total exports of Russian oil-exporting companies. Alternative approach.

	(1) *All*	(2) *Private*	(3) *State-owned*	(4) *Foreign*
		Panel A: OLS estimation		
Company Political Distance	-5.086	-1.118	-10.452	-9.827
	(6.173)	(10.749)	(8.954)	(18.842)
Observations	715	449	170	93
R-squared	0.874	0.896	0.784	0.925
		Panel B: 2SLS estimation		
Company Political Distance	-1.751	7.405	-13.368	-7.383
	(19.068)	(21.545)	(20.777)	(60.344)
Observations	396	217	112	66
R-squared	0.392	0.433	0.430	0.577
First stage F	5.813	9.349	.	1.581
Log firm assets	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: Sample includes all observations for Russian crude oil exporting companies over the period 2000-2011. Samples in columns (1) includes all oil exporting companies. In columns (2) the sample is restricted to private domestic exporters. In columns (3) the sample is restricted to state-owned exporters. In columns (4) the sample is restricted to exporters with foreign ownership. Dependent variable in all columns is the log value of total company-level exports in all markets in a given year. "Company political distance" is calculated as the weighted average of political distances in a given year with weights being proportional to total exports done by a given company to a given destination country in the prior year, as discussed in section 4.2. Specifications in Panel A are estimated by OLS. In Panel B we use 2SLS where "Company political distance" is treated as endogenous variable. Leadership dummies for the country a given company exported most in the prior year oil to are used as excluded instrumental variables. Leadership data are from Archigos dataset by Goemans, Gleditsch, and Chiozza (2018). "First stage F" is Kleibergen-Paap (2009) Wald F statistic for weak identification test. Time fixed effects and company fixed effects are included in all specifications. Robust standard errors, clustered at the company level, are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Appendix A6: Robustness to multilateral trade resistance effects

Table A6.1. Political distance and value of exports of Russian oil PPML

	(1)	(2)	(3)	(4)
	All	*Private*	*State-owned*	*Foreign*
Dependent variable: value of company exports into a given country				
Panel A: Country X Exporting company pair Fixed effects				
Political distance	-5.907***	-3.226**	-9.275***	-8.957***
	(1.375)	(1.342)	(1.637)	(3.473)
Observations	21,642	12,493	3,265	3,975
Panel B: Country X Exporting company pair Fixed effects and Exporting company X year FE				
Political distance	-6.592***	-4.709*	-9.500***	-8.322**
	(2.028)	(2.717)	(1.824)	(3.845)
Observations	20,260	11,543	3,119	3,809
Common FE for all panels				
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable is value of oil exports. Zeroes are imputed if there are no recorded exports by a company into a destination country in a given year (company existence is verified through SPARK database). Company X country pairs with zero (missing) exports in all years are omitted from the sample. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. All specifications are estimated by Poisson Pseudo Maximum Likelihood (PPML) estimator to account for zeros in export observations, as described in Santos and Tenreyro (2006). All specifications include log destination country GDP, destination country, and time fixed effects. Specifications in Panel A include country - by - exporting company pair fixed effects. Specification in Panel B include country -by - exporting company pair fixed effects and exporting company - by - year fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.

Table A6.2. Political distance and value of exports of Russian oil: OLS-FE

	(1)	(2)	(3)	(4)
	All	*Private*	*State-owned*	*Foreign*
Dependent variable: log value of company exports into a given country				
Panel A: Country X Exporting company pair Fixed effects				
Political distance	-4.098**	-2.743*	-5.561**	-7.163**
	(1.559)	(1.602)	(2.073)	(3.237)
Observations	5,987	3,438	976	1,105
R-squared	0.814	0.813	0.850	0.814
Panel B: Country X Exporting company pair Fixed effects and Exporting company X year FE				
Political distance	-3.399***	-1.328	-7.409***	-6.656*
	(1.153)	(1.500)	(2.406)	(3.336)
Observations	5,139	2,913	860	1,023
R-squared	0.865	0.854	0.886	0.870
Common FE for all panels				
Destination country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Importing company log GDP	Yes	Yes	Yes	Yes

Notes: The unit of observation is Russian exporting company X destination country X year over 1999-2011. Dependent variable is log of value of oil exports by a given oil exporter into a given country in a given year. Specifications are estimated by OLS. Political distance varies between 0 and 1 and is calculated from the (negative of) Affinity of Nations Index (Gartzke, 2010) as described in the main text. All specifications include log destination country GDP, destination country, and time fixed effects. Specifications in Panel A include country - by - exporting company pair fixed effects. Specification in Panel B include country -by - exporting company pair fixed effects and exporting company - by - year fixed effects. Robust standard errors clustered at the country level are reported in parenthesis. ***, **, And * indicate statistical significance at 1%, 5%, and 10% respectively.