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# The effect of economic coercion on companies' foreign direct investment decisions: Evidence from sanctions against Russia*

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## Abstract

Existing research on the relationship between economic coercion and foreign direct investment suggests that sanctions have no effect on investments in targeted countries or may even encourage investment inflows. A key limitation of this research, however, is its aggregate country-level focus, which fails to capture company-level decision-making processes and factors shaping them. In contrast, this paper evaluates multinational companies' investment plans as reflected in new investment announcements and shows that sanctions in fact lead to significant adjustments in multinational companies' plans to invest in a targeted country. Our company-level analyses of new investment projects in Russia show that companies are less likely to announce new investments after the imposition of economic sanctions against the country.

## Keywords

FDI, MNCs, political risk, Russia, sanctions

> Companies that are in Russia are certainly delaying investment decisions, and those planning to enter are being cautious about it … The mood in Brussels towards Russia is not great, but it's not terrible either. But everything that is being said and done is very much influenced by a big "if" of US sanctions. This is the main point of relevance for everybody in the end. (Frank Schauff, chief executive of the Association of European Businesses. interview with the *Financial Times*, 13 January 2019[1])

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On 16 March 2014, following Ukrainian President Yanukovych's removal from power and a covert Russian operation to seize control over key sites across the Crimean Peninsula, a referendum in Crimea ushered a change in its political status and paved the way to the territory's annexation by Russia. This event marked the beginning of an ongoing Russia–Ukraine conflict, which included Russia's military intervention in eastern Ukraine, the downing of a passenger plane on 17 July 2014, and Russia's invasion launched on 24 February 2022. The United States, members of the European Union and other countries responded to the initiation and escalation of this conflict by imposing sanctions against Russia and expanding the scope of coercive measures as the conflict escalated. These sanctions included a broad range of instruments, such as diplomatic sanctions (e.g. Russia's suspension from G8, and a cancelled EU–Russia summit), personal travel bans and asset freezes, export restrictions on defense-related products and services and technology for the oil and gas sector, corporate sanctions in a range of sectors (including banking, energy, defense manufacturing, construction and logistics) and financial sanctions (e.g. the European Investment Bank suspended its funding for projects in Russia).[2]

Russian government officials repeatedly dismissed any concerns regarding the economic effects of these sanctions. In an interview in May 2014, Prime Minister Medvedev stated: "As for their direct impact, contrary to what the media and some Western analysts say, the sanctions have not had a significant effect on us".[3] Medvedev also suggested that foreign investors did not view Russia as a less attractive market for their investments because of sanctions. At a meeting of a government oversight commission on foreign investments Medvedev noted that in the first half of 2019 Russia had received new investments worth "about 30 bln rubles ($467.1 mln) … Our assets continue to be attractive for investors, despite various sanctions" and pointed out that multinational companies showed interest in a broad range of sectors, including "air transportation, machine-building, nuclear energy, development of mineral resources deposits, including oil and gas, foods sector, digital security sector and housing".[4]

The government's emphasis on maintaining foreign direct investment (FDI) during sanctions is not accidental: FDI is an economic relationship that countries typically seek to maintain and strengthen as it delivers not only capital, but also expertise, tax revenue, jobs, export opportunities and other benefits to host economies. Economic development strategies promoted by governments and international organizations underscore the importance of creating investor-friendly environment through a combination of political and economic measures. Similarly, host countries are incentivized to pursue cooperative international agreements, such as bilateral investment treaties (BITs) or trade agreements to increase the predictability of their future relations with investors, once they take ownership of assets in the host countries.

The Russian government's insistence that sanctions do not affect foreign companies' willingness to invest in the Russian economy may certainly be explained as posturing. However, existing studies lend some support to this assertion by arguing that it may indeed be possible to maintain, or even increase, foreign investments under sanctions. Findings reported in research on the relationship between economic coercion and FDI in sanctioned countries[5] are somewhat mixed, but generally indicate that sanctions may not affect sanctioning countries' FDI to target countries, and can in fact result in greater FDI inflows from third parties or even sender countries. Biglaiser and Lektzian (2011) indicate that US multinational corporations (MNCs) disinvest when the US issues a sanction threat, but increase their investments once sanctions are in place. In addition, Lektzian and Biglaiser (2013) find that, when the US imposes sanctions on a target country, global investment to this country increases. Moreover, when US MNCs disinvest from the target, global investors seize the opportunity to replace US firms. In contrast, Mirkina (2018) shows that US sanctions may not have any effect on FDI in the short run, but reduce FDI in the long run.

Evidence from the Russian case suggests that new investment activity has in fact declined significantly under sanctions. On average, Russia received USD 58 billion in FDI inflows annually in the three years prior to sanction imposition in 2014. Annual FDI inflows dropped to USD 22 billion in the first year under sanctions and remained at the average level of USD 20 billion during the seven-year sanction period for which data are available.[6] This decline in FDI inflows is not consistent with the optimistic assessment that sanctions may encourage new investments. While this simple illustrative comparison of pre-sanction and sanction FDI inflows is not sufficient to draw any conclusions, it does point to a new-investment pattern that requires an explanation: specifically, we need to account for MNCs' apparent adjustment to sanctions by postponing or cancelling new investment projects in the target country, while controlling for any economic trends that may influence new investment activity in the country (including changes in oil prices, gross domestic produce (GDP) growth and other economic indicators). We focus on deteriorating business sentiment resulting from sanctions: investors' perceptions of growing political risk and greater uncertainty affect their investment plans.

Our approach stands in contrast to research that focuses on host countries' interactions with MNCs and host governments' efforts to reduce perceived risks to FDI. We highlight the role that *other* governments and their foreign policies can play in shifting MNCs' risk perceptions of host countries and, as a result, changing investment likelihood. We argue that sanctions represent an international source of political risk from MNCs' perspective. When a sanctioning government (i.e. the sender) uses economic coercion to extract concessions from their opponent (i.e. the target), investment benefits can decline owing to deteriorating economic conditions in the host country targeted by sanctions. In addition, MNCs' assessment of political risks becomes more difficult owing to the target's entanglement in an escalating international dispute. Taken together, these sanction effects indicate greater uncertainty under which MNCs make investment decisions and hence result in reduced FDI inflows to the target economy. This relationship may appear intuitive; yet, it has not been firmly established in the sanctions research.

We start by developing a theoretical argument to explain the relationship between sanctions and investment to target countries. To control for a variety of domestic sources of political risk, our empirical strategy focuses on one country—Russia. It is one of the most frequently sanctioned countries, based on information recorded in the Threat and Imposition of Sanctions dataset (Morgan et al., 2014). Nevertheless, Russia is comparable with other sanction targets in terms of its political and economic characteristics, including regime type, income level and trade diversification. Therefore, our results should be applicable to other sanctioned countries.

After a brief description of the sanction timeline, we introduce our dataset. Unlike most previous studies, using aggregated data on country-level annual FDI, we use monthly firm-level data on MNCs' announcements of new investment projects in Russia between 2003 and 2017.[7] Our firm-level approach allows us to focus on company decision-making, instead of drawing indirect conclusions from country-level flows. It also allows us to explore the heterogeneity of firms' responses to sanction-related risks while accounting for firm-level characteristics. Moreover, our use of data on new project announcements represents a departure from previous studies, which rely on measures of FDI stock or net FDI inflows: companies can modify their future investment plans more easily and less costly than adjust existing investments.

Our statistical analyses contribute to research on the relationship between economic sanctions and FDI by offering novel firm-level evidence that MNCs are less likely to initiate new investments in the target country. This relationship holds for MNCs from the US—the leading sender in the sanctions imposed against Russia—as well as MNCs from other countries. We also find that the size of new investment projects tends to decrease under sanctions. These results are consistent

with our argument pointing to growing international political risks associated with economic coercion. We also conduct tests to rule out that Russia's aggressive foreign policy behavior can explain investors' increased risk perceptions. This article suggests that it is important to move beyond the host country's political characteristics or bilateral home–host country relations as determinants of political risk. In addition to these commonly considered factors, governments' foreign policies toward host countries, such as economic sanctions, serve as determinants of MNCs' decisions to invest.

## Political risk and FDI

Studies of FDI offer a significant amount of evidence that investors consider political risks in their investment decisions. Political risk is an indicator of how likely the host government is to take actions that would erode the value of MNCs' investment. The value can be diminished or entirely destroyed through a range of measures, including outright expropriation and unfavorable policies and regulations.

While it is clear that political risk matters, there is no direct measure of it. Therefore, scholars link observable government characteristics to assess their effects on investors' risk perceptions. Regime type is one such characteristic that has received significant attention in sanctions research. Democracies appear to attract more FDI than autocracies, but proposed mechanisms driving this relationship vary (e.g. Jensen, 2006, 2008; Barry, 2016). Regardless of the specific mechanism, studies agree that democracies offer a more stable institutional environment and greater predictability, which reduce investors' risk perceptions.[8] Other characteristics that affect political risk include governments' human rights records, the rule of law, property rights and regulatory quality (Daude and Stein, 2007; Blanton and Blanton, 2007, 2009; Staats and Biglaiser, 2012; Barry et al., 2013; Nieman and Thies, 2019).

In addition to host governments' political characteristics, countries' foreign relations have recently come to the fore as a factor explaining investors' risk perceptions. Interstate conflicts, alliances, aid flows, participation in international agreements and institutions have been identified as significant determinants of FDI (Jensen, 2003; Polachek et al., 2007; Asiedu et al., 2009; Biglaiser and DeRouen, 2010; Li and Vashchilko, 2010; Biglaiser and Lektzian, 2011; Biglaiser et al., 2016). Moreover, developing countries often rely on one type of international instrument for reducing domestic political risk, BIT, in order to signal to developed countries' investors a commitment to protecting foreign investments as developing economies compete for capital (Elkins et al., 2006; Jandhyala et al., 2011). Studies show that BITs produce the desired outcome, i.e. they increase FDI inflows into countries that sign them (Kerner, 2009; Büthe and Milner, 2009; Neumayer and Spess, 2005; Tobin and Rose-Ackerman, 2011).

Although these studies provide important insights into determinants of investors' risk perceptions and willingness to invest, as well as governments' strategies for mitigating their domestic risks and attracting investors, this literature mostly overlooks the possibility that risk perceptions can be used as a coercive instrument.[9] We argue that, in a dispute, opponents may use sanctions to increase uncertainty in the bilateral relationship. Such uncertainty suggests to potential investors that, on the one hand, the value of their investments could erode in the future, and on the other, the degree of such deterioration may be hard to predict. As a result, investors may become less willing to invest in a given country, and this effect amplifies the coercive power of sanctions. Therefore, unlike previous research (Biglaiser and Lektzian, 2011; Lektzian and Biglaiser, 2013), this article suggests that all MNCs, regardless of their home locations, will prefer to avoid investing in a country when sanctions are in place against it. When this happens, companies may abandon

their investment plans altogether, or simply postpone them. They can also identify alternative investment locations, which can provide indirect access to the targeted economy: Barry and Kleinberg (2015) provide evidence of sender firms' shifting investments when sanctions are in place. Such a shift is consistent with our argument pointing to increased political risk perceptions associated with investments in the target country.

## Economic sanctions as a source of international political risk

Political risk is an important determinant of FDI: when host countries' governments are perceived as more likely to take actions harmful to foreign investors, MNCs view such countries as less attractive for investment. Such detrimental actions may include regulatory changes, violations of companies' property rights, and expropriations, although the latter have become less common in recent decades. Studies of the relationship between political risk and FDI typically focus on host countries' characteristics that make them more risky as investment locations, as well as strategies adopted by host governments, which seek to attract FDI by mitigating their political risks. Such strategies primarily require the creation of domestic or international commitments that credibly constrain host governments' ability to reduce the value of foreign investments, for instance, reforms to strengthen property rights and the rule of law at the domestic level, or negotiations to adopt BITs at the international level.

Perceptions of political risk, however, do not change only as a result of host governments' actions. We point to another actor that can alter investors' perception of a country's political risks—other governments, especially governments of global and regional powers. Host countries' adversaries in an international dispute can undertake actions with the objective of increasing host countries' perceived political risks. Increasing risks is a coercive tactic that governments can use to improve their bargaining position vis-à-vis the host government in a dispute. The objective is to make it more costly for the host government not to concede.

To increase international political risks, governments can use a range of instruments, such as diplomatic measures, economic pressure and even military action. We focus on economic restrictions as one of the most commonly used forms of coercion. Economic sanctions can serve as a valuable instrument to ratchet up political risk.[10] On the one hand, sanctions are sufficiently flexible because senders can choose the level of pressure and the scope of restrictions (McLean and Whang, 2014). Senders may initiate sanctions by implementing measures that are minimally costly for the target, and then gradually increase sanction severity by imposing additional measures or broadening the scope of sanctions. On the other hand, sanctions are not as costly for the sender as military action, which makes sanctions a more popular foreign policy instrument than military coercion, although sanctions effectiveness rates may vary.[11]

Sanction imposition represents a significant policy change, which demonstrates to MNCs that the dispute between the two countries has moved past diplomacy and sanction threats (Whang et al., 2013; McLean, 2021). Sanctions indicate dispute escalation. This means that bilateral relations (and potentially multilateral relations, if multiple states are involved) are more likely to deteriorate. Furthermore, escalation can happen within a particular sanction episode when senders expand sanctions' scope and increase their costliness. Investors have to consider this negative shift in interstate relations as a greater risk to their existing and potential investments.

Escalating interstate conflict may sometimes result in target governments' retaliation against senders' firms by imposing various restrictions on MNCs' activities or even through expropriation (Gartzke et al., 2001). Governments can also impose significant costs on multinational firms by breaking contracts with them (Wellhausen, 2014). This can occur when governments face domestic

political pressure, changes in leadership, or other internal or external developments that can incentivize governments to renege on their contractual obligations with foreign firms. Sanctions can exert similar pressure on host governments, especially in the case of durable and severe sanctions. In combination with senders' policies aimed at restricting targets' economic activities, potential and actual shifts in targets' policies toward MNCs fuel companies' perception of policy uncertainty. Previous studies report that increasing policy uncertainty is associated with reduced business investment and other measures of business activity (Handley and Limão, 2015, 2017; Caldara et al., 2020).

Even if sender country firms do not suffer direct costs from target governments' actions, sanctions can impose economic costs on the target economy, which are large enough to result in a deteriorating macroeconomic situation. When this occurs, the effect of sanctions is akin to an economic recession, and all firms (domestic and foreign) are likely to experience adverse economic conditions and, consequently, reduced profits because local consumers' ability to buy these firms' products and services declines. Such a reduction can be temporary if countries resolve their dispute quickly and sanctions are lifted, or when imposed sanctions are not particularly costly in the first place and adjustments are possible. At the same time, some sanctions regimes remain in place for many years and even decades, and generate enough damage to target economies to make them highly unattractive for most foreign investors, especially in the sectors directly targeted by sanctions. In addition, investors may infer from sanction imposition that the risk of militarized conflict goes up. Existing research shows that sanction imposition is associated with a significant increase in the probability of a militarized dispute (Lektzian and Sprecher, 2007: 415).

Taken together, these effects of economic sanctions have the dual effect of increasing political risk and the difficulty of assessing the magnitude of such risk.[12] Once sender countries start imposing restrictions on economic relations between countries, foreign investors in the target country can expect to experience growing costs associated with these restrictions, but how fast or how much these costs might be growing becomes less certain. Therefore, the sender's willingness to generate political risks for the target by imposing economic sanctions increases investors' uncertainty over the future trajectory of adverse political changes. Previous research views sanctions imposition as an event that reduces uncertainty because it reveals information about the new investment environment in the target country; that is, costs could be magnified under sanctions, but the costs are now easier to calculate, as is their likelihood (Biglaiser and Lektzian, 2011). We argue that the opposite effect of sanction imposition is more powerful: specifically, sanction imposition signals that a bilateral dispute has entered the escalation stage, and it may be difficult to anticipate how the bilateral relationship will develop after dispute escalation (does the dispute remain at this new elevated level, or does escalation continue and at what pace?). Therefore, we conclude that the investment environment becomes less predictable.

This increasingly uncertain investment environment may not force companies to terminate existing investments, which can be costly, especially in sectors that require substantial fixed capital investments (e.g. extractive industries, utilities). In fact, multinational firms can adopt various risk management strategies to mitigate effects of political risk on existing investments. Vekasi (2019) points out that companies can engage in political lobbying to shape policy outcomes, diversify their operations across multiple regions, and develop contingency plans to respond to potential crises. By employing these strategies, multinational firms can reduce their exposure to political risk and maintain their operations in challenging environments. In addition to these strategies, MNCs can respond to escalating international disputes by postponing new investments to sanctioned states or choosing a different location. Therefore, the impact of increased risk on cross-border flows of investments should be evident primarily in MNCs' decisions regarding their future

investment plans. Sender countries' companies should be particularly susceptible to increased international political risk associated with sanctions. However, MNCs may consider other investors' behavior, and risks of continued escalation, including militarized outcome, should affect non-sender companies as well. Therefore, we summarize our theoretical expectations as follows:

**Hypothesis 1:** Sanctions should decrease MNCs' new investments in the target country.

**Auxiliary expectation 1-1:** Sanctions should decrease sender MNCs' new investments in the target country.

**Auxiliary expectation 1-2:** Sanctions should decrease non-sender MNCs' new investments in the target country.

## Illustrative evidence from Russia: evolving sanctions regime and risk perceptions

The empirical focus of this article is Russia and economic sanctions, which were imposed against this country by the US, EU members and other countries. This context offers an ideal setting to test our theoretical expectations because we can focus on international sources of investors' risk perceptions, while domestic sources remain essentially fixed. Choosing a recent sanction case also allows us to collect nuanced firm-level information and monthly economic data, which helps to control for effects of domestic and international economic factors on firms' decision-making and identify the influence of sanctions more precisely than would be possible with annual data. The US and EU launched the initial round of Russian sanctions after the annexation of Crimea in 2014. These sanctions were limited to diplomatic measures, travel bans and asset freezes, i.e. the types of sanctions that are mostly symbolic and impose only minor costs on the target country. Our period under study ends in 2017, i.e. prior to the 2022 Russian invasion of Ukraine and a new wave of sanctions.

The next key development in the sanctions regime took place after a passenger plane was shot down over eastern Ukraine, controlled by Russian-backed rebels. Sectoral sanctions aimed to pressure the Russian government to stop its support of the rebels and facilitate peace negotiations. The scope of sanctions was limited to defense, banking and energy sectors. Owing to the lack of progress in the peace process in Ukraine, the EU and US repeatedly increased the scope and scale of sanctions (Nelson, 2017). Some of the imposed measures had a clear sectoral focus: for instance, senders limited the sales and leases of various types of products "for the construction of Russian energy export pipelines, goods, services, technology, information", as well as foreign companies' investments that would "directly and significantly contribut[e] to the enhancement of the ability of the Russian Federation to construct energy export pipelines" (US Congress, 2017). Other restrictions applied to investments regardless of the sector as long as they met the following criterion: "the investment directly and significantly contributes to the ability of the Russian Federation to privatize state-owned assets in a manner that unjustly benefits—(1) officials of the Government of the Russian Federation; or (2) close associates or family members of those officials" (US Congress, 2017).

While the initial wave of sanctions over Ukraine remains in place to the present day, Russia experiences additional sanctions imposed over its interference in the 2016 election in the US. A new round of sanctions went into effect in August 2018 in response to Russia's role in an attempted poisoning of an ex-spy in the UK. These sanctions further limited exports of goods that could be

used for military purposes, including electronics and gas turbine engines.[13] The US and European countries also expelled 100 Russian diplomats. In August 2019, the US government added a restriction on international financial organizations, such as the World Bank, with the goal of cutting their lending to Russia. Furthermore, the invasion of Ukraine launched on 24 February 2022, triggered a wave of broad and severe sanctions against Russia.

The US, EU and other senders sought to tailor their sanctions to affect specific individuals, companies and economic sectors in Russia. The stated objective was to limit damage to Russia's overall economy and bilateral economic relations and impose maximum costs on Russia's policy-makers and their supporters. Therefore, many economic transactions remained unaffected by sanctions (Nelson, 2017: 10). Nevertheless, MNCs in the oil and gas sector were the first to report sanction-related costs. After the initial round of sanctions in 2014, ExxonMobil (US) suspended its $700 million joint venture with Rosneft in the Kara Sea, and reported losses of approximately $1 billion from its Russian operations after the first seven months of sanctions.[14]

MNCs faced political risks from two sources: the sender countries (the US, EU members, Canada, and others) and the target country (Russia). Restrictions imposed by the US and other sender governments on the energy sector threatened US and European companies' operations in Russia. ConocoPhillips (US) left the country after selling off the last of its assets in 2015. Others, including ExxonMobil (US) and BP (UK), maintained a considerable presence in Russia until conflict escalation resulted in additional sanctions. For instance, ExxonMobil (US), which held approximately $6 billion in assets as of 2018, decided to exit the country in 2022.[15] BP suffered even more substantial losses: the company had to write off its $25 billion investment in Rosneft when it left Russia in February 2022.[16]

The target government took steps that further jeopardized MNCs' ability to operate in the country. A variety of countersanction measures aimed at foreign investors contributed to growing political risks for MNCs. First, the government threatened to make it illegal to comply with sanctions and prepared a bill on punishment for anyone—including MNCs' executives—found to be complying with economic sanctions. Second, MNCs found themselves targeted by lawsuits and various regulatory measures. McDonald's (US), which ran 430 restaurants in 70 Russian cities, was sued by the federal monitoring service for consumer rights and wellbeing for alleged food standard violations and was ordered to shut down multiple locations in 2014.[17] State-owned Rosneft accused ExxonMobil (US) and its partners in Sakhalin-1, an oil and gas production consortium, of unjust enrichment and filed a USD 1.4 billion lawsuit against them in 2018.[18] Third, the government increased its cooperation with countries that did not impose sanctions against Russia, which reduced market opportunities for sender countries' companies. For example, Rosneft signed a strategic partnership agreement with China National Petroleum Corporation in 2014, which could make it more difficult for US and EU energy companies to re-enter Russia when sanctions are lifted in the future.[19] Finally, Russia escalated the conflict in 2014 by imposing sectoral countersanctions in the form of an agricultural import ban.

These actions by sender and target governments heightened the expectation of continuing and growing international tensions. Both sides demonstrated that they were willing to bear costs associated with sanctions and strike back to hurt the opponent. Therefore, MNCs faced significant uncertainty surrounding investments in Russia. Investors could offset some risk by purchasing appropriate insurance, but such coverage became increasingly more expensive and hence less affordable or even entirely unavailable owing to sanctions and Russian countermeasures.[20]

This discussion points to a key factor driving MNCs' increasing reluctance to invest in Russia: growing uncertainty of its political relationship with sender countries. Investors appear to be willing to adjust and absorb some of the losses generated by sanctions, which indicates that direct sanction costs, such as reduced economic growth, may not be sufficient to deter new investment activity. Even the distance in governments' foreign policy positions is not sufficient to explain the decline in new investments. The main reason why MNCs avoid investing in Russia under sanctions is a growing level of international political uncertainty: MNCs struggle to predict how much worse the bilateral relations will become and how quickly this may happen, which means that investment risk perceptions are adjusted upward, tipping the balance against the choice to invest in the sanctioned economy.[21]

## Data, Variables, and Methods

### *Data*

To test our hypotheses, we rely on data from two sources. First, we use firm-level data on announcements of new foreign direct investments from fDi Markets compiled by the Financial Times.[22] Unlike aggregate country-level data used in previous studies on the effects of sanctions on FDI (Biglaiser and Lektzian, 2011; Lektzian and Biglaiser, 2013; Barry and Kleinberg, 2015; Mirkina, 2018), firm-level data allow us to explore multinational firms' investment choices upon sanction initiation, while accounting for a number of firm-specific factors besides firms' home countries and sectors. The fDi Markets dataset "tracks crossborder investment in a new physical project or expansion of an existing investment. … Joint ventures are only included where they lead to a new physical operation. Mergers & acquisitions (M&A) and other equity investments are not tracked".[23]

Second, we collect detailed information on sanctions from each sender country's consolidated lists. For example, the US sanction lists are administered by the Office of Foreign Assets Control of the Department of the Treasury.[24] In the EU, the European External Action Service provides a sanctions list to member countries and they are responsible for the implementation and enforcement.[25] We also consider sanctions imposed by other countries such as Switzerland, Australia, Canada, and Japan, which all have close economic ties with Russia.[26]

With these two sources, we construct a data set with firm-month as our unit of analysis. As a result, we have information on 4,510 foreign investment transactions made in Russia by 2,912 unique parent firms from 79 countries, from January 2003 to September 2017, which allows us to compare the likelihood of new investments prior to and during sanctions.[27] The fDi Markets database also provides information on each investment's sector and amount, as well as the number of jobs to be created.

### *Dependent variable*

We construct a dependent variable to indicate whether a given MNC announced a new investment in Russia in a given month. Tele2 (Sweden), Siemens (Germany), and Raiffeisen Zentral Bank (Austria) were the top investors during the period, with 28, 26 and 26 new investment projects, respectively. In contrast, an average company made only 2.5 investments. In general, compared with other regions of the world, Western Europe accounted for the largest share of new investment projects (55%), created the highest number of jobs in Russia (557,468), and generated the largest investment amount (USD 166.47 billion). Financial services dominated as the top sector: it attracted

one-tenth of investment projects. For this analysis, we convert the investment information into a binary dependent variable, *Invest dummy*, which equals one if a firm chooses to announce a new project in a given month, and zero otherwise.

## Explanatory variables

The main explanatory variable in this study is economic sanctions. We employ three sanction measures. First, we construct a binary variable, *Sanction*, which takes the value of 1 in the month and year of sanction imposition by any sender country, and 0 otherwise. A total of 78,624 observations in our dataset are sanction onset cases, based on information officially reported by each sender country, which represents about 15% of our total observations. The second variable is a count of imposed sanctions, which we use to gauge the degree of sanction intensity. This variable, *Sanction count*, allows us to evaluate the effect of sanctions' scope, capturing the number of sanction measures utilized by one or multiple senders. When sanctions are announced and listed at a specific date, they generally take effect immediately. Restrictions associated with ongoing sanctions remain in effect from the announcement onwards. Third, we create a binary variable, *Countersanction*, which equals 1 in the months when Russia reacts to sanctions by imposing countersanctions against the sender country, and 0 otherwise.[28]

## Control variables

To control for factors that could affect firms' investment decisions, we include a number of economic and political variables that have been used in previous research. We start with several time-varying variables collected monthly. To capture the volatility of the Russian economy, we consider the consumer price index (CPI), exchange rates of the Russian ruble against the US dollar and foreign reserves expressed in US dollars. Previous research shows that lower levels of CPI, reduced exchange rate volatility and larger foreign reserves have a positive impact on FDI inflows (Arbatli, 2011; Khachoo and Khan, 2012). These monthly data are available from the International Financial Statistics database compiled by the International Monetary Fund. We also consider global oil prices because Russia's economy is heavily dependent on exports of oil and gas. A decline in oil prices will result in lower export revenues, which will reduce corporate and government spending. This should weaken the Russian economy and make it less attractive for investors, thereby decreasing the likelihood of FDI inflows (Mina, 2007). Thus, we control for the monthly average oil price reported by the US Energy Information Administration, *Oil price*.

Next, we include time-varying variables collected annually. According to investor surveys, the key reasons for investing in Russia were the significant growth potential of the country's domestic market, proximity to customers, and favorable business climate.[29] Therefore, we control for Russia's macroeconomic conditions. Existing studies report that economies with positive growth rates are more likely to attract foreign investments (Noorbakhsh et al., 2001; Jensen, 2003; Pearson et al., 2012). We collect information on Russia's annual percentage growth rate of GDP to account for its effect on the country's ability to attract FDI. If firms produce consumer goods mainly to be sold in Russia, market size and purchasing power should result in greater FDI (Blomstrom et al., 1992; Aziz and Makkawi, 2012). We include total population and GDP per capita, reported annually in the World Bank's World Development Indicators (WDI). Another economic factor that may affect FDI is government spending: since government spending on education, infrastructure, industrial services, etc. can boost economic growth, MNCs view such

expenditures favorably and become more willing to invest (Othman et al., 2018). We obtain government spending data from the WDI.[30]

We then consider Russia's political institutions to control for effects of domestic political risk and property rights protection through the polity score (Marshall et al., 2013). Although specific mechanisms differ, previous research links political instability with lower levels of FDI inflows (Li and Resnick, 2003; Jensen, 2003, 2006). Russia's polity score decreased from 6 to 4 in 2007, signaling that the country's political regime is increasingly authoritarian.

In addition to host country characteristics, political and economic ties between host and home countries can affect firms' investment decisions. We include bilateral export and import volumes between Russia and firms' home countries. Existing literature on the relationship between trade flows and FDI is mixed (Noorbakhsh et al., 2001; Khachoo and Khan, 2012), so we are agnostic about effects of these control variables. To control for bilateral political and diplomatic relations, we use ideal point distance estimates derived from the United Nations General Assembly voting data, *Dissimilarity*, as a measure of countries' foreign policy dissimilarity (Bailey et al., 2017). We expect that the Russian government is more likely to provide favorable treatment and investment incentives to firms from ideologically close countries (Desbordes, 2010). In addition, geographical distance may affect FDI decisions: firms from neighboring countries are more likely to have prior links to Russia, have employees who speak Russian and understand Russia's political and economic institutions. This should make MNCs from proximate countries more likely to invest (Egger and Pfaffermayr, 2004). Hence, we collect data from EUGene for the *Distance* variable (Bennett and Stam, 2000).

Another important set of control variables represents firm-level characteristics. We rely on Orbis to gather firm-level information on overall company size, total assets, operating revenues, profit margins and the number of employees. *Company category* is an ordinal indicator that captures the size of the company based on its market capitalization: it takes the value of 0 if the company is small, 1 if medium, 2 if large, and 3 if very large. As larger firms are more likely to trade and make investments to other countries, our models need to consider this effect (Melitz, 2003; Bernard et al., 2003; Helpman et al., 2004). *Company category* has the best data availability, so our models mostly rely on this index. When we replace *Company category* with the other firm-level variables in our specifications, we are left with 28% of our main sample owing to a large degree of missingness.[31] Finally, we include *Investment frequency* in our specifications: this is a measure of the number of investment projects started in Russia by other companies in a given quarter. We rely on this variable to examine whether there are any herding tendencies among investors, similar to emulation patterns among portfolio investors (Scharfstein and Stein, 1990). We report summary statistics for all variables in the Online Appendix.

## Methods

To test our expectations regarding sanctions' effect on FDI decisions, we employ a series of Weibull hazard models, which evaluate how long it takes until a firm announces a new investment project (Box-Steffensmeier and Jones, 2004).[32] We seek to assess the relationship between the lengths of periods without new investments as independent "spells" and a series of explanatory variables. While we primarily rely on the parametric multiple-failure event Weibull hazard function to model the effect of our main explanatory variable, *Sanction*, we also use logit and Cox hazard models as alternative approaches to check the robustness of our results.[33]

## Discussion of results

### *Do sanctions affect companies' investment decisions?*

We report results of data analysis that assesses our theoretical expectations regarding sanctions' effect on MNCs' willingness to invest. We summarize our findings in the following tables that provide information for the rate at which the no-investment period ends. To interpret hazard ratios shown in the tables, we note that increasing hazard ratios, i.e. values are greater than 1, mean that the likelihood of the no-investment spell coming to an end increases and, therefore, a new investment project is more likely. Decreasing hazard ratios, represented by values of less than 1, mean that the no-investment period lasts longer, and a new investment is less likely to take place.

We report specifications with the *Sanction* variable including and excluding controls in Model 2 and Model 1 of Table 1, respectively. Model 3 controls for Russia's response to sanctions using countermeasures against sender countries. Model 4 replaces our ordinal measure of company size (*Company category*) with variables gauging MNCs' characteristics more precisely (*Number of employees*, *Profit margin*, *Operating revenue*, and *Total assets*). Model 5 uses the same specification as Model 2, but the estimation technique is Cox regression, instead of Weibull. Models 1–5 show that sanctions exert significant influence on companies' investment decisions.

Our findings show that sanctions tend to decrease the odds of investment announcement by 59% in Model 1. In addition, we estimate a decrease in new investment odds of 24% in Model 2, 23% in Models 3 and 5, and 34% in Model 4, when controlling for all other political and economic variables. This implies that companies become more cautious in their planning and defer new investments when sanctions are in place. Our consistent results in Models 1–5 lend support to the hypothesis that sanctions make Russia a less attractive host country for FDI and slow down new investment activity in the country.

Note that our results remain unaffected if we run separate models for companies' first investment in our sample, and investments for companies that already have at least one investment in Russia, as shown in Table A8 in the Online Appendix. Similarly, the adverse impact of sanctions on new investments remains robust to alternative operationalizations of sanctions. Specifically, Table A11 reports results from models that replace our main sanctions variable with a sanction count (Models 1 and 2), sanction duration (Models 3 and 4) and an ongoing sanction dummy (Models 5 and 6). These findings are in line with the anticipated negative impact of exposure to sanction-related risks on MNCs' investment behavior. In sum, our theoretical expectations summarized in Hypothesis 1, as well as Auxiliary expectations 1-1 and 1-2, find empirical support in these additional tests.

Other informative results emerge in Table 1. Specifically, we find that *Investment frequency* is an important determinant of new investment, which points to MNCs' herd behavior. As the frequency of other companies' investments increases, companies appear to mimic the investment decisions of other companies. Thus, the no-investment period is reduced, i.e. a new investment project becomes more likely. Consistently with our expectation that MNCs would regard Russia's backlash against sanctions as a sign of increasing hostility between the target country and senders and, hence, become more hesitant to invest, the coefficient on *Countersanction* reaches statistical significance and points to a substantial decline in investment likelihood. Finally, our results show that companies are less likely to make new investments as *Consumer price index*, *GDP per capita*, and *Russia's polity* increase, and as *Population*, *GDP growth*, and *Government spending* decrease.[34]

**Table 1.** Models of companies' investment decisions.

| | Model 1 (Weibull) | Model 2 (Weibull) | Model 3 (Weibull) | Model 4 (Weibull) | Model 5 (Cox) |
|---|---|---|---|---|---|
| Sanction | 0.41** | 0.76** | 0.77** | 0.66** | 0.77** |
| | (0.02) | (0.06) | (0.06) | (0.08) | (0.06) |
| Countersanction | | | 0.00** | | |
| | | | (0.00) | | |
| Consumer price index | | 0.99* | 0.99* | 0.99 | 0.99* |
| | | (0.00) | (0.00) | (0.00) | (0.00) |
| Exchange rates | | 1.01* | 1.01* | 1.01 | 1.01* |
| | | (0.01) | (0.01) | (0.01) | (0.01) |
| Russian exports | | 1.00 | 1.00 | 1.01 | 1.00 |
| | | (0.01) | (0.01) | (0.02) | (0.01) |
| Russian imports | | 1.01 | 1.01 | 1.01 | 1.01 |
| | | (0.01) | (0.01) | (0.02) | (0.01) |
| Russian reserves | | 1.00 | 1.00* | 1.00 | 1.00 |
| | | (0.00) | (0.00) | (0.00) | (0.00) |
| Oil price | | 1.00 | 1.00 | 1.00 | 1.00 |
| | | (0.00) | (0.00) | (0.00) | (0.00) |
| Population | | 1.19* | 1.19* | 0.85 | 1.03 |
| | | (0.09) | (0.09) | (0.16) | (0.06) |
| GDP per capita | | 1.00** | 1.00** | 1.00** | 1.00** |
| | | (0.00) | (0.00) | (0.00) | (0.00) |
| GDP growth | | 1.06** | 1.06** | 1.07** | 1.06** |
| | | (0.01) | (0.01) | (0.03) | (0.01) |
| Government spending | | 1.16** | 1.16** | 1.21 | 1.13** |
| | | (0.06) | (0.06) | (0.13) | (0.05) |
| Russia's polity | | 0.74** | 0.74** | 1.39 | 0.78** |
| | | (0.06) | (0.06) | (0.25) | (0.05) |
| Investor country's polity | | 0.99 | 0.99 | 0.99 | 0.99** |
| | | (0.01) | (0.01) | (0.02) | (0.01) |
| Distance | | 0.91 | 0.91 | 0.98 | 0.89** |
| | | (0.06) | (0.06) | (0.10) | (0.03) |
| Investment frequency | | 1.01** | 1.01** | 1.01** | 1.01** |
| | | (0.00) | (0.00) | (0.00) | (0.00) |
| Dissimilarity | | 1.08 | 1.08 | 1.00 | 1.09* |
| | | (0.07) | (0.07) | (0.10) | (0.04) |
| Company category | | 1.01 | 1.01 | | 0.99 |
| | | (0.03) | (0.03) | | (0.02) |
| Number of employees | | | | 0.93 | |
| | | | | (0.07) | |
| Profit margin | | | | 1.11 | |
| | | | | (0.07) | |
| Operating revenue | | | | 1.23 | |
| | | | | (0.13) | |
| Total assets | | | | 0.87 | |
| | | | | (0.07) | |
| Observations | 515,424 | 307,014 | 307,014 | 91,957 | 307,014 |
| Log likelihood | −23,506.83 | −13,589.26 | −13,585.82 | −4,117.29 | −25,438.06 |

*Note:* Exponentiated coefficients; DV: New investment; standard errors, clustered on parent firm, in parentheses. Unit of analysis: firm-month. * $p < 0.05$, ** $p < 0.01$.

### Do firms respond differently to sanctions by home governments?

When the sanctioner is MNCs' home government, their decision to invest could be affected by additional uncertainty and increased vulnerability to political risks, which may affect direct investments in the target country in the long run. Theoretically, MNCs' investment decisions should be more responsive to sanction-generated uncertainty when conflict escalation is more likely and when countries can impose sizeable costs on their opponents. The cautionary effects of uncertainty may be larger if, for example, sanctions are imposed by the US or EU, which are major powers and have significant economic and political links to Russia. At the same time, MNCs should take into account the likelihood of retaliation by the target government: sender countries' firms can expect additional costs from escalating conflict if the target chooses to impose countersanctions or take other punitive actions against senders' MNCs. To evaluate firms' responses to sanctions imposed by their home governments and other senders, we disaggregate sanctions and investments by matching MNCs with their home governments and identifying those governments' use of economic coercion.

Figure 1 illustrates main results from six Weibull models that serve as a test of the relationship between the identity of sender countries and MNCs' investment decisions. Table A17 in the Online Appendix reports the full results. We consider whether sanctions by two major economic and political powers, i.e. the US and EU, result in different investment decisions, depending on companies' home country. For these analyses, we replace *Sanction* with dummy variables for US and EU sanctions as main explanatory variables in Models 1–3 and Models 4–6, respectively. After full-sample tests in Models 1 and 4, we conduct split-sample tests. Models 2 and 5 gage the influence of sanctions on MNCs' decisions when sanctions are imposed by their home countries, while Models 3 and 6 evaluate the effect of US and EU sanctions on MNCs from other countries.

We find that new investments are significantly delayed when sanctions are imposed by the US, and the decline in sanction likelihood is particularly large for US firms. While the hazard ratio on *US sanction* in Model 1 suggests that the no-investment period increases by 24%, the hazard ratio in the US sample indicates an increase of 37% in time until a new investment, compared with months without US sanctions. There is a similar delay of investments when the EU imposes sanctions: according to Model 4, the no-investment period is 35% longer under sanctions, but European firms are less responsive to EU sanctions than non-EU MNCs. While the no-investment period increases by 42% for non-EU firms, it only goes up by 30% for EU firms. These results appear to suggest that EU MNCs are less concerned about detrimental effects of EU sanctions than non-EU companies, in contrast to our expectation of home companies' greater uncertainty and willingness to invest. At the same time, EU sanctions are not imposed by an individual government, but by an international institution, which may affect MNCs' risk perception.[35] In addition, we estimate a model, which includes an interaction between the ongoing sanction indicator and a dummy capturing whether a firm's home government imposed sanctions against Russia (the *Sender firm* dummy). The results reported in Table A12 and illustrated in Figure A1 in the Online Appendix show that, even though all firms are less willing to bring new investments to Russia during the period under sanctions, firms from sender countries are particularly hesitant to invest in the targeted country. Overall, our results suggest that both sender and non-sender MNCs are responsive to risks generated by major powers, consistently with our Auxiliary Expectations 1-1 and 1-2.

Results for other variables in Table A17 are similar to findings in Table 1. New investment projects are more likely as *Consumer price index*, *GDP per capita*, and *Russia's polity* decrease. In contrast, increases in *Population*, *GDP growth*, *Government spending*, and other companies' investments in Russia measured by *Investment frequency* are associated with MNCs' greater willingness to make new investments.

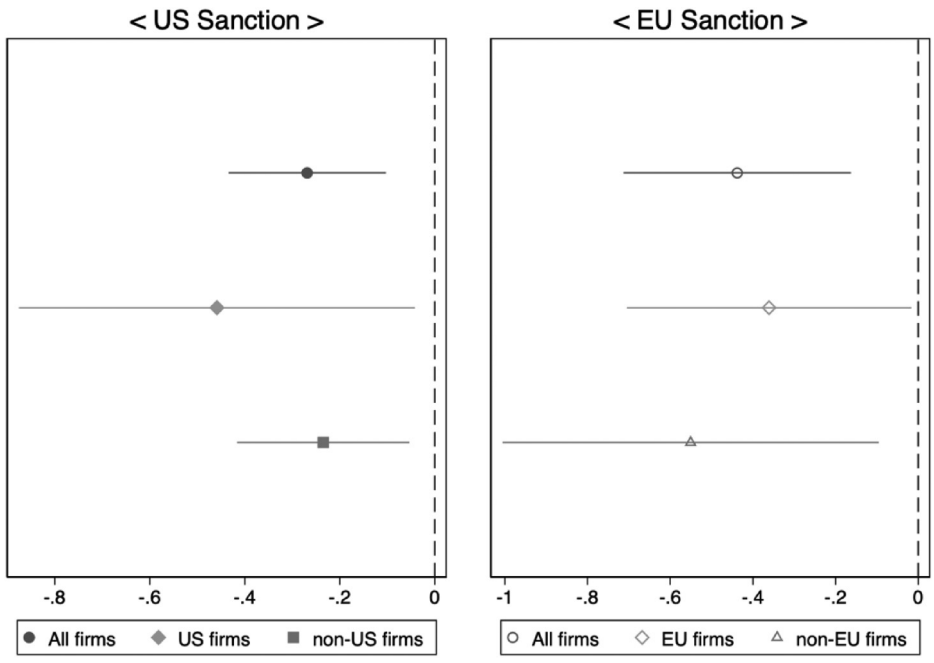


**Figure 1.** The sanction coefficient plot by sender and firm origin.
*Note:* The plot shows coefficient estimates and 95% confidence intervals.

## *Do sanctions affect investment project size?*

While our argument focuses on the relationship between sanctions and MNCs' investment timing, it is worth considering whether sanctions may also force companies to adjust by reducing investment size. To estimate models addressing this possibility, we use two measures of investment project size from fDi Markets: *FDI amount* captures a company's capital investment (in million USD), and *Job number* is an estimate of the number of new jobs created by the investing MNC. We specify these models by including the same regressors as in Model 4 of Table 1. To deal with the censored dependent variables (*FDI amount* and *Job number*), which only take non-zero values when an MNC announces a new investment, we use tobit as the estimation technique. Table 2 reports these results.

As our investment project size analyses show, the coefficients on the *Sanction* variable are negative and statistically significant in full-sample models (i.e. Models 1 and 4), which indicates that MNCs respond to sanctions by planning to invest less in the target country and creating fewer jobs as well. This evidence suggests that MNCs' risk management strategy during sanctions not only produces investment delays, but also results in scaled down investment projects.

An alternative approach to using information on MNCs' economic sectors is to construct an indicator of companies' vulnerability to the obsolescing bargain, and estimate project size models separately for highly vulnerable and less vulnerable companies. We follow Kerner and Lawrence's approach to identify companies' fixed capital intensity and hence vulnerability to political risks during sanctions. Using the measure of net PPE (or Plant, Property and Equipment, net of depreciation and depletion), this approach indicates that "net PPE constitutes over 50 per cent of assets in the mining and utilities industries, is closer to 20 per cent of assets in the information

and manufacturing industries, and less than 10 per cent in services and wholesale trade" (Kerner and Lawrence, 2014: 114). We code a dummy variable based on MNCs' NACE Classification Codes: it takes the value of 1 for companies with substantial fixed capital concentration, i.e. companies in sectors with PPE of 20% or above, and a value of 0 otherwise. We expect high-PPE companies to be more responsive to risks associated with sanctions, which should result in more significant investment size reductions than in the case of low-PPE companies with their greater asset flexibility and lower exposure.

Models 2, 3, 5, and 6 in Table 2 show four tobit models using the baseline specification from Models 1 and 4. We make one modification: we split the sample by industry type, i.e. high-PPE and low-PPE companies. We find that sanctions reduce investment project size, measured as the investment amount and the number of new jobs, for high-PPE MNCs. At the same time, the results in Models 3 and 6 are not statistically significant, which indicates that low-PPE companies do not adjust the size of their investment projects during sanctions. Therefore, in addition to MNCs' overall greater reluctance to make new investments in Russia after sanction initiation, companies in high-PPE sectors (such as mining and manufacturing) also mitigate their sanction-related risks by reducing the size of new investment projects in the country.

We also conduct tests by economic sector. These split-sample models investigate differences in investment decisions by MNCs in the primary sector (such as mining), secondary sector (such as manufacturing), and tertiary sector (such as financial services). The hazard ratio for the sanction variable is less than one in all models, and it reaches statistical significance at the 0.05 level for the secondary and tertiary sectors, as we report in Table A15 in the Online Appendix. This indicates that firms in different economic sectors should vary in their responses to increasing political uncertainty. MNCs in the primary sector seek access to local resources and may have few viable alternatives elsewhere, while firms in other sectors are not similarly constrained and can redirect new investments to other countries when political risks grow owing to sanctions.

## Robustness checks

The Online Appendix reports several additional tests. First, we consider whether investors' response to sanctions changes if we control for other domestic and international factors linked to political risk. Specifically, we include a binary indicator, *BIT*, to capture the effect of bilateral investment treaties. If these agreements serve as an insurance policy against expropriation or any other adverse government action for MNCs from countries which signed a BIT with Russia, these MNCs' investment decisions during sanctions should not differ from their decisions prior to sanctions. Table A3 in the Online Appendix shows that, while a BIT with Russia does not affect investment timing, BITs do play a role in company decision-making under sanctions. Split-sample analyses suggest that, even though sanctions increase the length of a no-investment period for all MNCs, companies from countries without BITs wait the longest.

Another political risk factor is an election in the target country. We code two variables, one for a legislative election, and another for a presidential election in Russia. Elections could be associated with peaceful power transition and policy changes, or with protest and domestic unrest if election outcomes are perceived as tainted or illegitimate, as was the case with the 2011 legislative election when mass protests took place in Bolotnaya Square in Moscow and other cities around the country. Results in Table A4 in the Online Appendix suggest that legislative elections lead MNCs to postpone new investments, whereas presidential elections have the opposite effect. Model 2 in Table A4 replaces election variables with Moody's risk rating as a measure of overall risk, as explained in the Online Appendix. All credit rating agencies downgraded Russia's risk rating in 2014, indicating a

**Table 2.** Models of investment project size.

| | Model 1 (All) | Model 2 (High PPE) | Model 3 (Low PPE) | Model 4 (All) | Model 5 (High PPE) | Model 6 (Low PPE) |
|---|---|---|---|---|---|---|
| | DV: *FDI amount* | | | DV: *Job number* | | |
| *Sanction* | −31.00* | −52.74* | −2.89 | −87.27* | −138.32** | −12.54 |
| | (14.06) | (22.11) | (10.62) | (33.95) | (49.73) | (35.58) |
| *Consumer price index* | −0.58 | 0.05 | −0.86 | −1.14 | 0.63 | −2.85 |
| | (0.54) | (0.77) | (0.46) | (1.35) | (1.91) | (1.59) |
| *Exchange rates* | 0.23 | −0.72 | 0.88 | −0.48 | −3.33 | 2.79 |
| | (1.04) | (1.52) | (0.92) | (2.70) | (3.82) | (3.10) |
| *Russian exports* | −4.71* | −8.90* | 0.10 | −11.98* | −22.44** | 0.75 |
| | (2.30) | (3.54) | (1.86) | (5.56) | (7.85) | (6.29) |
| *Russian imports* | 5.96* | 9.81** | 1.00 | 14.61** | 23.91** | 2.59 |
| | (2.39) | (3.74) | (1.74) | (5.39) | (7.77) | (5.84) |
| *Russian reserves* | 0.04 | −0.04 | 0.09 | 0.12 | −0.06 | 0.30 |
| | (0.08) | (0.13) | (0.06) | (0.20) | (0.31) | (0.21) |
| *Oil price* | 0.08 | 0.84 | −0.56 | −0.01 | 1.74 | −1.82 |
| | (0.44) | (0.68) | (0.36) | (1.10) | (1.58) | (1.22) |
| *Population* | 11.76 | 29.95 | −9.51 | 37.70 | 82.88 | −37.61 |
| | (15.08) | (22.35) | (13.11) | (38.88) | (52.45) | (46.41) |
| *GDP per capita* | −0.02 | −0.02 | −0.01 | −0.04 | −0.03 | −0.05 |
| | (0.01) | (0.02) | (0.01) | (0.03) | (0.04) | (0.03) |
| *GDP growth* | 2.82 | 3.33 | 1.34 | 8.98 | 10.39 | 4.45 |
| | (2.36) | (3.57) | (1.96) | (6.00) | (8.66) | (6.60) |
| *Government spending* | 11.60 | 20.95 | −0.92 | 38.02 | 62.48 | −3.37 |
| | (10.82) | (16.02) | (9.44) | (27.99) | (39.35) | (31.99) |
| *Russia's polity* | −10.73 | 0.75 | −12.95 | −19.95 | 21.93 | −51.61 |
| | (20.69) | (29.69) | (15.74) | (50.37) | (69.34) | (52.55) |
| *Investor country's polity* | −1.78 | −1.51 | −1.52 | −4.86 | −4.21 | −5.03 |
| | (1.15) | (1.43) | (1.44) | (3.10) | (3.79) | (4.89) |
| *Distance* | −14.74* | −19.79* | −2.71 | −33.25* | −42.09 | −7.54 |
| | (6.82) | (9.73) | (5.73) | (15.78) | (21.52) | (19.53) |
| *Investment frequency* | 0.88** | 1.43** | 0.18 | 2.19** | 3.50** | 0.38 |
| | (0.30) | (0.45) | (0.23) | (0.71) | (0.99) | (0.76) |
| *Dissimilarity* | −0.15 | 7.14 | −4.20 | −2.13 | 14.11 | −12.37 |
| | (6.23) | (9.35) | (5.53) | (16.29) | (22.58) | (19.16) |
| *Number of employees* | −0.34 | 15.80 | −3.66 | 3.51 | 44.75* | −8.48 |
| | (4.89) | (10.45) | (3.11) | (11.97) | (21.97) | (9.53) |
| *Profit margin* | 13.42* | 12.44 | 6.94 | 28.76* | 22.70 | 21.74 |
| | (5.98) | (8.61) | (4.26) | (13.61) | (19.55) | (14.78) |
| *Operating revenue* | 26.60** | 24.57 | 15.30** | 63.59** | 66.17 | 46.31** |
| | (8.84) | (17.58) | (5.41) | (19.44) | (41.62) | (17.81) |
| *Total assets* | −16.22* | −24.45 | −8.16* | −41.53** | −71.56 | −26.55* |
| | (6.66) | (16.63) | (3.57) | (15.10) | (37.21) | (12.16) |
| Observations | 91,957 | 55,500 | 35,687 | 91,957 | 55,500 | 35,687 |
| Log likelihood | −9,025.67 | −5,743.08 | −3,109.09 | −9,810.90 | −6,208.73 | −3,457.23 |

*Note:* Tobit models; DV: FDI amount (Models 1–3) or Job number (Models 4–6); standard errors, clustered on parent firm, in parentheses. Unit of analysis: company-month.

* $p < 0.05$, ** $p < 0.01$.

deterioration of political and economic environment for investors. The risk rating has no effect on investment timing. Models 3 and 4 replace the risk rating variable with other measures of risk, such as rule of law and regulatory quality, and property rights protection and restrictive regulation, respectively (the Online Appendix describes data sources and coding). As Russia's rule of law and property rights protection improve, indicating a lower level of risk, MNCs are more willing to plan new investments. Note that none of these modifications affect our main finding: sanctions remain robustly linked to delays in new FDI projects in Russia.

Second, we rule out that Russia's aggressive foreign policy behavior explains declining new investments. We use the Russia–Georgia crisis of August 2008 to investigate whether aggressive foreign policies alone are sufficient to deter new FDI. This crisis was not followed by sanctions and, surprisingly, may have boosted new FDI in the short run, as Models 1–4 of Table A9 indicate. The FDI from Georgia is an exception: it declines dramatically after the 2008 crisis (Models 5 and 6 in Table A9).

Third, we address the possibility that our results are driven by Russia's opponents or countries aligned with the US. We use data on countries' foreign policy alignment with Russia and the US to split our sample into these countries' supporters and opponents. Findings reported in Table A13 and illustrated in Figure 2 suggest that MNCs in all four groups respond to sanction-linked political risk

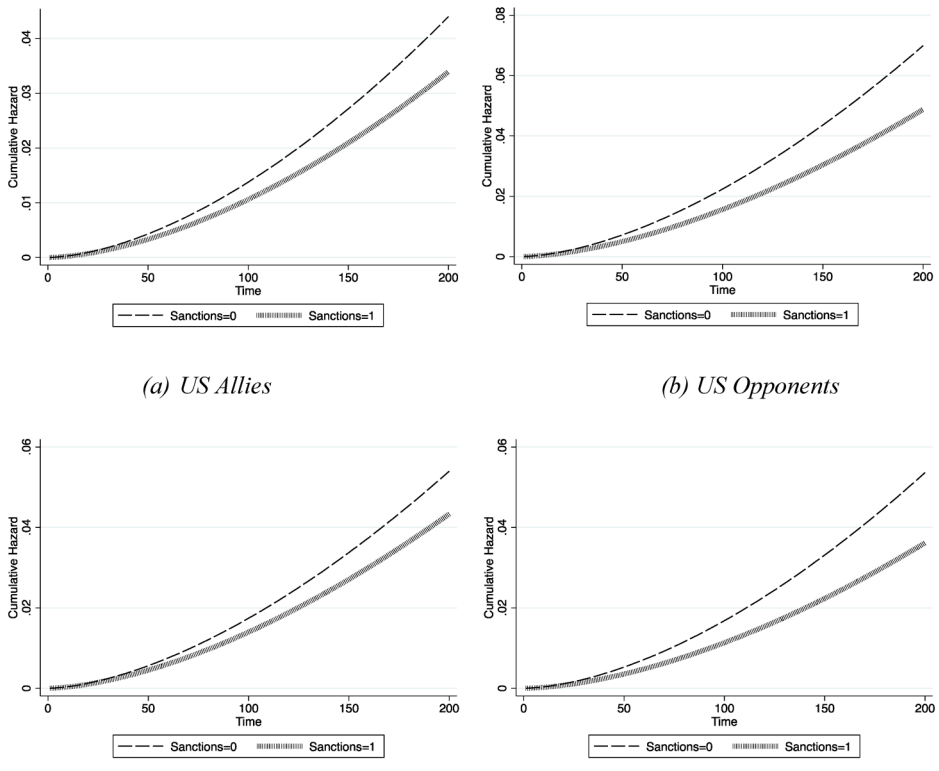


**Figure 2.** Cumulative hazard function for US allies/opponents and Russian allies/opponents.

quite similarly (Models 1–4). Moreover, China, a key US rival, does not appear to take advantage of reduced competition from EU and US firms (Model 5 in Table A13).[36]

Fourth, to evaluate the generalizability of our results, we use country-level information on FDI inflows as a share of GDP and apply a matching method for time-series cross-sectional data. Figure A2 in the Online Appendix demonstrates that the relationship between FDI inflows and sanctions is negative for four out of five periods, and reaches statistical significance at $t = 1$. This finding for the year after sanctions initiation is also substantively significant: FDI inflows decline by 0.6% as a share of GDP. Given that the median value of the FDI variable equals 1.32, the estimated loss of new foreign investments owing to sanctions is substantial. This result is consistent with our main findings and serves as preliminary evidence that sanctions' adverse effect on new investments extends beyond Russia.

Finally, we consider the possibility that Russia's economic data may be inaccurate, given that its non-democratic political regime has incentives to manipulate data (Martinez, 2022). To address this issue, we conduct several robustness checks by dropping host country controls from our specifications and including year fixed effects, as reported in Table A14 of the Online Appendix. Our main result remains unaffected.

## Conclusion

Do sanctions affect foreign direct investments? In this article, we argue that sanctions, despite the widespread pessimism regarding their effectiveness, have a significant impact on multinational companies' willingness to invest in the targeted economy. We show that sanctions discourage foreign investors, and by doing so, they impose additional costs on the target's economy, depriving it of capital and stunting its growth in the long run. Our empirical focus is on a recent case of sanctions imposed against Russia. In particular, we use firm-level monthly data on almost 3,000 companies to evaluate their decisions to invest in Russia over a 15-year period. We compare investment decisions made by MNCs before and after sanction imposition against Russia, in response to this country's conflict with Ukraine.

Our findings support the theoretical argument that sanctions generate significant international political risks, and companies respond to the risks by adjusting the timing of new investment announcements. When we control for effects of a variety of control variables and use different estimation techniques, sanctions delay new investment projects. We also find that all companies seek to delay new projects during US and EU sanctions. Moreover, our analysis suggests that MNCs may reduce the size of their investment projects in the target country, although this effect appears to be driven mostly by MNCs in sectors with substantial fixed capital concentration. Our tests help us differentiate between our causal mechanism and an alternative one, centering on an interstate crisis as a factor driving investors' behavior change: we show that MNCs did not slow down new investment activity in Russia during the Georgia crisis, when Russia avoided sanctions, whereas sanctions in response to the Ukraine crisis triggered an investor response. Therefore, our results suggest that MNCs pay attention to responses to a crisis by the international community and especially its most powerful members—i.e. sanctions imposed by the US and members of the EU members—rather than aggressive foreign policies that result in a crisis.

While this study is the first to use firm-level data to assess sanctions' impact on investor behavior, we suggest a fruitful direction for further research. Specifically, we recognize the importance of evaluating the generalizability of our conclusions. Our empirical tests focus on Russia; future research should analyze the relationship between MNCs' new investment activity in other targeted countries as well, separating economic and political sanctions, differentiating between dispute

issues, and including more controls. This work would be necessary to conclude that the private sector responds to economic coercion by delaying and scaling down new projects in all sanctioned economies. Nonetheless, our article offers an important first step in analyzing companies' responses to economic coercion, which highlights the value of using firm-level analysis, and controlling for company characteristics as an alternative to looking at aggregate data, which can obscure differences in companies' behavior.

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## Supplemental material

Supplemental material for this article is available online.

## Notes

1. Henry Foy, 13 January 2019. "European businesses see no end to Western sanctions against Russia", https://www.ft.com/content/780a419a-09b7-11e9-9fe8-acdb36967cfc.
2. We rely on the standard definition of sanctions, i.e. the use of economic measures, such as trade or financial restrictions, with the goal of changing the target's behavior (Morgan et al., 2014). For example, the US Treasury Department announced sanctions against a Russian state-owned energy company, Rosneft Trading S.A., under the Executive Order 13662. As a result, the company was excluded from the US financial system, and US companies were prohibited from conducting any transactions with Rosneft.
3. Interview with Ryan Chilcote, 20 May 2014, "Dmitry Medvedev's interview with Bloomberg TV", http://government.ru/en/news/12509/.
4. TASS Russian News Agency, 17 June 2018, "Sanctions have not reduced interest of foreign investors in Russian assets, says PM", https://tass.com/economy/1064149.
5. We also refer to sanctioned countries as "target countries", and sanctioning countries as "sender countries" following the conventional terminology in sanctions research.
6. FDI inflow data are from the World Bank's World Development Indicators. The last year of reported FDI data is 2020.
7. One exception is Barry (2016): although this article does not study sanctions as a determinant of FDI, it does use firm-level data to analyze FDI likelihood. Sanctions scholarship that does analyze company behavior under sanctions focuses on trade flows, rather than FDI (Morgan and Bapat, 2003; Early, 2015).
8. At the same time, autocracies may be in a better position to offer entry incentives for MNCs because autocratic governments are less constrained by citizens' or domestic veto players' preferences (Oneal, 1994). This increases the value of investment in these countries, thereby enhancing their attractiveness as hosts.
9. There are a few notable exceptions, although they focus on sanctioned governments, not MNCs. Farrell and Newman (2019) point out that states seek to exploit risks associated with disruption of "flows of finance, information, and physical goods across borders" (p. 43). States that anticipate such risks look for ways to protect themselves from this coercive pressure. Similarly, McDowell's (2021) research on financial sanctions shows that this type of sanctions increases political risks for sanctioned governments, which seek to reduce their exposure to anticipated risks and hence blunt the coercive power of sanctions.

10. In addition to political risks, companies could experience reputational risks when they have business ties to sanctioned countries. However, some political actors need to activate the reputational mechanism through a stigmatization campaign highlighting the links between multinational corporations and the target state. We leave it for future research to determine whether and when the reputational mechanism could be activated after sanction imposition and what effect on corporate behavior it might have.
11. Hufbauer et al. (1990) conclude that sanctions succeed about 35% of the time. Pape (1997) argues that the success rate is just 5%, while Morgan et al.'s (2013) estimate is between 27 and 56%.
12. The concepts of political risk and uncertainty are distinct but related. Political risk stems from political developments that can impose costs on investors (such as changes in government policies, domestic unrest, shifts in foreign political relations). Multinational corporations draw on their experience and other sources of information to form assessments about the likelihood of such adverse political developments. Uncertainty represents the extent to which political and economic actors are capable of forming an assessment about the likelihood of adverse political changes and their likely impact. Uncertainty stems from incomplete information and is particularly severe when political and economic actors observe infrequent events, such as wars or sanctions, which can then lead to adverse political changes. Therefore, both concepts apply to MNCs' decision-making process, but capture distinct influences.
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21. The dramatic escalation of the conflict and accompanying sanctions in 2022 further illustrate the difficulty of anticipating the trajectory of bilateral relations and business environment in Russia.
22. We include first-time investments, as well as new investments by foreign companies that already have prior investments in Russia. We exclude projects to expand existing operations.
23. See https://www.fdimarkets.com/explore/ for more details.
24. See https://sanctionssearch.ofac.treas.gov/. A total of 693 entities and individuals were on the sanctions list as of 2017. Sanctioned companies come from a broad range of sectors: banks, investment firms,

transportation and logistics companies, oil and gas companies, construction, chemical, mining and manufacturing industry, and include a number of government entities (such as intelligence agencies and state-owned enterprises).

25. See https://eeas.europa.eu/headquarters/headquarters-homepage/423/sanctions-policy_en.
26. We coded these sanctions variables using data from the following sources: https://www.mof.go.jp/international_policy/gaitame_kawase/gaitame/economic_sanctions/list.html (for Japan); https://www.international.gc.ca/world-monde/international_relations-relations_internationales/sanctions/ukraine.aspx?lang=eng (for Canada); https://www.seco.admin.ch/seco/en/home/Aussenwirtschaftspolitik_Wirtschaftliche_Zusammenarbeit/Wirtschaftsbeziehungen/exportkontrollen-und-sanktionen/sanktionen-embargos/sanktionsmassnahmen/suche_sanktionsadressaten.html (for Switzerland); https://www.dfat.gov.au/international-relations/security/sanctions/Pages/consolidated-list (for Australia).
27. The dataset includes all firms that invested in Russia at least once during the entire time period.
28. We relied on two databases of the Russian government's orders and directives for information on counter-sanctions: http://kremlin.ru/acts/bank and http://government.ru/docs/.
29. FDI in Russia: Trends Report. fDi Markets.
30. All economic controls, such as GDP per capita and government spending, are lagged one year.
31. The problem of missing data for these four variables is particularly severe for companies with lower values of *Company category,* i.e. smaller companies.
32. We use Weibull models as our main empirical method owing to their advantages over alternative techniques, such as logit and Cox hazard models. First, Weibull allows us to model time to event data and can handle censoring more efficiently, which is not possible with logit models. Second, the Weibull model can accommodate both increasing and decreasing hazard functions, whereas the Cox model assumes a constant hazard function.
33. We find that our main result remains unchanged when we use logit or Cox hazard models. We report these additional models in the Appendix (Tables A3 and A4).
34. In the Appendix, Tables A1 and A2 report a series of robustness checks for our main models. The results in Table A1 are based on modifications of our baseline Weibull models, while Table A2 reports logit and Cox proportional hazard models. Regardless of methods and specifications used, sanctions are negatively and significantly associated with the likelihood of new investments.
35. If we focus on Germany as a dominant EU actor and re-run the EU sanctions model on subsamples of German MNCs and other MNCs, we find that German companies' investment decisions show the expected pattern for companies whose home governments initiate economic coercion. The no-investment period increases by 53% under sanctions for German MNCs, while for other firms it only increases by 32%, as Table A18 reports in the Appendix. The results are significant at conventional levels.
36. As noted by Lektzian and Biglaiser (2013), China is an ideal case for identifying the influence of great power rivalry on investment decisions by third-party countries. However, we do not find significant effects.

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