Exiting Russia

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Version: December 2025

Abstract

As of 24 February 2022, over forty thousand foreign-invested firms operated in Russia, a host state that initiated an interstate war—an exceptional shock in the modern era of economic globalization. Using company registration data, we document that after 18 months of war, 33.3% of foreign-invested firms had changed ownership or become inactive. We conceptualize exit as a politicized transaction in which sellers and buyers face external pressures and bargain over terms. Concerning pressures to sell, those in consumer-oriented industries were more likely to exit. On bargaining, we find Russian state interests consequential: foreign-invested firms already under Russian managerial control were more likely to exit, whereas those in Russian strategic industries were not. Despite extraordinary economic sanctions to isolate Russia, and surging social backlash against doing business in Russia, results imply that multinationals are at best unstable tools of economic statecraft, even in the midst of war.

Keywords: foreign direct investment, multinational corporation, exit, Ukraine, Russia, war, political risk, economic statecraft

Word count: 11,345 (excluding references)

Acknowledgments: The research is supported by NSF RAPID grant #2234188/9. We thank Christina Davis, Clint Peinhardt, In Song Kim, Eddy Malesky, David Szakonyi, Yue Lin, Julia Morse, Victoria Liu, Bumba Mukherjee, Joe Wright, Lukas Linsi, Natalia Lamberova, and audiences at the International Political Economy Society (2023), International Studies Association (2023), the American Political Science Association (2023), the PSU-Pitt Joint IR Workshop (2024), and the London School of Economics (2024). For excellent research assistance, we thank teams of student researchers from Innovations for Peace and Development at UT Austin led by Rachel Jeon, with special thanks to Artem Kvartalnov, Vedanth Ramabhadran, Emily Doan, Yunyi Huang, and AJ Torok. At Penn State, we thank Lingbo Zhao, Tuba Sendinc, Tyler Suman and Angel Villegas-Cruz and a team of graduate and undergraduate research assistants: Sam Bilotta, Shyam KC, Veronika Miskowiec, David Morgan, Savannah Morris, Chris Thomas, Alexandra Ward, and Lisi Wei. All errors are our own. Authors are listed alphabetically, indicating equal contributions.

Introduction

As the world watched Russia launch its full-scale invasion of Ukraine on 24 February 2022, more than forty thousand foreign-invested firms were operating in the country, according to novel data introduced in this article. Almost overnight, an unprecedented array of state and non-state actors demanded answers: would these firms exit Russia? For example, we document "name, praise, and shame" lists of thousands of firms circulating online, compiled by scholar-activists and grassroots groups and with titles such as "Boycott Russia" and "Squeezing Putin."[1] The possibility of mass exodus of foreign direct investment (FDI) also triggered angst in Russia; anti-exit/pro-Russia lists included one titled #WeRememberEverything. Foreign-invested firms confronted a dilemma—follow pro-exit pressure and withdraw from the Russian market, or stay and weather this extraordinary realization of political risk.

Under contemporary economic globalization capital flight has always concerned so-called hot money in short-term portfolio investment, with FDI as the stable cousin on which many developing states' long-term economic development plans have rested (Dunning and Lundan, 2008). A sudden, economy-wide outflow of FDI in response to a common political shock has been thought unrealistic. Although, while FDI is often treated as an aggregate capital flow, the statistic in fact reflects the decisions of individual foreign-invested firms, each holding differentiated assets and embedded in distinct commercial and political relationships.[2] Moreover, foreign-invested firms are autonomous actors with decision-making authority over the assets they already own and operate abroad. While a coalition of states has initiated an unprecedented breadth of coordinated sanctions against Russia, preexisting foreign investments in Russia have been predominately outside their scope, underscoring that the choice over exit is not simply a matter of legal compliance.

From the Russian point of view, that each foreign-invested firm was suddenly, simultaneously pondering exit risked deep disruptions to the highly-integrated economy. It became clear that the Putin administration was not responding with a strategy of mass expropriation, which may have risked irreparable damage to Russia's long-term reputation. Instead, in short order the Putin administration set up legalized, bureaucratic mechanisms that have allowed the Russian state to interfere with foreign-invested firms' ability to voluntarily exit. Conceptually, policies that restrict FDI exit in response to the risk of widespread FDI flight are analogous to capital controls deployed in response to the risk of a sudden stop in capital markets (Edwards, 2007).

[1] Appendix 3. Within six months, over 7,000 articles in more than 100 English-language outlets debated whether foreign-invested firms would exit Russia; Dow Jones's Factiva introduced dedicated search functions on the topic.

[2] We use the term "foreign-invested firms" to refer to enterprises engaged in FDI. These firms are subsidiaries of parent companies, or global ultimate owners (GUOs). Put differently, this study examines subsidiaries of multinational corporations (MNCs), with a focus on heterogeneous outcomes at the subsidiary level.

In short, after Russia's full-scale invasion of Ukraine foreign-invested firms faced multifaceted pressures to make the voluntary choice to exit, as well as limitations on the ability to do so. To theorize the factors at play and evaluate their net effects, we recognize that exit involves a transaction, in which a foreign-invested firm chooses to sell its assets to some buyer at some terms. In this time of war, sellers, buyers, and terms are deeply politicized. Building on the exit-as-a-transaction framework, we examine both the pressures firms face to exit and the terms under which exit occurs. All else equal, firms experiencing greater pressure to sell are more likely to do so, as are firms that can negotiate more favorable terms. We conceptualize exit pressure along political, social, and economic dimensions, including home-state pressure, exposure to activism, and dependence on consumer markets. We use factors shaping host–firm interactions to consider bargaining terms, including Russia's ability to exert managerial control, the strategic importance of a firm's assets, and the mobility of those assets.

This normatively consequential and theoretically unprecedented setting allows us to assess observable implications derived from our framework. We use firm registrations and official record-keeping to construct our sample of foreign-invested firms in Russia prior to the full-scale invasion (as of 31 December 2021). We then compare these firms' pre-invasion owners to those after 18 months of conflict (as of 31 August 2023). We find that 33.3% of foreign-invested firms exited by this point, meaning that the firm was no longer in operation under the same foreign ownership.[3] This aggregate exit rate is indeed higher than historical rates, which we also compile; prior to the study period, the annual exit rate had been declining for several years to 25.3% in the immediate pre-invasion period (2020-2021).[4] We construct a variety of novel measures to examine the determinants of exit in the immediate post-invasion period.

Regarding theory on sellers' motivations, our top-line finding is that foreign-invested firms in consumer-oriented industries were more likely to exit. Whereas, our results suggest tempering expectations over the effect of generalized social backlash on exit. Specifically, we match 16.3% of pre-invasion foreign-invested firms to "name, praise, and shame" lists that circulated on the Internet, but we find robust evidence that matched firms are in fact *less* likely to exit Russia. Further, we find little to no evidence that home state economic statecraft vis-a-vis Russia predicts exit. On foreign-invested firms' bargaining power, we find compelling evidence that Russian state interests influence outcomes. We expect that the Russian state is indifferent to or even supportive of exit if there is domestic Russian capacity to operate the business absent foreign ownership. We find support for the observable implication that investors in foreign-domestic joint ventures already under Russian managerial control were more likely to exit in the study period. In contrast, we expect that the Russian state is opposed to exit if and when

[3] 27.9% were actively operating under a new owner and 5.4% became inactive, which includes outcomes like liquidation.

[4] We confirm that nothing that could be characterized as FDI flight occurred at the beginning of Russian aggression against Ukraine in 2014. Placebo tests using 2013-2014 and 2020-2021 data give further insight into the uniqueness of the study period.

foreign owners are instrumental to the business. We find support for the observable implication that foreign-invested firms operating in industries deemed strategic by Russia are less likely to exit in the study period.[5] Additionally, we find some evidence that the intensity of fixed assets in a firm's industry, which theory suggests decreases the credibility of the *threat* of exit, also reduces the likelihood of exit.

Our study speaks to two strands of literature. First, there is renewed interest in the geopolitical implications of economic interdependence (Farrell and Newman, 2019; Aiginger and Rodrik, 2020; Aggarwal and Reddie, 2021). A central argument is that states may leverage their positions within global economic networks in pursuit of political objectives. One point our study makes clear is that in the contemporary era of economic globalization, multinationals are, at best, unstable tools of economic statecraft, even in the midst of interstate war.

Second, our findings underscore the need for a better understanding of firm exit within the political economy of FDI. Much nuanced work examines the conditions under which multinational corporations (MNCs) enter new markets abroad (see Pandya (2016) for a review). In contrast, the field's understanding of MNCs exiting markets remains deeply rooted in the classic obsolescing bargain model (Vernon, 1971), which speaks to expropriation—a situation in which exit is not voluntary. We argue that exit should be conceptualized as a transaction through which firms seek to recover value from their invested assets. The exit-as-transaction framework can accommodate expropriation, wherein the host state coerces a sale at non-market terms to a non-preferred buyer (Li, 2009; Hajzler, 2012; Mahdavi, 2014; Jensen et al., 2020). Crucially, the framework can also accommodate voluntary divestment, wherein MNCs choose to sell (Boddewyn, 1983; Sethuram and Gaur, 2024). Our generalizable framework is even more important in light of economic statecraft efforts, demands for re-shoring, and generally shifting geopolitical dynamics, all of which have profound implications for the organization of global production (Antràs, 2020; Baldwin and Freeman, 2022).

In what follows, we situate our study in the literatures on FDI and non-market strategy; operationalize exit; derive hypotheses using an exit-as-a-transaction framework; and present results. We close by considering implications for both security and development.

Literature

Research on the political economy of FDI has been cultivating theories that are all the more salient in these exceptional circumstances concerning a state deeply integrated into the contemporary global economy. Scholarship connects foreign investor decision-making and security, in contexts including

[5] Qualitatively, Russia expropriated four large multinational corporations in the study period, which precluded their ability to voluntarily exit (Uniper SE - Germany, Carlsberg - Denmark, Fortum - Finland, and Danone - France). All were involved in Russian strategic industries, per our novel measure (Section: Bargaining over Terms, H2b, and Appendix 7.5).

territorial conflict, civil unrest, and war (e.g. Lee and Mitchell, 2012; Braithwaite, Kucik and Maves, 2014; Carter, Wellhausen and Huth, 2019; Pinto and Zhu, 2022). Much of this work examines the conditions under which MNCs make investments, although the literature teaches us to be circumspect over whether theories of entry are informative over the lifecycle of an investment (Farrell and Newman, 2015; Barry, 2018, 2024; Wellhausen, 2019; Cefis et al., 2022).[6]

The concept of the *threat* of exit, and the determinants of its credibility, is core to our understanding of foreign firm-host state relations. While the conditions at entry can privilege foreign firms in their bargains with host states, those bargains can obsolesce over time, such that power to break or renegotiate the deal shifts to the host (Vernon, 1971). In particular, foreign firms that are reliant on fixed—alternatively known as immobile, site-specific, or non-redeployable—assets in the host state are expected to have little credibility should they threaten to exit (Frieden, 1994; Wright and Zhu, 2018; Pond and Zafeiridou, 2020). What has not happened in the modern era, and thus never been directly examined, is a mass of foreign-invested firms operating in many industries across a deeply integrated economy looking to make good on the threat of exit at the same time.[7] Crucially, foreign firms' physical assets in Russia are not directly threatened by wartime violence, such that from a research design perspective we can avoid the confounding effects of war on physical assets, instead considering effects of the ex ante credibility of the threat of exit operating via a shock to political risk.[8]

A growing literature identifies firm nationality as a key determinant of variation in political risk exposure. Empirical evidence suggests that dyadic political (dis)alignment between the home and host state can drive firm decision-making at entry and, by implication, host government treatment over the life of the investment (Li and Vashchilko, 2010; Stone, Wang and Yu, 2022).[9] The institutional embeddedness literature suggests that emerging-market firms, most of which originate in poorly governed states, possess competitive advantages in weak institutional environments abroad (Cuervo-Cazurra and Genc, 2008), whereas firms coming from states with stronger institutions tend to favor destinations with similar legal environments (Beazer and Blake, 2018, 2021). Nationality also demarcates the resources on which a firm can draw for political risk mitigation, given that diplomacy, international legal institutions, or more coercive means of investment protection are heterogeneous by national origin (Wellhausen, 2015; Polanco, 2019).

What might the literature predict regarding Russia's actions? The form of exit that has received the most attention is expropriation—when exit is not voluntary, but rather the result of a forced ownership

[6]For an approach endogenizing entry and exit, see Johns and Wellhausen (2021). Unfortunately, our data do not allow us to consider reentry (Appendix 8.4).

[7]On exit following sanctions on Myanmar, a considerably less economically-integrated state, see Meyer and Thein (2014).

[8]On immobility and direct exposure to conflict, see e.g. Osgood and Simonelli (2020); Dai, Eden and Beamish (2023).

[9]Although, muted ebbs-and-flows may not have aggregate effects on market actors' behavior (Davis and Meunier, 2011).

transfer without due compensation (e.g. Lipson, 1985; Jensen et al., 2020). Frankly, it came as a surprise to some observers that Russia did not engage in economy-wide expropriations in the study period, with four headline-grabbing expropriations of large foreign-invested firms serving as the exception that proved the rule (Section: Bargaining over Terms; H2b; Appendix 7.5). Instead, Russia rolled out a highly legalized set of adverse policies interfering with foreign-invested firms' transactions (Appendix 2). These are in fact reminiscent of other legalized or legal-adjacent approaches in the Russian domestic political economy (Gans-Morse, 2017; Logvinenko, 2019, 2021; Szakonyi, 2023). From the Russian point of view, the closest analogue to the situation might be a sudden stop in capital markets (Edwards, 2007). Here, foreign-invested firms are the first-movers in seeking exit, and Russia's efforts to discriminate against sales of brownfield assets serve a purpose similar to capital controls.

Last, there are important literatures in the orbit of our study to which we cannot speak. Our focus is on the predictors of foreign-invested firm exit, and not the effectiveness of sanctions or any potential peace (or conflict) dividend of economic (dis)integration.[10] Scholars are also leveraging Russia to study the determinants of foreign firms' announcements of their intentions and executives' attitudes toward exit (Balyuk and Fedyk, 2023; Gurkov, Filinov and Saidov, 2023; Davis, Li and Miyano, 2024; Pham, 2025; Pring, 2024). With our study's strong research design and comprehensive data, we push further to understand how an exogenous shock to political risk of this magnitude has, or has not, resulted in changed foreign-invested firm behavior in the form of divestment.

Data: Operationalizing exit

We draw the list of foreign-invested firms in Russia as of the end of 2021. In terms of research design, at that time foreign-invested firms in Russia were operating in a "pre-treatment" environment prior to the invasion that began on 24 February 2022.[11] Our sources are Bureau van Djik's Orbis Historical Databases available from Moody's Datahub, industry-leading products that compile company information from official and proprietary sources. What we call a foreign-invested firm is an enterprise with a unique Orbis identification number (BVD) that meets the international statistical standard for FDI. That is, foreign ownership in the enterprise meets or exceeds 10%, the agreed upon proxy to capture that foreign interests have meaningful managerial control over the enterprise. By our definition and these best-available data, there were 42,720 active foreign-invested firms in Russia on 31 December 2021; we designate this the pre-invasion sample.

Selection into the sample involves some complexities, discussed in Appendix 7.2. To summarize,

[10] On these questions, see for example Lektzian and Biglaiser (2013), Barry and Kleinberg (2015), and Choi (2023).

[11] Although classified CIA reports noted Russian military movements in December 2021 and January 2022, it was only in February when they became convinced; US President Biden publicized that intelligence on 18 February.

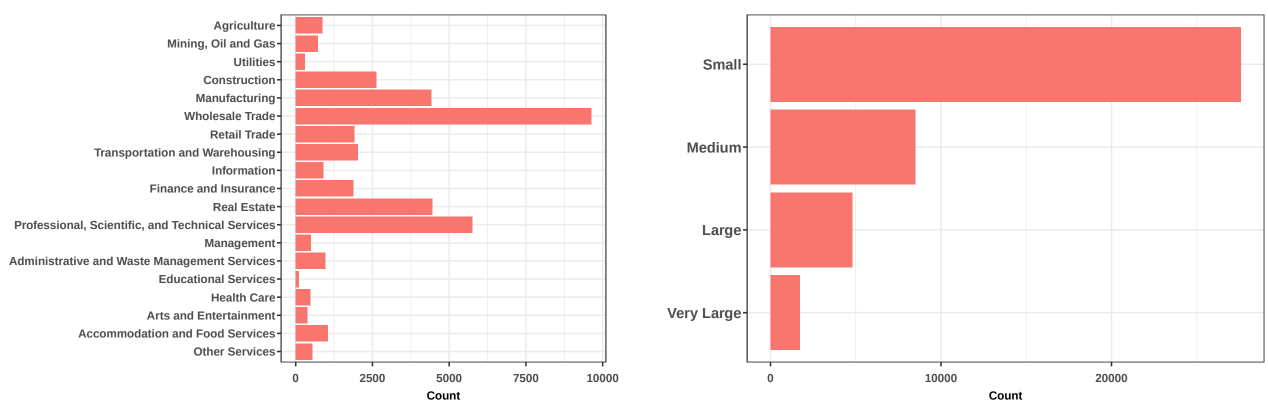
our unit of analysis is the foreign-invested firm, which sits under a parent company.[12] Foreign-invested firms have one or more non-Russian shareholders that own at least a 10% stake. Put differently, this is a study of MNC subsidiaries, with a focus on outcomes at the subsidiary level, as subsidiaries are independent legal entities. If subsidiary-level information is insufficient, an observation is selected into the sample if its parent is not Russian. While Orbis is an industry-leading firm-level information provider, its limitations require analysts to validate rather than assume representativeness (Bajgar et al., 2020). In Appendix 8.2 and 8.3, we benchmark our data against figures reported by the Federal Tax Service (FTS) of Russia to demonstrate the validity and representativeness of our pre-invasion sample.[13]

Pre-invasion sample: Descriptive characteristics

The pre-invasion sample is diverse on many metrics. Figure 1(a) shows that foreign-invested firms were present in all industries. On firm size, Figure 1(b) reveals the huge proportion of pre-invasion foreign-invested firms (64.8%) that are small, with less than EUR 1 million in revenue, EUR 2 million in assets, and/or 15 employees. Only 4.1% are very large, with over EUR 100 million in revenue, EUR 200 million in assets, and/or 1000 employees.[14]

Figure 1. Distribution of Foreign-Invested Firms by Industry and Size, Pre-Invasion Sample

(a) Industry (b) Size



Notes: Bars indicate the count of foreign-invested firms as of the end of 2021. (a) Unique NAICS 2-digit industries. (b) Size definitions in Appendix 9. See Appendix 4 for historical comparisons.

Foreign-invested firms originated from 132 jurisdictions, which we take as their nationality (Appendix 7.4). To provide insight, we leverage Russia's "Unfriendly Countries" List, which Russia began publishing nine days after its full-scale invasion (Список недружественных стран, Appendix 12.2).

[12]The sample includes 20,271 unique parent companies (Orbis: controlling global ultimate owner, GUO50).

[13]In 2021, Orbis contains 93.2% of the 3,379,384 legal entities reported by Russia's FTS. For other studies of Russia using Orbis data, see Gonchar and Greve (2022) and Evenett and Pisani (2023).

[14]Full size definitions in Appendix 9. While many foreign-invested firms (our unit of analysis) are small, their parents may not be; we account for corporate families in analyses.

Jurisdictions on this list "commit unfriendly actions against Russia, its companies, and citizens." In the data, 52 unique home jurisdictions are "unfriendly," accounting for 75.5% of the pre-invasion sample. The remaining 24.5% comes from 80 unique "friendly" home jurisdictions. Table 1 reports the top 20 homes of each type.

Table 1. Top 20 "Unfriendly" and "Friendly" home states

Unfriendly	**Friendly**
Cyprus	Belarus
Germany	Seychelles
United Kingdom	China
Netherlands	Turkey
Ukraine	Armenia
British Virgin Islands	Kazakhstan
United States	Azerbaijan
France	Uzbekistan
Italy	Belize
Switzerland	Hong Kong
Finland	Kyrgyz Republic
Austria	Vietnam
Luxembourg	India
Czechia	Israel
Spain	Tajikistan
Sweden	Serbia
Japan	United Arab Emirates
Latvia	Moldova
Denmark	Marshall Islands
Lithuania	Panama

Of 52 "unfriendly" and 80 "friendly" homes in the pre-invasion sample (Appendix 12.2).

In Appendix 4 we confirm that diversity across industry, size, and nationality has long been a hallmark of foreign-invested firms in Russia, highlighting continuity in comparison to the immediate pre-invasion period (2020) and prior to the beginning of Russian aggression against Ukraine (2013). Yes, McDonald's in Russia has commanded attention as an FDI cultural touchstone, from queues at its opening in Moscow in 1990, to its exit via sale of its Russian operations to a domestic buyer in May 2022. Nonetheless, FDI in Russia has long concerned much more than American fast food.

Exit and historical context

To document exit, we compare the pre-invasion sample to its status after 18 months (31 August 2023). Conceptually, FDI exit occurs when the foreign investor with meaningful managerial control at time t no longer exercises control at time $t+1$. Practically, that can happen in two ways: (a) the foreign-invested firm is defunct, such that its official status is "inactive" at $t+1$.[15] Or, (b) the firm is active at $t+1$

[15] Orbis defines "inactive" as indicating that the firm is dissolved, liquidated, in liquidation, or subject to a demerger, merger, or takeover, although "Inactive (no precision)" dominates.

under different ownership. Assessing (a) is straightforward, whereas assessing (b) includes complexities, which we address in Appendix 7.3. In particular, to be sure we are coding meaningful exit of type (b), we compare ownership at t and $t+1$ for both our unit of analysis and at the level of the parent. If the parent does not change, we suspect corporate reshuffling among the same owners and conservatively do not code exit.[16] Altogether, we find an aggregate exit rate of 33.3%, which is our primary dependent variable.

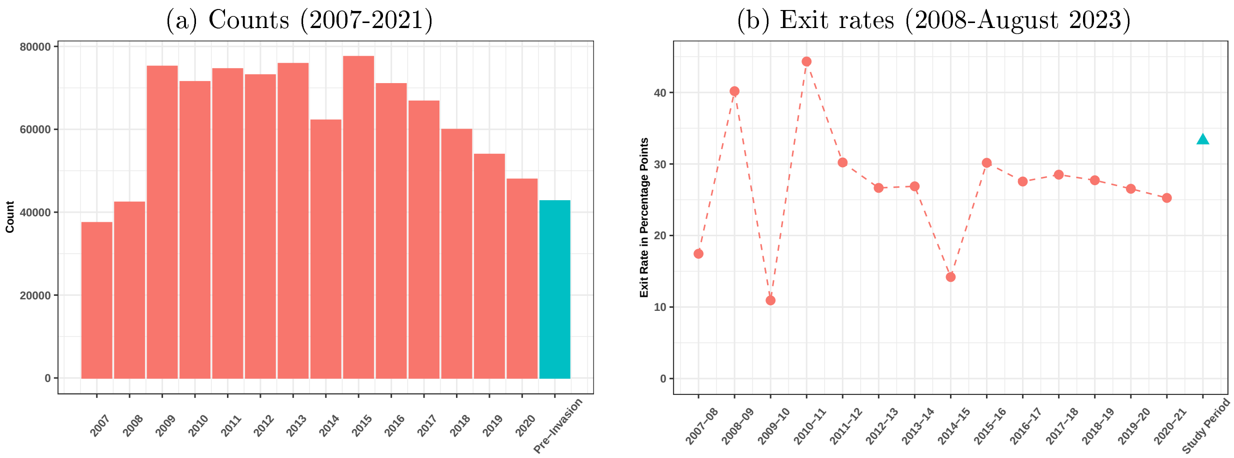
Before proceeding further, we adjudicate whether the 33.3% exit rate is high relative to historical rates of ownership churn in the Russian context. If it is high, we are more confident that this exogenous shock to political risk generated outcomes for which dedicated theorizing is required. We repeat the previous steps to draw samples and calculate exit rates between years t and $t+1$, for 2007 to 2021.[17] Figure 2(a) shows that the count of foreign-invested firms had declined and was relatively low pre-invasion, mitigating concern about an inflated denominator. Per Figure 2(b), the annual exit rate had steadily declined, to 25.3% pre-invasion. The jump to 33.3% in the (18-month) study period is suggestive of an aberration from longer-term trends. An important point of historical comparison is to the beginning of Russian aggression against Ukraine in March 2014. The data suggest that any "exiting Russia" phenomenon was absent: although the count of firms in 2014 is conspicuously low, the 2013-2014 exit rate is on par with the previous year, and the subsequent year brought a new high count and an outlier low exit rate. In combination with qualitative evidence of intense attention to firm decision-making after the full-scale invasion, this exercise leads us to conclude that, yes, the study period should be theorized in its own right. That said, we leverage data from 2020-2021 and 2013-2014 in placebo tests to further explore the uniqueness of the study period (Section: Placebo Tests).

We approach exit as a transaction, which implies outcomes on both the "sell side" and the "buy side." Our focus is on explaining the "sell side" of exit, which makes for a more analytically tractable study and is also driven by data considerations. Specifically, the dataset we build in this article is cross-sectional, as circumstances prevent us from building a time-series component. Moody's suspended all updates to Russian data for 11 months of the 18-month study period, due to Russian policies that in Moody's judgment significantly reduced data reliability (Appendix 7.1). What we are able to do is use "buy side" data assessed at the end of the study period to validate our conceptualization of exit as a transaction, which implies that exit does not categorically mean that businesses stop operating. Indeed, of the 33.3% of the pre-invasion population that exited, only 5.4% have become inactive. The other 27.9%

[16]Parents may manipulate ownership to mitigate political risk, for example by changing a subsidiary's controlling shareholder (Betz and Pond, 2023). Earle et al. (2022) use the case of Ukraine (2004-2006) to explain how domestic owners strategically use foreign shell companies as "defensive" intermediaries to obscure true ownership. In calculating exit, we disregard any corporate structures between the subsidiary and the parent. In analyses, we account for the presence of domestic (Russian) ownership and home states' reputations as tax havens.

[17]Data starts in 2007. New samples in each year t account for entrants in year $t-1$. Historical data is available on an annual (12-month) basis, in contrast to the 18-month study period (Appendix 8.1).

Figure 2. Foreign-invested firms in Russia and exit rates



Notes: (a) Bar values count active foreign-invested firms as of the end of each year. The pre-invasion sample, marked in a different color, corresponds to 2021. (b) Circles correspond to annual exit rates. The triangle indicates the exit rate for the 18-month study period (2021-August 2023).

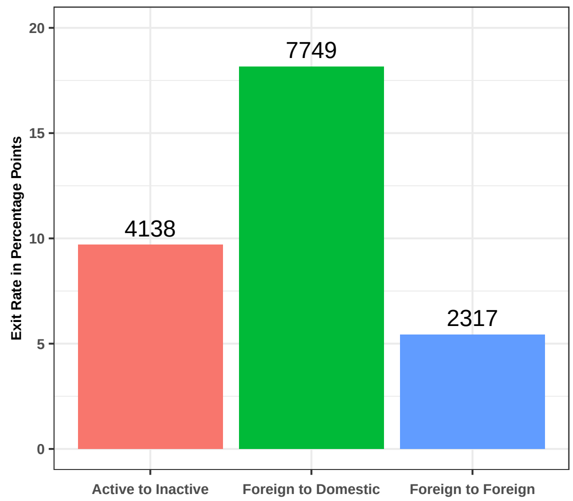
have exited but remain active under new ownership. Figure 3 visualizes the distribution of outcomes on the "buy side" of the transaction. Altogether, over half of the exit rate is accounted for by foreign-invested firms that have become active Russian firms. Assuming strategic non-reporting, this is a lower bound of Russian acquisitions.[18] We also identify firms operating under new foreign ownership, which in the data often consist of complex consortia and likely holding companies. We intend these data to be leveraged in future research on not just whether, but how, foreign-invested firms exit. For our purposes, we probe the robustness of results on the aggregate exit rate to these different sub-components (Section: Exploring Heterogeneity).

Theory: Exit as Transaction

As months passed after the Russian invasion, and real-time reporting increasingly questioned why foreign-invested firms that talked about exiting Russia were still operating there, it became clear that reducing "exit" to the choice to stay-or-go is misleading. Because they are profit-motivated, foreign-invested firms choosing to exit prefer to recover value from their brownfield assets and make those assets available to be redeployed elsewhere (Kim and Kung, 2017). With this in mind, a more generalizable way to think about exit is as a transaction, which occurs between a seller and buyer at some terms. Exit-as-transaction is able to account for instances in which a firm quite literally moves physical assets abroad. In that case, the firm is engaging in intra-firm trade as both seller and buyer, transacting at a transfer

[18] When restoring its data services, Moody's communicated its impression that Russian information providers had redacted many previously named shareholders (Appendix 7.1).

Figure 3. Sub-components of the exit rate



Notes: Bars represent the exit rate in percentage points, and labels above the bars indicate the count. Our dependent variable is the aggregate exit rate summed across the three sub-components (33.3%). See Section: Exploring Heterogeneity for exploratory analyses of sub-components.

price; consider, for example, relocating human capital from the Russia office to other branches. A firm could also liquidate assets by selling them to an external buyer. By approaching exit as a transaction, we can conceptualize host state interference in a foreign-invested firm's ability to bargain over the terms of the sale. The transaction morphs into expropriation if the ownership transfer is coerced at terms to which the firm would not voluntarily have agreed.

In the wake of a shock to political risk, the potential sellers, buyers, and terms of any exit transaction are deeply politicized. Our approach is to theorize foreign-invested firms' incentives to select into seeking exit and pressures on the favorability of terms at which they can conclude sales. In so doing, we generate observable implications regarding the probability with which exit occurs, testable with our novel cross-sectional data. Importantly, this approach allows us to avoid generating some standardized measure of price, as observed prices for successful sales are not a suitable basis for inference. Table 2 summarizes how we organize the theory and hypotheses developed in the next sections.

Table 2. Summary of Hypotheses: Likelihood of exit?

Variable of interest	**Expected sign**	**Hypothesis**
Pressure to sell		
Unfriendly home state	+	H1a
On name-praise-shame list	+	H1b
Consumer-oriented industry	+	H1c
Bargaining over terms		
Russian managerial control	+	H2a
Russian strategic industry	-	H2b
High fixed assets	-	H2c

Pressure to sell

In terms of research design, one can consider every foreign-invested firm in pre-invasion Russia as “treated” with the exogenous shock of turmoil caused by its full-scale invasion of Ukraine. However, firms from only some home states have been treated with a sharp increase in political risk operating via a shock to the relationship between their home state and Russia. Russia itself provides an indicator variable in its “Unfriendly Countries” List, which it began publishing nine days after its full-scale invasion of Ukraine (Appendix 12.2). Broadly, “unfriendly” states have used their regulatory authority to engage in an unprecedented amount and variety of economic statecraft, variously stopping capital and trade flows with Russian individuals, firms, and state organs. In the 18 months post-invasion that form our study period, the European Union announced eleven “waves” of sanctions that it, the United States, the United Kingdom, and a variety of other states implemented with an unprecedented degree of coordination (Schott, 2023). As “unfriendly” states actively cut economic integration for foreign policy purposes, their firms faced pressure to reinforce home state efforts by exiting Russia of their own accord. Indeed, pre-existing foreign investments in Russia have been by and large outside of the scope of sanctions, so exit has not simply been a question of legal compliance with sanctions.[19]

Although we align our prior with the expectation that foreign-invested firms from “unfriendly” homes are more likely to exit, there are several reasons to temper expectations. First, over the study period Russia implemented a series of discriminatory policies targeting asset sales by foreign firms from “unfriendly” states. As chronicled in Appendix 2, these have included: requiring authorization from a special government commission if transactions involve stocks, loans, or immobile “unfriendly” property; requiring non-residents from “unfriendly” states to open special ruble bank accounts to receive transfers from Russian residents, with strict limits on repatriation; requiring government approval for profit distributions to “unfriendly” non-residents; a requirement to sell “unfriendly” assets at a 50% discount from market value, as established by a government-approved appraiser; specific limits on “unfriendly” ownership structure changes in the energy and mining sectors; limits on “unfriendly” investors in their capacity as buyers; limits on transactions between Russian pension, insurance, and other investment funds and “unfriendly” investors; and a 10% windfall tax on the deal value of transactions resulting in companies leaving Russia. Taken as a whole, we can understand these “unfriendly”-targeted policies as a Russian effort to counteract the pressures motivating “unfriendly” foreign firms to sell. That Russia rolled out discriminatory policies across the study period suggests that the severity of Russian targeting of “unfriendly” sales is endogenous to any of a variety of dynamics – such as sanctions packages, progress in the war, increasingly scarce domestic capital, or examples of (un)successful exits.

[19] In analyses, industry fixed effects account for heterogeneity in the direct and indirect effects of sanctions on investment environments. On sanctions and FDI entry, see for example Early (2011); Barry and Kleinberg (2015); Lu (2024).

Second, the extent to which home state foreign policy goals resulted in political pressure on foreign-invested firms to sell is also endogenous and varies over the study period. Indeed, as firms are tied to home states and not to any supra-national "unfriendly" coalition, they have distinct nationalities likely to generate heterogeneous interests and obligations (Wellhausen, 2015; Polanco, 2019). Despite the unprecedented coordination among "unfriendly" states on sanctions packages, very few home state leaders provided clear, public advice as to what their firms with preexisting investments in Russia should (not) do. Of those that did, advice varied: in the study period official statements from the US, UK, Canada, Estonia, and Ukraine encouraged exit, whereas France and Lithuania deferred to their companies' judgment, and Japan made statements encouraging continued investment (Appendix 5).

In short, varying and endogenous Russian efforts to counteract home state-tied pressures to sell, as well as varying and endogenous pressures to align with home state foreign policy, suggest that the net effect of "unfriendliness" on exit is an empirical question. In that way, the "Unfriendly Countries" List both presents an obvious first hypothesis and a jumping off point for theory-building.

Hypothesis 1a *Foreign-invested firms from home states on Russia's "Unfriendly Countries" List are more likely to exit Russia, compared to firms from other home states.*

There is a fast-growing literature on corporate social responsibility (CSR), or firm actions that consider "the triple bottom line of economic, social, and environmental performance" (Aguinis, 2011, 855). Firms engaged in CSR are expected to recognize their role in society and behave in accordance with social and ethical standards. In the event that firms' (in)actions are in conflict with the preferences of interested stakeholders, backlash could be sufficiently motivating to change firm behavior. In the two weeks after the invasion, there was disagreement over the extent to which exiting Russia was in fact the behavior that aligned with CSR priorities. Some foreign-invested firms announced that they would stop production but continue to pay the salaries of their Russian workers as an ethical obligation, and pharmaceutical and consumer goods companies argued for the importance of continued production of essential medicines and goods in Russia. Uniqlo, a Japanese fashion company owned by Fast Retailing, announced that it would keep its 50 retail stores in Russia open, and its CEO stated that "Clothing is a necessity of life... The people of Russia have the same right to live as we do."[20] In our view, the public backlash to that international headline-making statement—and Uniqlo's volte-face just days later, announcing that it would sell its Russian business—solidified the view among important audiences that there was little-to-no room for a CSR-based argument to stay.

One such audience is encapsulated in a remarkable set of grassroots, journalistic, and scholar-activist efforts to influence foreign firms with exposure to Russia, publicizing their (in)action with the

[20] Megan Cerullo. "Uniqlo Bows to Public Pressure to Close Stores in Russia." *CBS News*. March 10, 2022.

intent to persuade. In Appendix 3 we provide detailed information on 12 lists of firms that were available on the Internet—several appearing mere days after the invasion—and actively updated as of 8-months post-invasion. Titles include "Boycott Russia," "Squeezing Putin," and "Don't Fund War." A list complied by the Kyiv School of Economics has been publicized worldwide and of urgent value for the domestic Ukrainian audience. In the United States, a list hosted by the Yale School of Management received the endorsement of Ukrainian President Zelensky; its dedicated website describes the list as having been "widely circulated across company boardrooms, government officials, and media outlets." These lists are an amplification of bottom-up "naming and shaming" efforts in the context of the international political economy (Barry, Chad Clay and Flynn, 2013; Thrall, 2021). Although, these lists also celebrate firms that exit, publicizing their choice as an example for others to follow. Thus, the most accurate way to describe these are as formalized "name, praise, and shame" lists.

Within weeks of the invasion and the first wave of lists, Russian-facing lists quickly followed. Kommersant, the Russian business newspaper of record, began hosting a list. We also document a grassroots list titled "#WeRememberEverything" (#ВСЕЗАПОМНИМ)—instructing Russian readers to boycott exiting firms should they later return to the Russian market. We suspect that at least some anti-exit counter-action has been meaningful. In a notable case, Didi, a Chinese ride-share company, immediately announced its exit from Russia but then faced social media backlash in China and reversed course. The technology company Lenovo, too, was rumored to be exiting Russia and faced Chinese social media backlash; it clarified that it too would stay.[21] Nonetheless, all firms in our sample that are on pro-exit lists are also on Russia-facing lists, and pro-exit lists are considerably more comprehensive. We presume foreign-invested firms on "name, praise, and shame" lists are facing net pro-exit pressure.

We are able to match 16.3% of foreign-invested firms in the pre-invasion sample to "name, praise, and shame" lists, and we align our priors with the expectation that matched firms are more likely to exit in the study period.[22] There are however reasons to temper expectations. First, the data generating process behind selection onto lists is non-random by design (Bartley and Child, 2014).[23] The kinds of firms on which activists can find information may also be the kinds of firms that have abundant resources to shield themselves, such as public relations staff or learning-by-doing experience from prior scandals. Activists may also be satisfied by firms taking actions that do not constitute exit, such as diversifying away from Russian suppliers or otherwise supporting the Ukrainian war effort. Our research design cannot test the impact of "naming, praising, and shaming" lists on outcomes other than exit.[24] That said, not

[21] Zhou, Cissy. 6 March 2022. "China's Didi cancels exit from Russia under public pressure." *Financial Times*.

[22] Matched firms are named on lists either directly or indirectly, in that another subsidiary under the same parent company or the parent company itself is named (Appendix 3).

[23] A companion paper finds that visibility, sympathetic home state politics, and relevance to the Russian war effort are significant determinants (Jeon et al., 2025).

[24] Nor can we evaluate the impact of "praising and shaming" on named entities that do not engage in FDI.

only have lists been framed around exit, but a variety of commentary claims that lists have motivated exit from Russia (e.g. Sonnenfeld et al., 2022; Sonnenfeld and Tian, 2022). Our research design offers an opportunity to test these claims systematically.

Hypothesis 1b *Foreign-invested firms that have been named on public-facing "praise and shame" lists are more likely to exit Russia, compared to firms that have not been named.*

Backlash through generalized social opprobrium might be a complement to or a substitute for a more direct pathway of consumer backlash, wherein consumers leverage their purchasing power and adopt a "vote with your dollars" strategy to influence firm behavior (Sumner, 2022; Micheletti, Føllesdal and Stolle, 2004). A consumer-backlash channel may be more important than "naming, praising, and shaming" in determining firm behavior, given the shorter causal chain linking public opinion and the risk of material costs to a firm that acts contrary to it (Pandya and Venkatesan, 2016; Vekasi, 2019).

To test the effects of consumer backlash, we would ideally devise a measure of consumer sentiment specific to the markets of greatest importance to each foreign-invested firm. Given that the world's largest, richest consumer markets are in states on Russia's "Unfriendly Countries" List, we proceed with the assumption that consumer-facing foreign-invested firms are facing net pro-exit pressure.[25] To code consumer-orientation we use advertising intensity as a proxy, an approach that has applicability to a variety of research settings (Peterson and Su, 2017). Because of the importance of the US as a consumer market and data quality, we construct the variable using US industrial advertising expenditure data, normalized by total income to measure intensity by industry (NAICS 3-digit).[26] The resulting measure makes sense intuitively; for example, motion picture and sound recording (NAICS 512) and beverage and tobacco product manufacturing (312) are among the most advertising-intensive, whereas mining (212) and heavy and civil engineering construction (237) are among the least.

Hypothesis 1c *Foreign-invested firms operating in consumer-oriented industries are more likely to exit Russia, compared to firms in other industries.*

Bargaining over terms

Whatever their motivations to sell, we assume that all foreign-invested firms are interested in maximizing the terms at which they exit. Anecdotally, this assumption is at the core of news reporting in the study period: myriad spokespeople reaffirmed companies' intentions to exit while pointing to the

[25]We account for the importance of the domestic Russian market in analyses.

[26]Source: IRS Corporation Source Book (2013 [latest available]). Our main measure is dichotomous around the median; results are robust to mean cutoff and continuous measures (Appendix Table 12.20). Of foreign-invested firms coded as consumer-oriented, 14.7% are matched to "name, praise, and shame" lists.

difficulty of quickly closing deals.[27] We expect the Russian state to have strong preferences over the choices of foreign-invested firms, especially once it became clear that economy-wide FDI flight was a possibility. We have already considered Russia's targeted interference with sales by foreign-invested firms from "unfriendly" home states, which is endogenous to the current political situation (H1a, Appendix 2). Besides that, scholars have had much to say about ownership structures and industry as exogenous determinants of host state political interference, and these arguments carry observable implications for foreign-invested firms' bargaining power in the current setting.

First, when the Russian state's preferences are in fact aligned with exit, political risk is unlikely to interfere with foreign-invested firms' ability to conclude sales. We should not lose sight of the basic explanation for why a developing state like Russia agrees to open to FDI—to benefit from longer-term domestic access to increased productive capacity, capital, and know-how that is otherwise un- or under-provided by domestic actors (Pandya, 2016). If the Russian state has reason to believe a business could be successful absent foreign ownership, then it is likely indifferent to or even supportive of exit. How might the state differentiate between businesses in which foreign ownership is crucial or incidental? We expect that corporate structure is a guide: foreign investors operating minority stakes in joint ventures with domestic Russian partners are already operating under Russian managerial control, so it is reasonable to expect that the need for FDI has lessened. The foreign investor's voluntary exit likely aligns with Russia's preferences over promoting domestic ownership, and it need not doom the business, even if it disrupts productivity.[28]

For a foreign investor, choosing to share ownership with a domestic partner carries implications for political risk (Zhu and Shi, 2019). On one hand, foreign investors in ventures with domestic partners may be shielded from host state interference. In the Russian context, a rich literature emphasizes the importance of political capital to commercial success, particularly concerning foreign and domestic shareholders (Beazer, 2012; Markus, 2012, 2015) and foreign minority ownership (Logvinenko, 2019, 2021). On the other hand, a joint venture exposes the foreign investor to conflict with the domestic partner, including takeover attempts by the domestic partner (Henisz, 2000; Earle et al., 2022). If, however, the foreign investor is motivated to exit, then the ease of takeover may be a blessing—drastically minimizing the search costs required to find a buyer.[29] Preexisting joint ownership could also alleviate information asymmetry issues over the quality of assets for sale, mitigating a "market for lemons" problem among potential buyers (Akerlof, 1978). Taken together, there is reason to believe that exit by foreign

[27]For example, Raiffeisen Bank (Austria) had 2600 corporate customers, 4 million local account holders, and 10,000 staff in Russia as of the invasion. A spokesperson for the Austrian finance ministry said, "A bank cannot leave a country like that overnight" (O'Donnell, John and Alexandra Schwarz-Goerlich. 6 July 2023. Reuters).

[28]Although, in a study of Russian firms impacted by sanctions from 2014-2022, Gaur, Settles and Väätänen (2023) find no persistent negative effects on revenues or employment.

[29]Unfortunately, "buy-side" data limitations in our setting preclude us from verifying whether ownership typically transfers to preexisting controlling domestic partners.

minority owners is not in itself in conflict with the Russian state's preferences, and that foreign minority ownership is conducive to striking quicker bargains.

Hypothesis 2a *Foreign-invested firms that are majority-owned by Russian shareholders are more likely to exit Russia, compared to firms that are not.*

Scholars have much to say about industry as an exogenous determinant of host state political interference, and risks of interference are higher for foreign-invested firms operating in industries considered strategic, in or out of wartime (Lipson, 1985). Insofar as a host state allows foreign-invested firms to operate in strategic industries, we can infer that domestic alternatives or replacements are scarce, and foreign-invested firms are likely providing crucial know-how to which the host state does not want to lose access (Johns and Wellhausen, 2021). For these reasons, we expect that, post-invasion, voluntary exit by foreign-invested firms in strategic industries is contrary to the Russian state's preferences. We expect the Russian state's incentives to interfere act as a drag on foreign investors' ability to negotiate and conclude sales.

To test whether exit varies with the strategic importance of an industry, we need to devise a list of Russian strategic industries exogenous to the conflict with Ukraine. Russia does not maintain such a list, but in 2008 amid the Global Financial Crisis, Russia released a list of "systemically important organizations" (Johnson, 1997). Russia proposed that it would prioritize economic stabilization efforts for the 295 firms on that list if the need were to arise. Firms come from 84 disaggregated industries (4-digit NAICS), which we code as strategic (Appendix 6). We infer that foreign-invested firms operating in these industries are exposed to systematically high risks of Russian state interference, by virtue of the kinds of goods and services they provide and/or by operating in competition with important domestic commercial actors.

As validation, we consider the four large foreign-invested firms that Russia did directly expropriate in the study period: Uniper SE (Germany, operating in the industry NAICS 2211); Fortum (Finland, 5416); Carlsberg (Denmark, 3121); and Danone (France, 3115). Each of these foreign-invested firms had announced their intention to exit and been publicly negotiating voluntary sales when the Russian state intervened. In each case, Russia signaled dissatisfaction with the terms being negotiated and forced a transfer of operations to preferred buyers at non-market terms.[30] Three out of four of these firms' NAICS codes are indeed on the strategic industry list we devise. While Danone's code is not on the list, all other 4-digit NAICS under the 3-digit 311, "Food manufacturing," are included.[31] These facts

[30] Carlsberg filed claims against Russia under the three international investment agreements (IIAs) to which it has access (Denmark-Russia BIT, Sweden-Russia BIT, and Germany-Russia BIT) (Wellhausen and Peinhardt, 2024).

[31] Pre-invasion, Danone (France) and PepsiCo (US) dominated the milk processing market in Russia. The absence of a "strategically important" domestic firm operating in NAICS 3115 in 2008 likely means there simply was not one. After the study period, Danone made a distressed sale to a state-approved Russian buyer at a price of USD 191.5 million, which

give us confidence that our measure captures industries in which the Russian state is especially likely to constrain foreign-invested firms' ability to bargain, and further that our measure is an under-count. We expect that foreign-invested firms operating in strategic industries are less likely to pursue voluntary exit, lest the Russian state interfere and even go so far as to expropriate (i.e. cause an involuntary exit).[32]

Hypothesis 2b *Foreign-invested firms operating in industries considered strategic by Russia are less likely to exit Russia, compared to firms operating in other industries.*

Another reason industry plays a large role in political economy theory is because of its impact on a firm's exit options. Industries vary in fixed asset intensity, or the fixed assets like physical property, plant, and equipment required to produce each unit of output. By definition, fixed assets are those that cannot be quickly converted into cash. So, for a foreign-invested firm considering exit, more fixed assets implies lower quickly recoverable value and worse bargaining power over terms.

The current setting makes it crucial for us to innovate a means of testing the fixed asset intensity mechanism in isolation, distinguishing it from other characteristics associated with industry. For example, mining and oil and gas are the go-to archetypes of highly fixed-asset intensive industries (Vernon, 1971), but in resource-rich Russia these are also among Russia's strategic industries (H2b). Therefore, it was perhaps theoretically overdetermined that Russia severely restricted assets sales of foreign-invested firms in mining and oil and gas (Appendix 2).

We hone in on the fact that industry characteristics are largely determined by technology, and certain industries are always more fixed-asset intensive than others (Nunn and Trefler, 2014, 274). However, it would be naive to take fixed asset intensity as fully exogenous; foreign-invested firms in Russia have surely strategically adjusted their investments in response to political risk and uncertainty, both pre- and post-invasion. We therefore use US data, as the US market is arguably the most competitive in the world, leaving its industry characteristics primarily shaped by technology rather than non-market factors (Wright and Zhu, 2018; Zhu and Deng, 2022). We scale industry fixed asset stocks by gross output and average over the 5-year span prior to our study period (2017-2021).[33] The resulting measure makes sense intuitively; for example, oil and gas (NAICS 211) and mining (212) are among the most fixed asset-intensive. Additionally, the measure reveals variation within 2-digit industries in line with our primary identification strategy that relies on 2-digit industry fixed effects. For example, within transportation and warehousing (48), pipeline transportation (486) are high in fixed assets, whereas support activities (488) are not. Still, it is possible that this strategy goes too far in expecting nuanced fixed asset differences to

represented a 56% percent discount off its market value. "Pro-War Russian Businessman to Take over Danone's Russian Assets." *Reuters*. 21 February 2024.

[32]Results are robust to dropping foreign-invested firms in the corporate families of Uniper SE, Fortum, Carlsberg, and Danone (Appendix 7.5, Appendix Table 12.19).

[33]Source: US Bureau of Economic Analysis. Our main measure is dichotomous around the median; results are robust to mean cutoff and continuous measures (Appendix Table 12.20).

predict variation in the dichotomous exit outcome. To preview, we find stronger results when adjusting our strategy to leverage variation at higher levels of industry aggregation.

Hypothesis 2c *Foreign-invested firms operating in industries intensive in fixed assets are less likely to exit Russia, compared to firms in other industries.*

Specification

In estimations, we control for a battery of home- and firm-level variables, summarized in Table 3. Coding involves a number of complexities; in the interest of space, we discuss a subset of controls here and point the reader to Appendix 9 for full information.

Table 3. Summary of control variables

Level	Variables
Home	Tax haven, EU member, Cyprus, UK, Ukraine, Trade with Russia, International Investment Agreement (IIA), Double Taxation Treaty (DTT), Preferential Trade Agreement (PTA)
Firm	Russian subsidiary presence, State-owned, Years in Russia, Size, Listed outside Russia, Multiple home states, Multiple direct investors, Classification via parent
Industry	2-digit NAICS fixed effects

On home-level controls, the prominence of known strategic jurisdictions in Table 1 reinforces the importance of controlling for Tax haven, which we do with the European Union's list of non-cooperative tax jurisdictions while additionally controlling for EU member (Appendix 9.2). We must control for Cyprus separately for several reasons: it is a prominent host to Russian capital that is round-tripped through foreign-invested firms back into Russia; it is considered by many to be a tax haven; and it is simultaneously an EU member state on Russia's "Unfriendly Countries" List (Linsi and Mügge, 2019; Logvinenko, 2019; Gonchar and Greve, 2022). Trade with Russia is the 5-year average over the immediate pre-invasion period (2017-2021). We also control for economic treaties in force between the home and Russia as of the invasion. Ex ante treaty protections might temper a foreign-invested firm's post-invasion shock (Peinhardt and Zhang, 2024). Still, Russian treaty commitments may be endogenous; inter alia, in the study period Russia officially suspended Double Taxation Treaties (DTTs) with a wide swath of "unfriendly" states (Wellhausen and Peinhardt (2024); Appendix 9.3).

At the firm level, we account for the importance of the Russian market by looking up the corporate ladder to the parent company. Russian subsidiary presence is the proportion of the parent's corporate family located in Russia.[34] State-owned indicates that the firm has at least one

[34]The measure equals 1 for 9.5% of foreign-invested firms in our sample, indicating that while these firms are engaged in FDI, all of the parent's subsidiaries are in Russia.

(non-Russian) state shareholder. Data-related variables include Multiple home states, if a foreign-invested firm's nationality is different from its parent; Multiple direct investors, if more than one foreign shareholder passes the FDI threshold; and Classification via parent, if an observation enters the dataset based on parent company information.

As industry-level variation is of theoretical interest, the most conservative approach is to test sub-industry variation while controlling for aggregate industry categories (unique NAICS 2-digit fixed effects). This approach also accounts for exposure to industry-linked sanctions packages imposed on Russia (Schott, 2023). In Appendix 12.1 we use a different approach to industry inspired by the finance literature (Fama and French, 1996), which leverages more aggregate sectoral variation. We demonstrate robust, and in some cases stronger, results, which suggest limits to hyper-specific industry designations as a means of operationalizing political-economic concepts.

We fit simple linear probability models to provide a straightforward interpretation of substantive effects; results are robust to estimating nonlinear probit models (Appendix Table 12.18). Standard errors are clustered at the 2-digit NAICS industry level to adjust for heteroskedasticity and within-group dependence.

Results

Table 4 reports our main results. On pressure to sell, in all specifications Unfriendly home state is negative—opposite to expectations—though only marginally significant in the most parsimonious model (contra H1a). Null results highlight that exit choices have been about more than economic statecraft by "unfriendly" countries. In what advocates of pro-exit "name, praise, and shame" lists might see as disappointing, the coefficient of On name-praise-shame list is consistently negative and significant (contra H1b). One concern is that the observed negative association reflects reverse causation: firms that had already exited would no longer be targets of shaming. Although, when considering the data-generating process, it is reasonable to assume that firms that had already exited or taken meaningful steps in that direction are likely to be named and praised. In fact, praising is a widespread practice: 56.8% of named firms are praised on at least one list (Appendix 3). Still, after disaggregating lists and re-estimating models, results are contrary to expectations: naming–praising is unrelated to exit, whereas naming–shaming is significantly associated with *less* exit (Appendix Table 12.21).

Does this mean that social pressure backfired? We do not think that is a fair interpretation, given non-random selection onto lists, our inability to adjudicate the effect of lists on other outcomes, and the additional reasons discussed above that led us to temper expectations over H1b. Further, the absence of a positive aggregate-level, average effect does not mean that "name, praise, and shame" efforts never worked; case study process tracing might uncover specific instances in which lists motivated exit. That said, our results do throw cold water on the strongest defenders of "name, praise, and shame" lists as having robust effects on foreign investor exit or the Russian political economy writ large (Sonnenfeld et al., 2022; Sonnenfeld and Tian, 2022).

In contrast, CONSUMER-ORIENTED INDUSTRY is positive and significant across all models, as expected (H1c). In sum, on pressure to sell we have the most confidence that consumer-orientation meaningfully differentiates which foreign-invested firms actually complete exit within the 18 months following the invasion.

On firms' bargaining power over the terms of exit, we find compelling evidence that firm behavior is shaped by Russian state interests. The coefficient on RUSSIAN MANAGERIAL CONTROL is consistently positive and significant: foreign-invested firms in ventures already under Russian majority ownership were more likely to conclude exit (H2a). RUSSIAN STRATEGIC INDUSTRY is consistently negative and significant: foreign-invested firms operating in industries of strategic importance to Russia were less likely to exit, consistent with the Russian state's disinterest in these firms' exit (H2b). Substantively, take results in the fully specified Model 8 as an example of the importance of these factors. All else equal, foreign-invested firms under preexisting Russian managerial control are 5.9 percentage points more likely to exit, while foreign-invested firms in Russian strategic industries are 4.1 percentage points less likely to exit.

Regarding H2c, the coefficient for HIGH FIXED ASSETS is negative as expected, but statistically insignificant. These results suggest that when controlling for 2-digit NAICS via fixed effects, relative levels of fixed asset intensity at the 3-digit NAICS level are not meaningful predictors of exit. We revisit H2c in Appendix 12.1, in which we adjust our fixed effects strategy and measure fixed assets at an aggregate level, based on 12 sector categories commonly used in the finance literature (Fama and French, 1996). There, we do find statistically significant evidence consistent with H2c that firms in high fixed asset industries are more likely to exit—specifically, firms in oil, gas, and coal; utilities; and telecommunications. Taken together, the null results in Table 4 and the significant results in Appendix 12.1 provide some support for H2c and also point to the limits of data disaggregation in applications of the classic obsolescing bargain literature.

For presentation purposes, Table 4 reports coefficients for only a subset of controls; full results are available in Appendix Table 12.17. On home-level controls, we highlight the consistently negative and significant sign on IIA, which corresponds to these treaties' intentions: given that IIAs protect foreign-invested firms' property rights, those covered by IIAs would be less likely to exit due to realized political risk. At the firm level, the coefficient on RUSSIAN SUBSIDIARY PRESENCE is consistently positive and

Table 4. Determinants of Foreign-Invested Firm Exit

	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	-0.033*	-0.007			-0.005
	(0.018)	(0.021)			(0.021)
On name-praise-shame list	-0.056***	-0.048***			-0.047***
	(0.015)	(0.015)			(0.015)
Consumer-oriented industry	0.048***	0.041***			0.038***
	(0.011)	(0.012)			(0.012)
Bargaining over terms					
Russian managerial control			0.062***	0.062***	0.059***
			(0.020)	(0.020)	(0.020)
Russian strategic industry			-0.042***	-0.043***	-0.041***
			(0.012)	(0.012)	(0.011)
High fixed assets			-0.001	-0.000	-0.001
			(0.023)	(0.026)	(0.024)
Home level controls[a]					
Tax haven		-0.028**		-0.016	-0.018
		(0.013)		(0.013)	(0.014)
EU member		-0.006		-0.001	0.001
		(0.023)		(0.022)	(0.021)
Cyprus		0.065***		0.075***	0.067***
		(0.019)		(0.019)	(0.019)
Trade with Russia		-0.011		-0.011	-0.011
		(0.007)		(0.007)	(0.007)
IIA		-0.082***		-0.084***	-0.085***
		(0.022)		(0.023)	(0.023)
Firm level controls[b]					
Russian subsidiary presence	0.128***	0.075**	0.149***	0.083**	0.069**
	(0.043)	(0.033)	(0.042)	(0.033)	(0.033)
State-owned	0.047	0.084*	0.040	0.073*	0.081**
	(0.040)	(0.040)	(0.041)	(0.040)	(0.039)
Years in Russia	-0.001	-0.001	-0.001*	-0.001**	-0.001*
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Listed outside Russia	0.051**	-0.001	0.044**	-0.001	0.001
	(0.020)	(0.022)	(0.019)	(0.022)	(0.022)
Constant	0.227***	0.549***	0.252***	0.577***	0.560***
	(0.022)	(0.080)	(0.024)	(0.075)	(0.080)
N	39256	39092	39137	38973	38973
R^2	0.03	0.05	0.03	0.05	0.05
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Suppressed for presentation: [a]DTT, PTA, UK, Ukraine; [b]Size categories, Multiple homes, Multiple direct investors, Classification via parent. Full results in Appendix Table 12.17.

significant, but we caution against over-interpretation. While the suggestion that firms more dependent on Russia are more likely to exit is surprising, it might simply be easier for these corporate families to consolidate operations into fewer Russian subsidiaries, a conjecture we cannot validate with our data.

To probe robustness, we confirm that results in Table 4 are consistent when a minimal set of data-related firm level controls are included (Appendix Table 12.16), and when home-level controls are replaced with home fixed effects (Appendix Table 12.19). We also confirm robustness to dropping foreign-invested firms in the corporate families of those Russia did expropriate in the study period, as well as dropping observations for which parent information is unavailable (Appendix Table 12.19). When dropping rather than controlling for foreign-invested firms registered in tax havens and Cyprus, results are robust except that the coefficient on Russian managerial control remains positive but loses significance, which makes sense given the concentration of Russian round-tripping through Cyprus. We also add a slate of additional home state variables: GDP per capita, Liberal democracy (V-Dem), and UN General Assembly (UNGA) voting similarity capturing foreign policy alignment between the firm's home and Russia (average 2017-2021; Bailey, Strezhnev and Voeten (2017)). While this specification drops home jurisdictions in the sample that are non-sovereign and not UN members, results on covariates of interest are robust. Additionally, firms from home states that had been politically aligned with Russia at the UNGA were less likely to exit, notable despite overwhelming UNGA condemnation in the immediate aftermath of the invasion (Appendix 10).

Placebo tests

We return to historical data to conduct placebo tests: do the dynamics of foreign-invested firm exit in the study period differ from those in earlier years? Knowing this will allow us more insight into whether, and in what ways, the post-invasion context is associated with different behavior. We replicate Table 4 using data from immediately pre-invasion (2020-2021) and the beginning of Russian aggression against Ukraine (2013-2014). We decline to interpret placebo results concerning Unfriendly home state (H1a) and On name-praise-shame list (H1b), as those covariates are by definition anachronistic in earlier periods. Usefully, in all cases other results of interest are robust to their inclusion or exclusion.[35]

In 2020-2021, the Russian occupation of Crimea and militarized conflict in eastern Ukraine had been ongoing since 2014, but the status quo intensity and scope of the conflict was stable for many years. We presume that foreign-invested firms at the time operated in a most-similar environment, except for factors related to Russia's escalation to its full-scale invasion of Ukraine. Appendix Table 11.10 reports

[35]The sign on High fixed assets (H2c) is consistently negative but never significant, as in Table 4.

that coefficients on Consumer-oriented industry (H1c) and Russian strategic industry (H2b) are insignificant, consistent the theoretical intuition that the shock of Russia's dramatic escalation was crucial to turning on these mechanisms. Notably, the sign on Russian managerial control flips in the immediate pre-invasion placebo period: foreign-invested firms in ventures with controlling domestic partners were *less* (rather than more) likely to exit. This result aligns with literature on the strategic usefulness of engaging in joint ventures with domestic firms—in normal times, when the goal is to stay in the market (Henisz, 2000; Zhu and Shi, 2019).

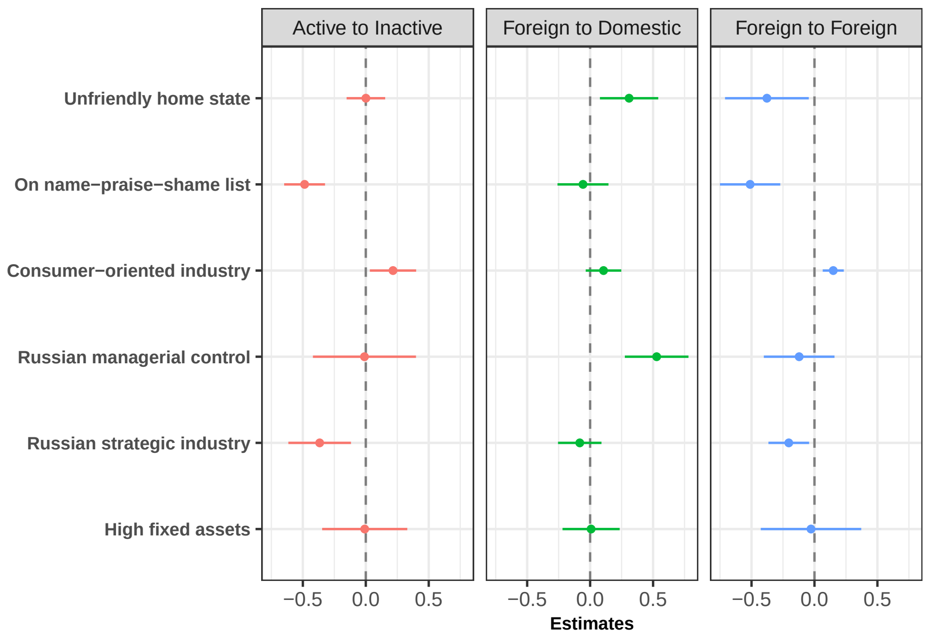
In 2013-2014, the research design captures exit after 9 months of armed conflict as the Russian occupation of Crimea began in March 2014. As in the post-invasion study period, foreign-invested firms operating in Russia at this time found themselves in a state that was the aggressor in a militarized interstate conflict, and subsequent sanctions impaired Russia's domestic investment environment. As reported in Appendix Table 11.11, the positive and significant coefficient on Russian managerial control (H2a) replicates at the beginning of Russian aggression—sharing ownership with a domestic partner is useful in exceptional times of realized political risk, if the goal is to *leave* the market. In contrast to the study period, after March 2014 preexisting FDI in Russia was not suddenly the subject of intense scrutiny. Nothing on the order of the study period's "name, praise, and shame" efforts emerged; indeed, the coefficient Consumer-oriented industry (H1c) is insignificant. Absent the threat of mass FDI exit, it follows that Russia did not step up interference, reflected in the insignificant coefficient on Russian strategic industry.

Exploring heterogeneity

In Appendix 12.2, we explore potential heterogeneity between foreign-invested firms from home states labeled "unfriendly" or "friendly" by Russia. On state-ownership, we find that "unfriendly" (and not "friendly") state-owned foreign-invested firms are more likely to exit—suggesting that leveraging exit for foreign policy purposes is easiest when the state is a decision-maker (H1a). In Appendix 12.3, we explore heterogeneity by size. Notably, among very large foreign-invested firms, those from "unfriendly" states are significantly more likely to exit—the closest evidence we find in support of "unfriendly" economic statecraft driving exit by private firms (H1a). Results also suggest that very large foreign-invested firms are especially constrained by consumer pressure (H1c) but not by more generalized social backlash (contra H1b), suggesting that financial risks mattered more than reputational ones.

Next, we consider heterogeneity across the three "buy side" sub-components: whether a foreign-invested firm becomes inactive, whether we can confirm that it has become a domestic (Russian) firm, or whether it remains a foreign-invested firm but under new ownership (see again Figure 3). While sub-components are mutually exclusive, endogenous discrepancies in Russian wartime data reporting suggest that we underestimate foreign-to-domestic and thus overestimate one or both of the other sub-components (Appendix 7.1). Accepting data shortcomings, we estimate a multinomial logit model; full results are in Appendix Table 12.22 and key results are visualized in Figure 4. It is sensible that Russian managerial control predicts exit via an ownership transfer to a domestic (Russian) firm (H2a). It is also consistent with our theory that foreign-invested firms operating in a Strategic Russian industry are unlikely to become inactive, as such an outcome would likely be counter to the Russian state's interests (H2b).

Figure 4. Extension: Considering different "buy side" outcomes within the aggregate exit rate



Plot of point estimates and 95% confidence intervals from multinomial logit results on a 3-category dependent variable, Appendix Table 12.22. Controls omitted for presentation.

What we want to emphasize from Figure 4 is heterogeneity on the "unfriendly" home state result, and specifically positive and significant coefficient for the foreign-to-domestic exit outcome. This is evidence that foreign-invested firms from "unfriendly" homes disproportionately transferred their businesses to Russian buyers—likely at fire sale prices. It is an open question whether this outcome is consistent with "unfriendly" economic statecraft goals (Gaur, Settles and Väätänen, 2023; Schott, 2023).

At the time of writing, neither the "exiting Russia" phenomenon nor economic sanctions have exerted so much stress on the Russian economy as to undermine its ability to wage war. We hope results in Figure 4 motivate future analyses of "buy side" outcomes, as well as their political-economic consequences.[36]

[36]On the "buy side," Renault's (French) sale for one ruble to a Russian entity, with the option to buy back within

Conclusion

In this setting of an exceptional shock to political risk, sellers, buyers, and prices of brownfield foreign-owned assets have been deeply politicized. We document that 33.3% of foreign-invested firms present in our pre-invasion sample had exited as of 18 months into the war, with most continuing operations as either domestic Russian or other-foreign firms and a small percentage becoming inactive. To explain exit patterns, we approach exit as a transaction and theorize how foreign-invested firms vary in their motivations to sell and the ease with which they can come to terms with buyers. We find mixed evidence on several hypotheses, themselves closely linked to the literature, which open up a variety of new lines of inquiry. On pressures to sell, our findings are strongest on consumer pressure as a motivation for exit, with little to no evidence of home state foreign policy or prominent social backlash as significant predictors of exit. On the ease of coming to terms in voluntary exit transactions, we find that foreign-invested firms with preexisting Russian majority ownership were significantly more likely to exit, and were especially likely to become domestic Russian firms instead. Foreign-invested firms operating in strategic Russian industries were significantly less likely to exit, consistent with the expectation that the Russian state is disinclined to let these firms leave. Last, we find only some evidence that foreign-invested firms operating in industries intensive in fixed assets are less likely to exit, which suggests revisiting the centrality of asset immobility in vast literatures on foreign investor-host state relations.

We hope our nuanced results, data, novel measures, and general approach to exit as a transaction enables examination of a rich set of timely questions on the non-market determinants of firm behavior. At the same time, our study raises important questions at the nexus of international political economy and security. Is it on net beneficial to geostrategic goals to encourage quick exit, especially as identities of buyers might disrupt other geostrategic goals? Also, recall that in our pre-invasion sample, 75.5% of foreign-invested firms originate from "unfriendly" states. This high percentage is consistent with 1990s-2000s efforts by many of today's "unfriendly" states to promote FDI into what some short-handed the "Wild East" (Grittersová, 2014; Gans-Morse, 2017; Szakonyi, 2020). It also reflects "unfriendly" states' long-time acceptance if not encouragement of FDI, even as violent Russian aggression against Ukraine has been ongoing since 2014. In historical perspective, pressure to exit Russia constitutes a volte face in "unfriendly" economic statecraft. Scholars would do well to consider the potentially disorienting effect of changeable home state foreign policy on multinational corporations' investment decisions and forward-planning.

For now, we conclude by considering what all this exit means for Russia or, indeed, other

six years, was an early example of a formal buyback option in an exit transaction. Our data can be used as the basis for tracing realized buybacks. "Renault sells Russia's Avtovaz stake, but leaves room for return." 16 May 2022. Reuters. On the YouTube channel "Traveling with Russell," Russell documents "buy side" outcomes as he walks around malls and supermarkets in the Moscow region (114,000 subscribers as of 26 October 2023).

developing states that are host to FDI. For a state deeply integrated into the global economy, we know that capital flight can spark any of a multitude of politically and economically destabilizing effects. For decades, such detrimental outcomes have been clearly, repeatedly demonstrated by so-called hot money, or short-term portfolio investment. The possibility of a "sudden stop" in FDI is new. FDI has been thought to be something different—investments by foreign owners that are reliably long-term enough to further industrial and economic development goals. We wonder whether FDI flight from Russia has brought to light risks relevant to other host states relying on FDI as a pillar of their development strategies. Our findings throw cold water on presumptions that firms' choices over investment destinations are readily swayed by home state foreign policy or acute social backlash, suggesting that FDI is at best an imperfect tool of economic statecraft. Nevertheless, economic statecraft approaches that incentivize firms to become more "footloose" and capable of quick exit could reduce host states' perceptions of FDI as a reliable tool for employment and economic growth. The consequence of the "exiting Russia" phenomenon for development strategies and attitudes toward economic integration, especially in politically risky host states, is an open question.

DATA AVAILABILITY STATEMENT: Research documentation and data that support the findings of this study are openly available at the American Political Science Review Dataverse: `https://doi.org/10.7910/DVN/GTUD8P`.

ACKNOWLEDGMENTS: We thank Christina Davis, Clint Peinhardt, In Song Kim, Eddy Malesky, David Szakonyi, Yue Lin, Julia Morse, Victoria Liu, Bumba Mukherjee, Joe Wright, Lukas Linsi, Natalia Lamberova, and audiences at the International Political Economy Society (2023), International Studies Association (2023), the American Political Science Association (2023), the PSU-Pitt Joint IR Workshop (2024), and the London School of Economics (2024). For excellent research assistance, we thank teams of student researchers from Innovations for Peace and Development at UT Austin led by Rachel Jeon, with special thanks to Artem Kvartalnov, Vedanth Ramabhadran, Emily Doan, Yunyi Huang, and AJ Torok. At Penn State, we thank Lingbo Zhao, Tuba Sendinc, Tyler Suman and Angel Villegas-Cruz and a team of graduate and undergraduate research assistants: Sam Bilotta, Shyam KC, Veronika Miskowiec, David Morgan, Savannah Morris, Chris Thomas, Alexandra Ward, and Lisi Wei. All errors are our own. Authors are listed alphabetically, indicating equal contributions.

FUNDING STATEMENT: This research was funded by the National Science Foundation RAPID Grant #2234188/9.

CONFLICT OF INTEREST: The author declares no ethical issues or conflicts of interest in this research.

ETHICAL STANDARDS: The author affirms this research did not involve human participants.

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Online Appendix for Wellhausen & Zhu, "Exiting Russia," *APSR*

Table of Contents

1 Russia's "Unfriendly Countries" List

Russia began publishing the "Unfriendly Countries" List ("Список недружественных стран") on 5 March 2022, nine days after the invasion and the initial wave of sanctions and condemnation.

Andorra	Australia	Austria
Bahamas[1]	Belgium	Bulgaria
Canada	Croatia	Cyprus
Czechia	Denmark	Estonia
Finland	France[2]	Germany
Greece	Hungary	Iceland
Ireland	Italy	Japan
Latvia	Liechtenstein	Lithuania
Luxembourg	Malta	Micronesia
Monaco	Montenegro	Netherlands[3]
New Zealand	North Macedonia	Norway
Poland	Portugal	Romania
San Marino	Singapore	Slovakia
Slovenia	South Korea	Spain
Sweden	Switzerland	Taiwan
Ukraine	United Kingdom[4]	United States
(European Union[5])		

The Putin administration had used "unfriendly" lists previously. On 13 May 2021, the Russian state published its "List of Foreign Countries Engaging in Unfriendly Actions Against the Russian Federation, Russian Citizens, or Russian Legal Entities." That list was understood as a reaction to expulsions of Russian diplomats. At that time, it contained only two countries: the United States and Czechia. Diplomatic missions of "unfriendly" countries were banned from hiring "individuals based in Russia." That list has been expanded and still exists at the time of writing, but it is smaller and different from the one relevant here.

[1] Added 23 July 2022.

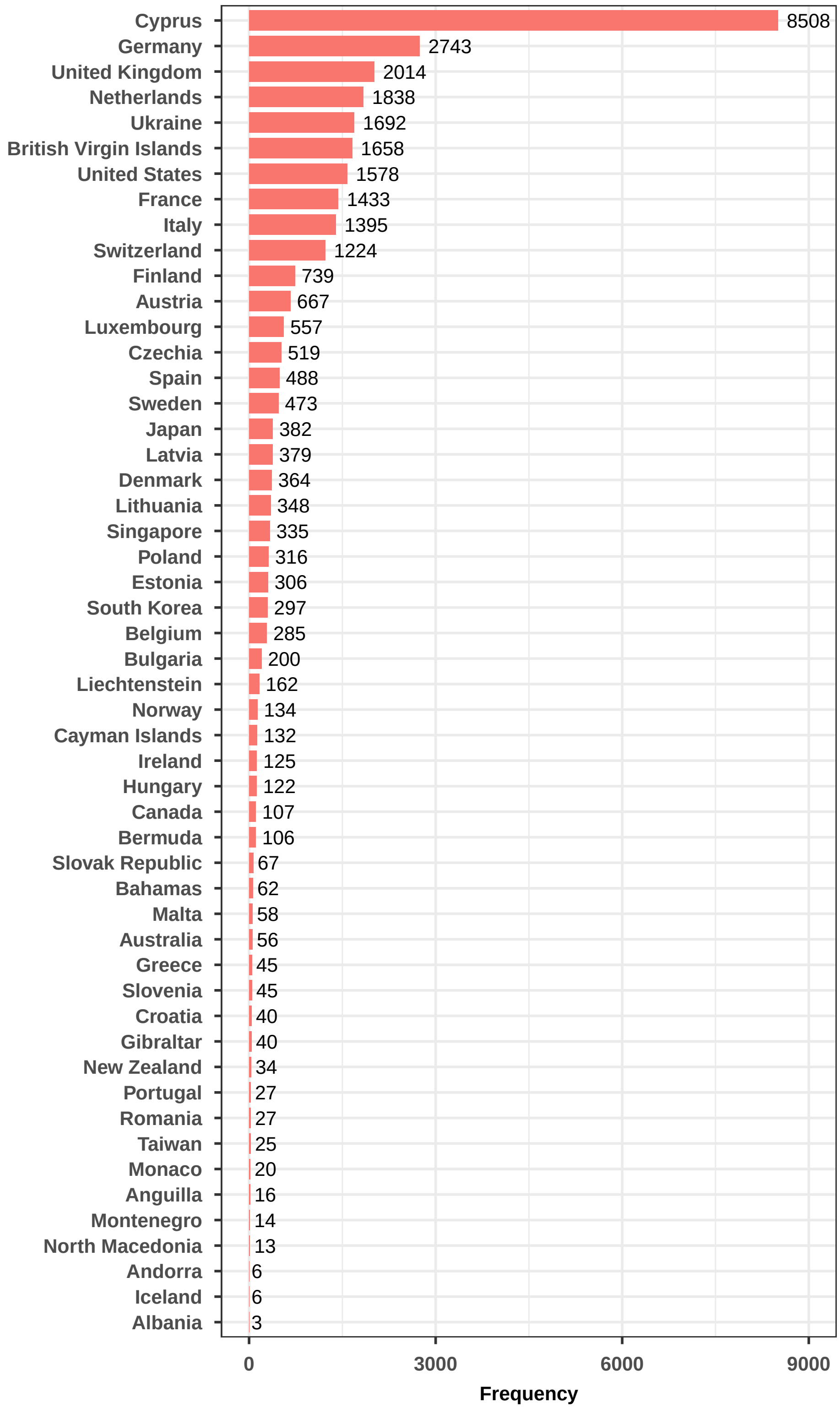
[2] We interpret the list as applicable to all Overseas Territories of France.

[3] The Netherlands has explicitly stated that EU sanctions apply in its constituent units; we code them as also on the list (Aruba, Curaçao, Sint Maarten).

[4] Crown Dependencies and Overseas Territories on the original list: Jersey, Anguilla, British Virgin Islands, and Gibraltar. Added on 23 July 2022: Guernsey and Isle of Man. All Crown Dependencies and Overseas Territories are on the list as of 29 October 2022.

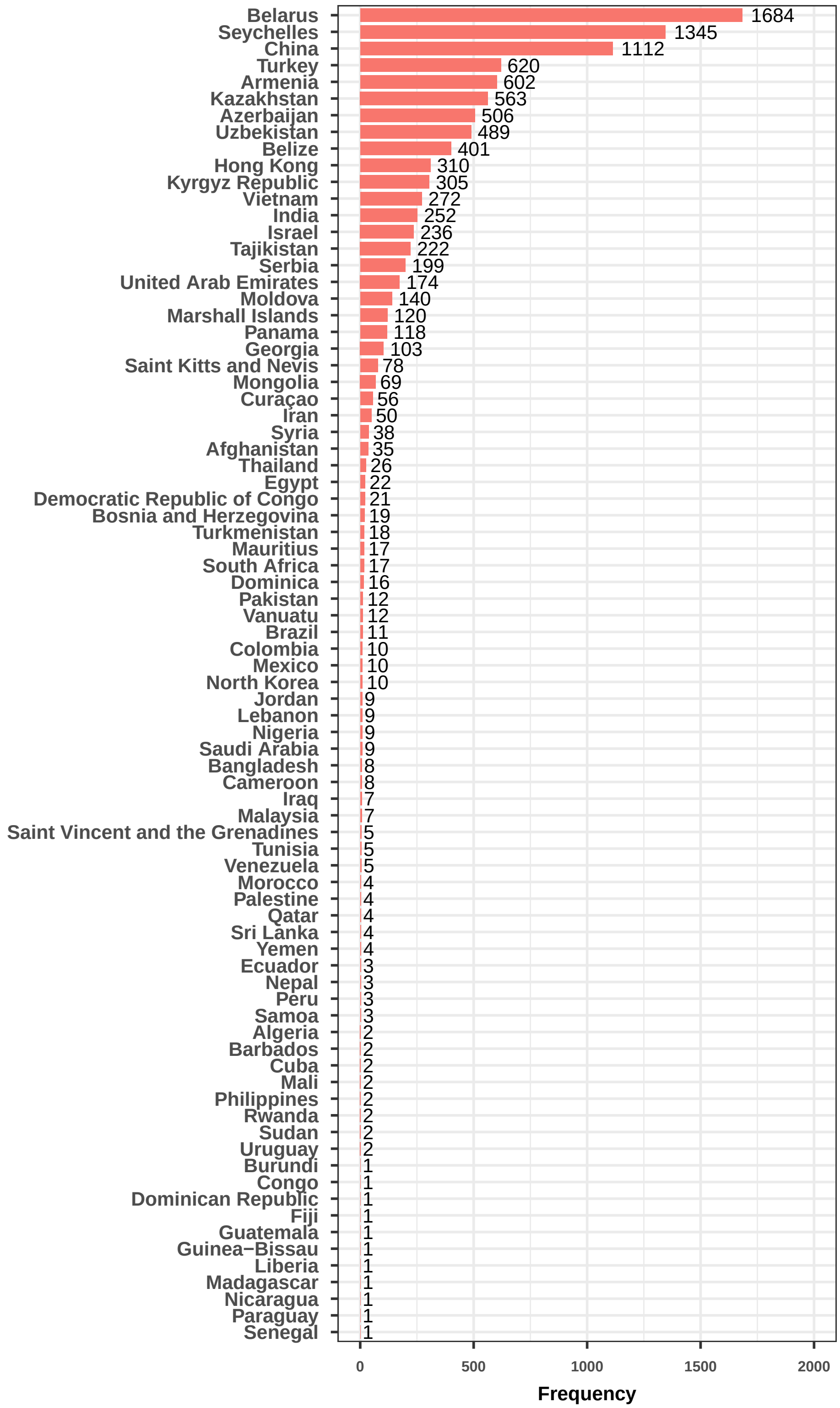
[5] All constituent states of the European Union are on the list.

Figure 1.1. Foreign-invested firms in pre-invasion Russia, by home: "Unfriendly" states in sanctioning coalition



Notes: Bar labels are the counts of foreign-invested firms. Defined as states on Russian "Unfriendly Countries" List in study period (Appendix 12.2).

Figure 1.2. Foreign-invested firms in pre-invasion Russia, by home: "Friendly" states not in the sanctioning coalition



Notes: Bar labels are the counts of foreign-invested firms. Defined as states not on Russian "Unfriendly Countries" List in study period (Appendix 12.2).

2 Changes in Russia's official policy pertaining to FDI

The following is a compilation of official Russian policies pertaining to FDI in the study period (24 February 2022–31 August 2024), which resulted from a multilingual qualitative research effort. Summaries are our own. Links last accessed 1 September 2023.

Event name in English	Event name in Russian	Date	Source and event meaning
Decree of the President of the Russian Federation dated March 1, 2022, No. 81 "On Additional Temporary Economic Measures to Ensure the Financial Stability of the Russian Federation" Resolution of the Government of the Russian Federation dated March 6, 2022, No. 295 "On the Approval of the Rules for Issuing Permits by the Government Commission on the Control of Foreign Investments in the Russian Federation for Residents to Execute Transactions (Operations) with Foreign Entities for the Purpose of Implementing Additional Temporary Economic Measures to Ensure the Financial Stability of the Russian Federation and Amending the Regulations on the Government Commission on the Control of Foreign Investments in the Russian Federation"	Указ Президента Российской Федерации от 01.03.2022 № 81 "О дополнительных временных мерах экономического характера по обеспечению финансовой стабильности Российской Федерации" Постановление Правительства Российской Федерации от 06.03.2022 № 295 "Об утверждении Правил выдачи Правительственной комиссией по контролю за осуществлением иностранных инвестиций в Российской Федерации разрешений на осуществление (исполнение) резидентами сделок (операций) с иностранными лицами в целях реализации дополнительных временных мер экономического характера по обеспечению финансовой стабильности Российской Федерации и внесении изменения в Положение о Правительственной комиссии по контролю за осуществлением иностранных инвестиций в Российской Федерации"	Presidential Decree: **March 1, 2022** New rules come into force: **March 2, 2022** Government Resolution: **March 6, 2022**	http://publication.pravo.gov.ru/Document/View/0001202203010083 https://cbr.ru/explan/app_decrees_president_aimed_ensuring_financial_stability/ Transactions with entities from unfriendly nations must be authorized by a special governmental commission whenever they involve stocks, loans, or immovable property.
Decree of the President of the Russian Federation dated March 5, 2022, No. 95 "On the Temporary Procedure for Fulfilling Obligations to Certain Foreign Creditors." Decision of the Board of Directors of the Bank of Russia on establishing an account type "C"regime for the purpose of fulfilling a resident's obligations to a non-resident, as stipulated in the decree of the President of the Russian Federation dated March 5, 2022, No. 95, "On the Temporary Procedure for Fulfilling Obligations to Certain Foreign Creditors" The decision of the Board of Directors of the Bank of Russia regarding the establishment of the "C"account regime for conducting settlements and executing transactions on which the procedure for fulfilling obligations specified in the Decree of the President of the Russian Federation dated March 5, 2022, No. 95, "On the Temporary Procedure for Fulfilling Obligations to Certain Foreign Creditors"applies.	Указ Президента Российской Федерации от 05.03.2022 № 95 "О временном порядке исполнения обязательств перед некоторыми иностранными кредиторами" Решение Совета директоров Банка России об установлении режима счета типа «С» для целей исполнения обязательств резидента перед нерезидентом, установленных в указе Президента Российской Федерации от 5 марта 2022 года № 95 «О временном порядке исполнения обязательств перед некоторыми иностранными кредиторами» Решение Совета директоров Банка России об установлении режима счетов типа «С» для проведения расчетов и осуществления (исполнения) сделок (операций), на которые распространяется порядок исполнения обязательств, предусмотренный Указом Президента Российской Федерации от 5 марта 2022 года № 95 «О временном порядке исполнения обязательств перед некоторыми иностранными кредиторами»	Presidential Decree: **March 5, 2022** Decision of the Central Bank: **March 8, 2022** New rules come into force: **March 9, 2022** Updated Decision of the Central Bank: **June 24, 2022**	https://cbr.ru/about_br/dir/rsd_2022-03-08/ https://cbr.ru/about_br/dir/rsd_2022-06-24_31_01/ http://publication.pravo.gov.ru/Document/View/0001202203050062 New rules for nonresidents from "unfriendly nations" pertaining to transactions exceeding RUB 10 million monthly (or equivalent amount in a foreign currency). The rules force nonresidents to open a special RUB account in Russia to be able to receive transfers from Russian residents. Funds in the account can only be used or invested in Russia. The updated decision on June 24, 2022, introduced minor changes, such as allowing nonresidents to buy Russian federal loan bonds from the market. Funds in Type "C" accounts still cannot be withdrawn from Russia.

Decree of the President of the Russian Federation dated May 4, 2022, No. 254 "On the Temporary Procedure for Fulfilling Financial Obligations in the Field of Corporate Relations to Certain Foreign Creditors"	Указ Президента Российской Федерации от 04.05.2022 № 254 "О временном порядке исполнения финансовых обязательств в сфере корпоративных отношений перед некоторыми иностранными кредиторами"	Presidential Decree: **May 4, 2022**	http://publication.pravo.gov.ru/Document/View/0001202205040017 The decree established temporary procedures for fulfilling profit distribution obligations. From then on companies must transfer dividend payments to investors from unfriendly nations to Type "C" accounts. The Central Bank and the Finance Ministry can grant permissions for circumventing this rule. Also, the rules do not apply to transactions under RUB 10 million monthly.
Requirement to sell assets at a discount of no less than 50% of the market value of the respective assets as indicated in the independent appraisal report.	Требование о продаже активов с дисконтом в размере не менее 50 % от рыночной стоимости соответствующих активов, указанной в отчете о независимой оценке	**No later than June 29, 2022**	https://ria.ru/20220629/biznes-1798948308.html The existence of this requirement was informally confirmed by senior Russian officials at a conference in June 2022. However, the date when the requirement was set is unknown. The requirement was later restated in an official document released by the commission of the Finance Ministry. https://minfin.gov.ru/ru/document?id_4=302853-vypiska_iz_resheniya_podkomissii_pravitelstvennoi_komissii_po_kontrolyu_za_osushchestvleniem_inostrannykh_investitsii_v_rossiiskoi_federatsii_ot_7_iyulya_2023_goda__1715
Decree of the President of the Russian Federation dated August 5, 2022, No. 520 "On the Application of Special Economic Measures in the Financial and Energy Sectors in Connection with Unfriendly Actions by Certain Foreign States and International Organizations"	Указ Президента Российской Федерации от 05.08.2022 № 520 "О применении специальных экономических мер в финансовой и топливно-энергетической сферах в связи с недружественными действиями некоторых иностранных государств и международных организаций"	Presidential Decree: **August 5, 2022**	http://publication.pravo.gov.ru/Document/View/0001202208050002?index=1 https://docs.cntd.ru/document/1300138660 New rules prohibit transactions with foreigners from unfriendly nations that involve changes in the ownership structure for the following types of arrangements: • Production sharing agreements (рус. соглашения о разделе продукции, СРП) • Agreements on joint operations (рус. договоры о совместной деятельности) • Other agreements regulating investment projects in Russia. Rules apply to the energy and mining sectors and to strategic enterprises listed in Presidential Decree No. 1009. The President of the Russian Federation may grant special permissions to carry out such transactions despite the ban.

Decree of the President of the Russian Federation dated September 8, 2022, No. 618 "On the Special Procedure for Conducting (Executing) Certain Types of Transactions (Operations) between Certain Entities"	Указ Президента Российской Федерации от 08.09.2022 № 618 "Об особом порядке осуществления (исполнения) отдельных видов сделок (операций) между некоторыми лицами"	Presidential Decree: **September 8, 2022**	http://publication.pravo.gov.ru/Document/View/0001202209080027 While the decree of March 1, 2022, required a special permission to conduct transactions involving stocks and property, the new decree also requires a special permission to conduct transactions with entities from unfriendly nations involving shares of the authorized capital of limited liability companies.
Decree of the President of the Russian Federation dated October 15, 2022, No. 737 "On Certain Matters Regarding the Execution of Certain Types of Transactions (Operations)"	Указ Президента Российской Федерации от 15.10.2022 № 737 "О некоторых вопросах осуществления (исполнения) отдельных видов сделок (операций)"	Presidential Decree: **October 15, 2022**	http://publication.pravo.gov.ru/Document/View/0001202210150002 Transactions involving more than 1 percent of the shares, stakes (contributions) constituting the authorized capital of a Russian credit organization, insurance organization, non-governmental pension fund, microfinance company, or the management company of a shareholder investment fund, unit investment fund, or non-governmental pension fund, or more than 1 percent of the votes attributed to such shares or stakes. Transactions listed above and involving entities from unfriendly nations must be authorized by a special governmental commission. Funds must be transferred to a Type “C” account. The Central Bank or the Finance Ministry can grant permissions to carry out transactions without using a Type “C” account.
Requirement to make a voluntary contribution to the federal budget in an amount not less than 10% of the transaction value.	Требование об уплате добровольного взноса в федеральный бюджет в размере не менее 10% от суммы осуществляемой сделки	**December 12, 2022**	https://www.rbc.ru/economics/21/12/2022/63a1ae3d9a79479cb3d0b5fc RBC cites sources in the commission and mentions December 12 as the date when the new requirement was introduced. The Finance Ministry’s press office confirmed the change. An official document citing this rule became available later: https://minfin.gov.ru/ru/document?id_4=302853-vypiska_iz_resheniya_podkomissii_pravitelstvennoi_komissii_po_kontrolyu_za_osushchestvleniem_inostrannykh_investitsii_v_rossiiskoi_federatsii_ot_7_iyulya_2023_goda__1715 Companies leaving Russia are now required to pay 10% of the deal value to Russia’s federal budget. Alternatively, the seller may choose to offer an installment plan of 1 to 2 years and thus avoid the additional tax.

3 "Name, Praise, and Shame" Lists

As of six months following the full-scale Russian invasion of Ukraine (24 August 2022), the 12 "name, praise, and shame" lists reported in Table 3.3 were (a) available on the Internet at the indicated URL, (b) aimed at influencing the behavior of foreign businesses in Russia, and (c) actively updated. We scraped the data from these lists as of 8 months post invasion (24 October 2022). The origins, methodology, aims, and trajectory of these lists vary considerably. Overall, the data collected in these various lists have been used in myriad journalistic, advocacy, and research efforts as the war has progressed. Our aim in this article is to recognize the contents of these lists as a non-random sample of the true population of foreign-invested firms in Russia, and in doing so evaluate the potential impact of being named on a list as an explanatory variable in predicting exit behavior. We take the contents of the lists as of the eight-month mark as an appropriate snapshot of firms that we can credibly code as having faced grassroots, social pressure in this way, and early in the conflict. As ours is a study of firms conducting FDI in Russia, we merge the contents of the lists and then match entities named on the lists to our master list derived from Orbis. When compiled, the 12 "name, praise, and shame" lists (scraped as of 24 October 2022) include roughly 3,700 entries. This is an estimate, as it was not necessary to our matching task to eliminate all duplicates.

Table 3.3. "Name, Praise, and Shame" lists of foreign business operations and Russia

List	URL
Boycott Russia	`https://boycottrussia.info/#list-of-shame`
Exit Russia [a]	`https://www.exitrussia.info/#form1`
Leave Russia	`https://leave-russia.org/`
Squeezing Putin	`https://squeezingputin.com/`
Stop Bloody Energy	`https://bloody.energy/`
Don't Fund War	`https://dontfundwar.com/`
RUBusiness	`http://rubusiness.org/`
Wikipedia	`https://en.wikipedia.org/wiki/Corporate_responses_to_the_2022_Russian_invasion_of_Ukraine`
Kyiv School of Economics	`https://kse.ua/selfsanctions-kse-institute/`
Yale School of Management [b]	`https://www.yalerussianbusinessretreat.com/`
EPravda (Ukrainian newspaper)	`https://www.epravda.com.ua/publications/2023/03/19/684328/`
Kommersant (Russian newspaper)	`https://www.kommersant.ru/doc/5240137`
#ВСЕЗАПОМНИМ [c]	`https://xn--80adjigxbghjs.xn--p1ai/`

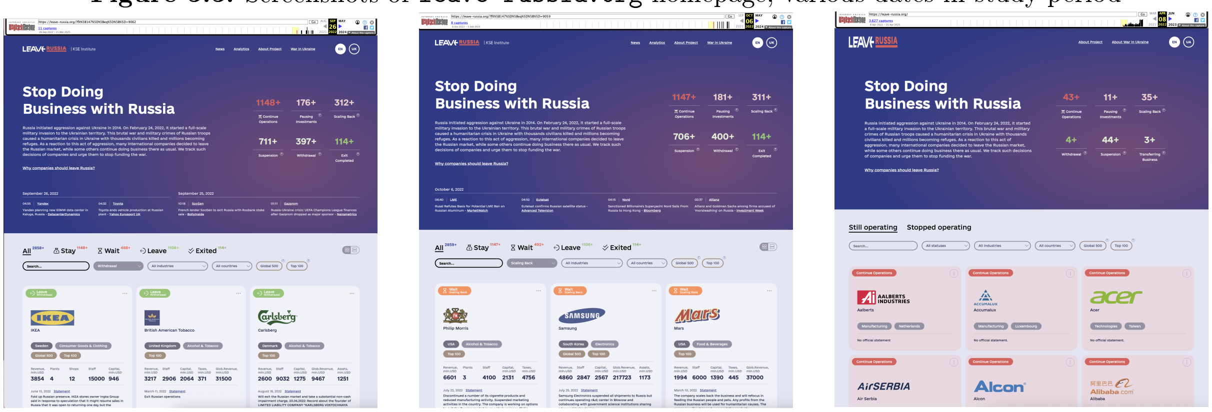
Notes: URLs and constituent data accurate as of 24 October 2022 and active as of October 2023, with the exception of [a] (archive available upon request). [b] This dedicated URL was created later in the study period. [c] Translation: "#WeRememberEverything." This pro-war list originally circulated in Russia via the social media app Telegram. All matched firms on this and the Kommersant list are also on at least one other list.

It is well known that firm-name matching is a difficult task. Our overall strategy was to standardize names (with special characters, punctuation, and corporate designations stripped), engage in repeated rounds of probabilistic automated matching using the Stata package *matchit* (by token and by various n-gram combinations), and iterate with human coders to confirm accurate matches. One issue we encountered was the coexistence of various translations of names and transliteration issues between Cyrillic and Latin alphabets. To address this, we used Google Translate, ChatGPT-4, and Russian speakers to generate different translations and transliterations of names to feed into the matching process. German, Chinese, and a familiarity with the spelling of various corporate designations worldwide also proved important. Ultimately, we went through eight rounds of coding, with one PI and a mixture of up to three additional coders evaluating each potential match. A (non-student) expert in business in the region independently verified the final list of confirmed matches. Per this process, we were able to successfully match "name, praise, and shame" list entries to 6,942 Orbis BVDs in the pre-invasion sample, or 16.3%. Matched firms are named on lists either directly or indirectly, in that another business under the same GUO50 was named. Matched BVDs come from 2,201 of the 20,271 unique parent companies (GUO50s) in the dataset (10.9%).

In our evaluation, the main reason we could not successfully match more list entries is that those list entries were not referring to multinational corporations engaged in FDI, and thus fall outside the scope of this study. For example, many entries named firms that only engage in trade in services and not FDI with Russia. Or, entries were non-firm entities such as international organizations, clubs, and associations (although note that some such entities do have associated corporate entities registered in Russia and thus are matched). Additionally, we expect that our decision-making in the matching process introduces a bias such that some matched Orbis BVDs were not the original target of the author(s) of the "name, praise, and shame" lists. This likely occurs when a list includes a common name that is used by many firms, in whole or in part. We accept this bias with the intuition that, even if a firm was not the intended target of a list, sharing a name (or a meaningful portion of a name) with an entity on a list likely increases its exposure to name-praise-shame pressures.

Several of the "name, praise, and shame" lists we compile attempted not only to name, but also to document what firms had or had not done with regard to their investments in Russia. To demonstrate, Figure 3.3 includes screenshots of one prominent list, "Leave Russia," from dates during our study period. This has been one of the most sophisticated lists, which includes a variety of information on firms and a variety of metrics of what, if anything, each firm has announced it is doing. The maintainers of this list also put resources into verifying firm announcements to confirm the true status of Russian operations. Still, verifying exit is a difficult task. For example, the left panel of Figure 3.3 shows the homepage filtered for "Status: Withdrawal," and Carlsberg is recorded as having exited and celebrated for doing so with a green label. Although, Carlsberg was subject to Russian interference such that in our study, we are hesitant to call this voluntary exit (see again H2b and Appendix 7.5). The center panel of Figure 3.3 provides an example of efforts to offer granular information and grades of firm behavior; this screenshot shows the results of the filter for "Status: Scaling Back" and labels are colored orange. The right panel of Figure 3.3 shows firms being shamed on the homepage (before filters are applied), with red labels noting that their status is "Continue Operations." In general, the teams behind various lists have used research methodologies leveraging scholarly resources and connections, journalistic resources, outreach to firms directly, official company statements, crowd-sourcing through social media, and searches of secondary journalistic and related sources. It is beyond the scope of this study to evaluate the accuracy of those efforts in documenting actual behavior. We therefore do not consider those components of lists and use only our novel dependent variable on exit as a binary outcome, derived from Orbis data. Again, we operationalize these lists by matching firms mentioned – whatever their grade – to our pre-invasion sample. Given that some firms are selected onto lists to offer praise and encouragement, as demonstrated in Figure 3.3, it is all the more notable that we find a consistent, negative relationship between inclusion and exit.

Figure 3.3. Screenshots of `leave-russia.org` homepage, various dates in study period

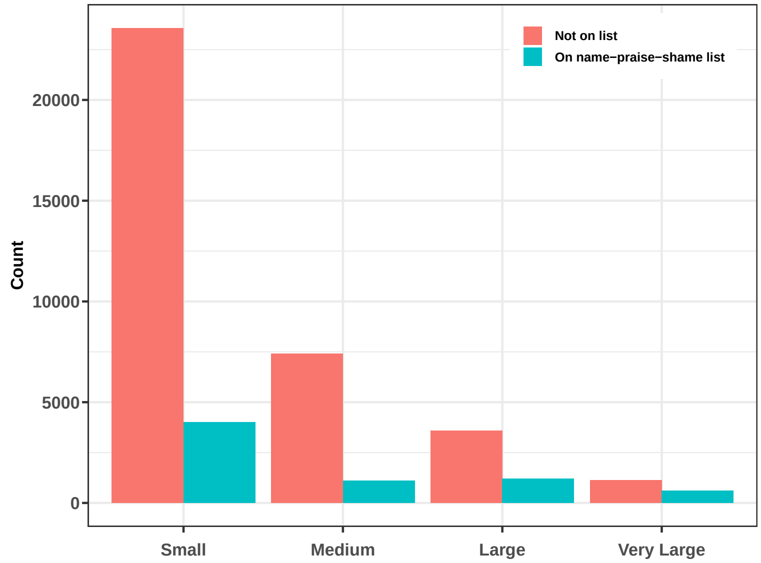


Filter: Withdrawal, 26 Sept 2022 | Filter: Scaling Back, 6 Oct 2022 | Homepage (no filters), 8 Apr 2022

Source: Internet Archive WayBack Machine

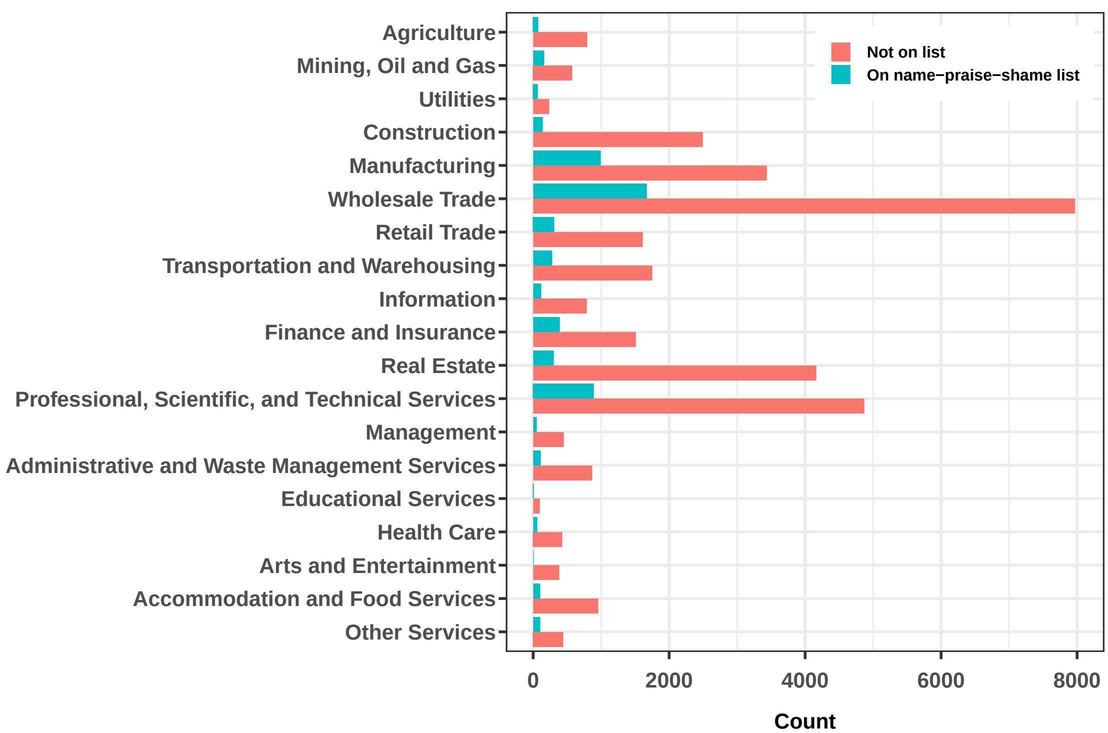
The following figures report descriptive statistics comparing the matched subsample to the full pre-invasion sample. With very few exceptions, the matched subsample covers significantly less than 100% of the sample.

Figure 3.4. "Name, Praise, and Shame" subsample comparison: By size



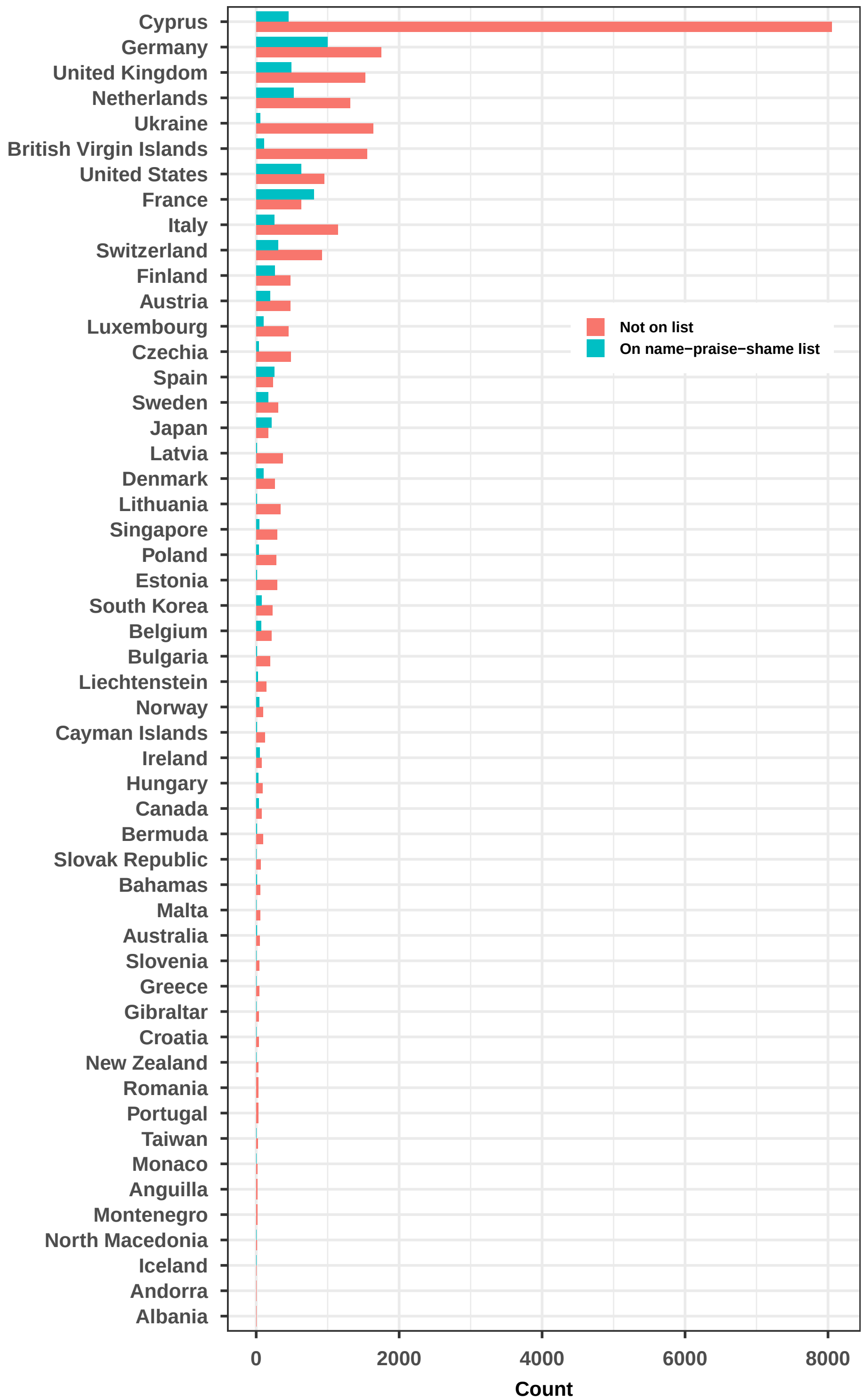
Notes: For definitions of firm size, see Appendix 9.

Figure 3.5. "Name, Praise, and Shame" subsample comparison: By industry



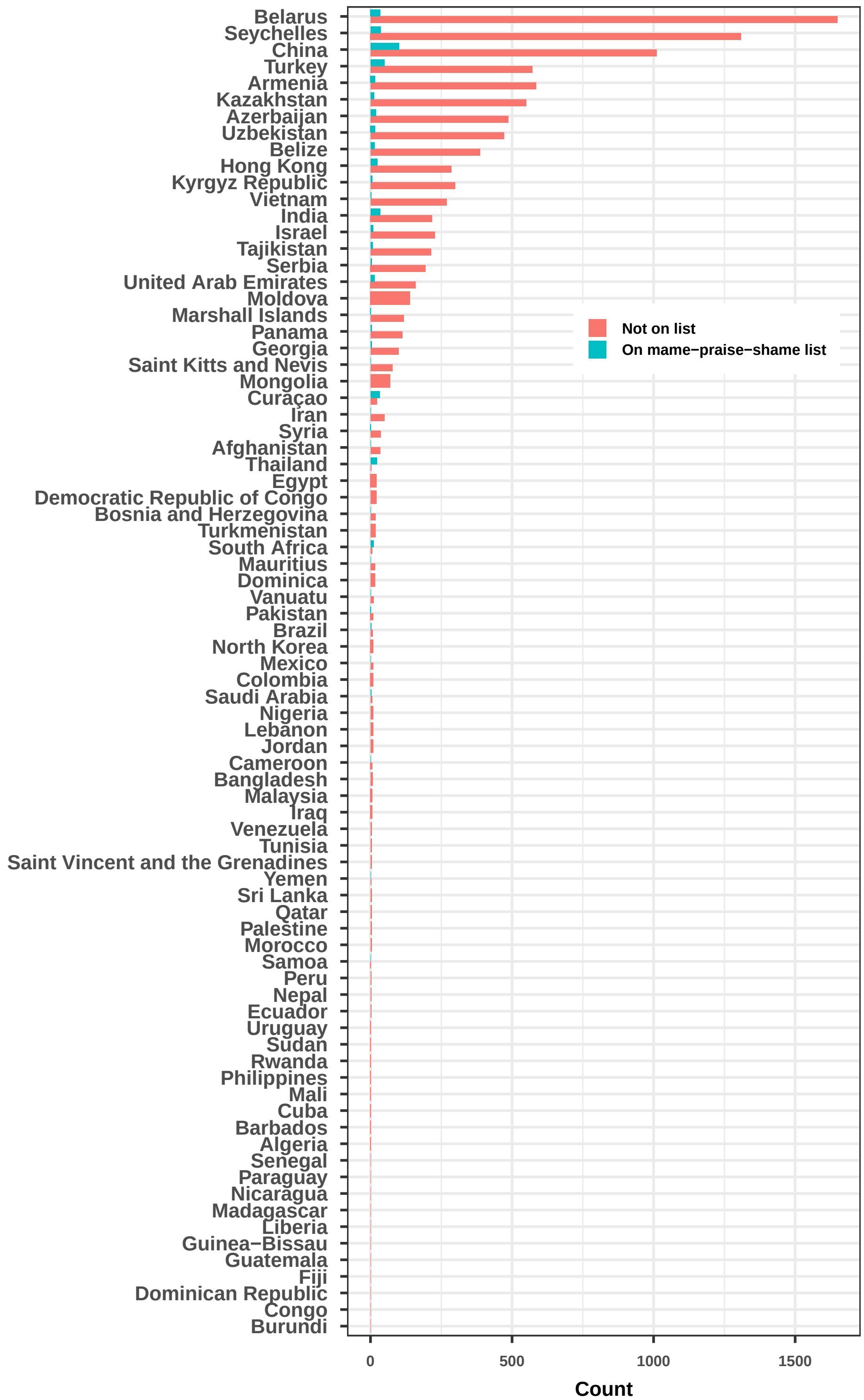
Notes: 2-digit NAICS industries, with similar industries collapsed for presentation.

Figure 3.6. “Name, Praise, and Shame” subsample comparison: By “unfriendly” home



Notes: For information on the “Unfriendly Countries” List, see Appendix 12.2.

Figure 3.7. "Name, Praise, and Shame" subsample comparison: By "friendly" home

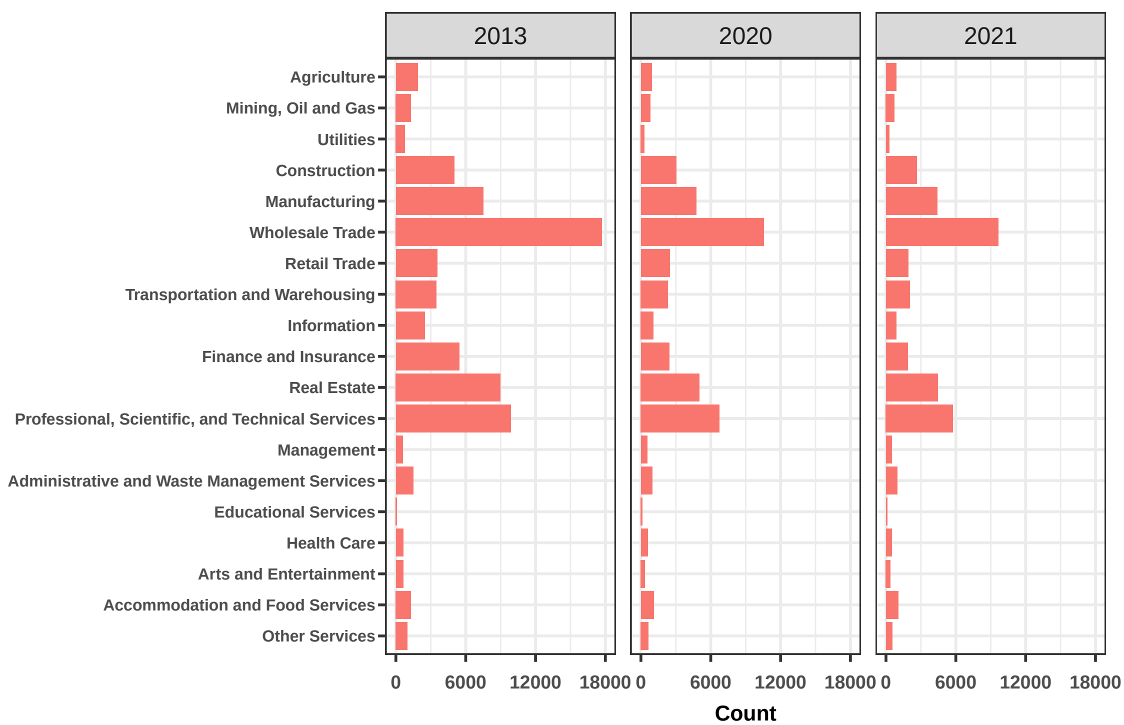


Notes: For information on the "Unfriendly Countries" List, see Appendix 12.2.

4 Pre-invasion sample in historical context

This section provides descriptive statistics for foreign-invested firms in the two placebo samples (end of 2013 and end of 2020) and the main sample (end of 2021). Foreign-invested firms in Russia have long spanned the full spectrum of industries, and their distribution across industries has not meaningfully changed over time (defined as unique 2-digit NAICS industries; Figure 4.8). Small and medium-sized firms consistently make up the majority of the samples, with small firms especially dominant in the 2013 sample (Figure 4.9). The very large number of small firms in the 2013 sample contributes to the larger N in that year (over 70,000) compared to more recent years.[6] Additionally, in all periods foreign-invested firms originated from regions all over the world (defined as the seven World Bank regions; Figure 4.10), although understandably Europe and Central Asia consistently dominates. These regional distributions are masking even more diversity that has been consistent over time: foreign-invested firms in the 2013, 2020, and 2021 samples originated from 152, 136, and 132 unique home states, respectively.

Figure 4.8. Distribution of Foreign-Invested Firms by Industry (2013, 2020 & 2021)



[6]For annual changes in foreign-invested firms since 2007, see again Figure 2 in the main text.

Figure 4.9. Distribution of Foreign-Invested Firms by Size (2013, 2020 & 2021)

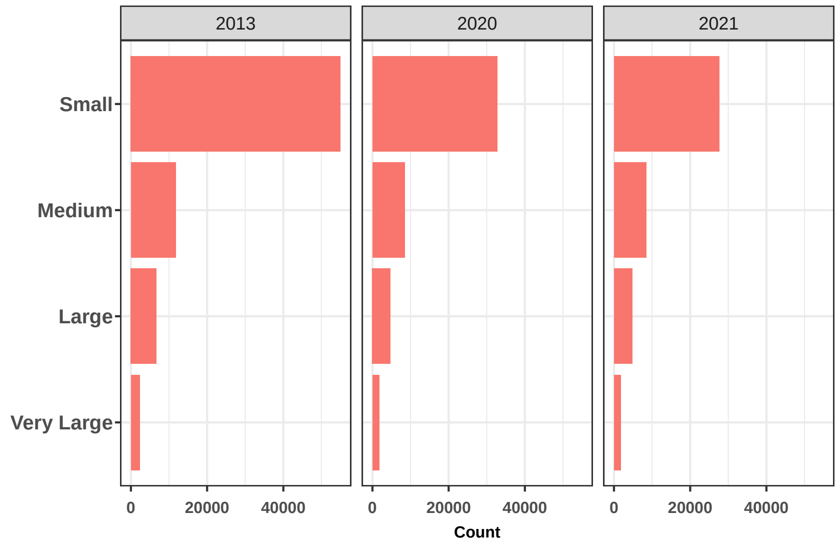
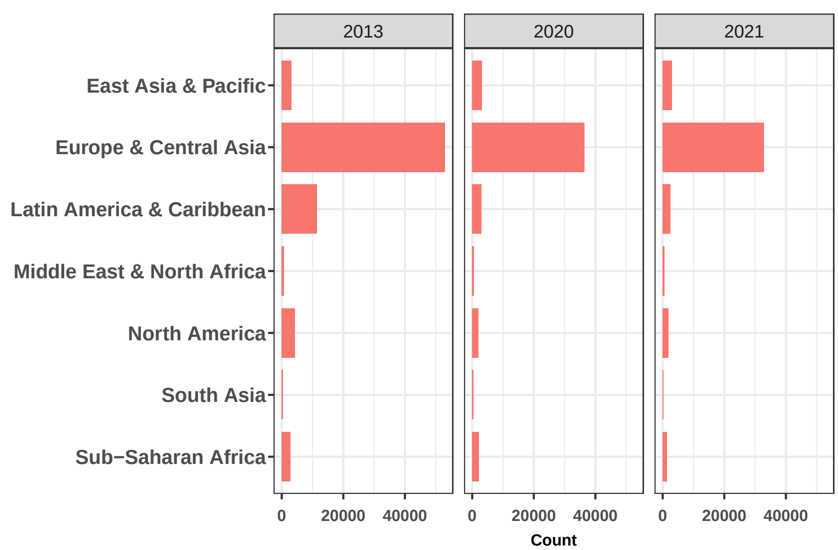


Figure 4.10. Distribution of Foreign-Invested Firms by Home Region (2013, 2020 & 2021)



5 Guidance from home state leaders

To examine potential heterogeneity in domestic political pressure within the coalition of sanctioning states, we code statements in which home state leaders commented on what firms from their state should do regarding preexisting investments in Russia. For each state on the "Unfriendly Countries" List, we researched official government documents, news reports, and similar to find what if anything incumbent leaders had publicly commented on the issue during the study period. For eight home states (Canada, Estonia,[7] France, Japan, Lithuania, Ukraine, United Kingdom, and United States), we found statements that we see as sufficiently explicit to be interpreted as offering public guidance to multinational corporations above and beyond that implied by being on the "Unfriendly Countries List" per se.[8] In the table below, we list our coding of the resulting guidance, where 1 indicates guidance to exit Russia, and 0 indicates a statement that on balance does not encourage exit from Russia. The illustrative quotation on which our coding is based and source are included. For other "unfriendly" states not listed, we could not identify a public statement on the issue in the study period.

Home	Guidance	Quotation	Source
Canada	1	"The Government of Canada recommends that companies assess their operations, take any appropriate action to comply with Canadian sanctions measures and export and brokering controls, and uphold high standards of human rights and responsible business conduct." (2 March 2022)	https://www.thenarwhal.ca/canadian-companies-russia-sanctions/
Estonia	1	"There will be no business as usual with Mr. Putin's Russia. In fact, there can be no business at all." - Prime Minister (2 March 2022)	https://www.nytimes.com/2022/03/24/opinion/nato-russia-putin-estonia.html
France	0	"I have asked companies active in the sectors concerned by the sanctions to follow the rules set out by France...But my position is that companies should decide by themselves [whether they should maintain their activities in Russia]." - President (29 March 2022)	https://www.dw.com/en/ukraine-war-french-companies-in-russia-under-pressure-to-leave/a-61289441
Japan	0	"The Japanese government asked the companies to 'positively consider' continuing their investments...A senior official of a major trading company said, 'The government showed us a direction, which made it easier for us to make a decision [to stay].''' - Reporting in Asahi Shimbun newspaper (24 February 2023)	https://www.asahi.com/ajw/articles/14847256
Lithuania	0	"Overall, Russia accounts for only one percent of Lithuania's total investment in other countries, which is certainly a small proportion." - Deputy Minister of Economy, commenting on (unsuccessful) proposed ban on Lithuanian business in Russia (2 August 2022)	https://www.lrt.lt/en/news-in-english/19/1751994/as-lithuania-considers-total-ban-on-business-with-russia-firms-fear-unintended-consequences
Ukraine	1	"I am asking to make sure that the Russians do not receive a single penny that they use to destroy people in Ukraine." - President (16 March 2022)	https://www.wsj.com/articles/ukraines-zelensky-urges-businesses-to-leave-russia-in-speech-to-congress-11647448370
United Kingdom	1	"While I recognize it may be challenging to wind down existing investments, I believe there is no argument for new investment in the Russian economy...I am urging asset owners and managers to think very carefully about any investment that would in any sense support Putin and his regime." - Finance Minister (later Prime Minister) (12 March 2022)	https://www.reuters.com/markets/deals/uks-sunak-urges-firms-leave-russia-2022-03-13/
United States	1	"The United States welcomes the decisions of companies to exit Russia because they want no part of Putin's war of choice against Ukraine." - President (22 May 2023)	https://www.state.gov/holding-russia-and-belarus-to-account/

[7] The Estonian Prime Minister became embroiled in scandal when it came to light that her husband's businesses had not exited Russia. Musaddique, Shafi. 28 August 2023. "Estonia PM under pressure over husband's alleged Russia business links." The Guardian.

[8] The coding also applies to polities associated with the home state as explained in Appendix 12.2.

6 Russian strategic industries

The list of strategic companies that we used to indirectly identify strategic industries was released by the Russian government in 2008 as part of economic stabilization efforts amid the Global Financial Crisis. The document is available from the Internet Archive.[9] A 2008 post with the original link can still be found on a reputable Russian financial news website as of October 2023.[10] The list of 295 "systemically important organizations" is explained as those "regarded as priority objects of government support in the event of a crisis." Our goal was to recover the 4-digit NAICS industry code associated with each entry on the list, which we then redeploy as our list of Russian strategic industries.

To do this, we matched companies on the 2008 list to Orbis in order to retrieve NAICS 4-digit primary industry codes. When not listed in Orbis, we used three Russian databases to fill missing data: List-Org,[11] Rusprofile,[12] and RBC Companies.[13] Sometimes, we were able to recover OKVED codes (Russian National Classifier of Economic Acivities); we used ChatGPT to crosswalk between OKVED and NAICS codes where necessary. For companies on the 2008 list that had been dissolved or taken over, we used the industry code indicated in the latest profile of the dissolved company. For companies that were reorganized, we used the industry code indicated in the current company profile. Some of the individual entries on the list are company groups that match to multiple legally independent entities; we select the industry code that is the best match to the company group's activities, based on our expertise. In a limited number of cases, industry codes recorded in Orbis and/or other databases were misleading. For example, Russia's state-controlled operator of nuclear power stations Rosatom is recorded in various databases with "general public administration activities" as its primary industry. For situations like this, we determined a more accurate code by using secondary industry codes associated with the firm, or using industry codes reported by competitors, again informed by our expertise. Decisions are documented in replication data, as well as other issues we faced in the data collection and matching process, such as spelling/transliteration issues.

Table 6.5 lists the resulting 84 industries (NAICS 4-digit), with codes corresponding to the 2017 revision. (Note that in analyses, we update codes to correspond to the 2022 revision to match our other covariates.)

[9] https://web.archive.org/web/20090117082516/http:/government.ru/content/governmentactivity/mainnews/33281de212bf49fdbf39d611cadbae95.doc. Last accessed 23 October 2023.
[10] https://www.banki.ru/news/lenta/?id=772891. Last accessed 23 October 2023.
[11] https://list-org.com/. Last accessed 23 October 2023.
[12] https://www.rusprofile.ru/. Last accessed 23 October 2023.
[13] https://companies.rbc.ru/. Last accessed 23 October 2023.

Table 6.5. Russian strategic industries: NAICS codes and descriptions (2017 revision)

NAICS	Description
1111	Oilseed and Grain Farming
1119	Other Crop Farming
1121	Cattle Ranching and Farming
1122	Hog and Pig Farming
1123	Poultry and Egg Production
1125	Aquaculture
2111	Oil and Gas Extraction
2121	Coal Mining
2122	Metal Ore Mining
2123	Nonmetallic Mineral Mining and Quarrying
2131	Support Activities for Mining
2211	Electric Power Generation, Transmission and Distribution
2213	Water, Sewage and Other Systems
2361	Residential Building Construction
2362	Nonresidential Building Construction
2371	Utility System Construction
3112	Grain and Oilseed Milling
3114	Fruit and Vegetable Preserving and Specialty Food Manufacturing
3116	Animal Slaughtering and Processing
3121	Beverage Manufacturing
3221	Pulp, Paper, and Paperboard Mills
3241	Petroleum and Coal Products Manufacturing
3251	Basic Chemical Manufacturing
3252	Resin, Synthetic Rubber, and Artificial and Synthetic Fibers and Filaments Manufacturing
3253	Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing
3254	Pharmaceutical and Medicine Manufacturing
3262	Rubber Product Manufacturing
3271	Clay Product and Refractory Manufacturing
3273	Cement and Concrete Product Manufacturing
3279	Other Nonmetallic Mineral Product Manufacturing
3311	Iron and Steel Mills and Ferroalloy Manufacturing
3312	Steel Product Manufacturing from Purchased Steel
3313	Alumina and Aluminum Production and Processing
3314	Nonferrous Metal (except Aluminum) Production and Processing
3315	Foundries
3323	Architectural and Structural Metals Manufacturing
3329	Other Fabricated Metal Product Manufacturing
3331	Agriculture, Construction, and Mining Machinery Manufacturing
3333	Commercial and Service Industry Machinery Manufacturing
3335	Metalworking Machinery Manufacturing
3336	Engine, Turbine, and Power Transmission Equipment Manufacturing
3339	Other General Purpose Machinery Manufacturing
3344	Semiconductor and Other Electronic Component Manufacturing
3353	Electrical Equipment Manufacturing
3359	Other Electrical Equipment and Component Manufacturing
3361	Motor Vehicle Manufacturing
3362	Motor Vehicle Body and Trailer Manufacturing
3363	Motor Vehicle Parts Manufacturing
3364	Aerospace Product and Parts Manufacturing
3365	Railroad Rolling Stock Manufacturing
3366	Ship and Boat Building
3369	Other Transportation Equipment Manufacturing
4235	Metal and Mineral (except Petroleum) Merchant Wholesalers
4238	Machinery, Equipment, and Supplies Merchant Wholesalers
4239	Miscellaneous Durable Goods Merchant Wholesalers
4242	Drugs and Druggists' Sundries Merchant Wholesalers
4244	Grocery and Related Product Merchant Wholesalers
4245	Farm Product Raw Material Merchant Wholesalers
4247	Petroleum and Petroleum Products Merchant Wholesalers
4249	Miscellaneous Nondurable Goods Merchant Wholesalers
4451	Grocery and Convenience Retailers
4811	Scheduled Air Transportation
4821	Rail Transportation
4831	Deep Sea, Coastal, and Great Lakes Water Transportation
4832	Inland Water Transportation
4869	Other Pipeline Transportation
4881	Support Activities for Air Transportation
4883	Support Activities for Water Transportation
4889	Other Support Activities for Transportation
4911	Postal Service
5174	Satellite Telecommunications
5222	Nondepository Credit Intermediation
5311	Lessors of Real Estate
5312	Offices of Real Estate Agents and Brokers
5313	Activities Related to Real Estate
5331	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)
5411	Legal Services
5413	Architectural, Engineering, and Related Services
5415	Computer Systems Design and Related Services
5416	Management, Scientific, and Technical Consulting Services
5417	Scientific Research and Development Services
5511	Management of Companies and Enterprises
7139	Other Amusement and Recreation Industries
9211	Executive, Legislative, and Other General Government Support

7 Orbis data: Querying, processing, and additional information

The Orbis database, owned by Moody's Analytics (and previously owned by Bureau van Dijk), is an industry leader that provides comprehensive ownership and financial data for firms. According to a 2020 OECD study, the Orbis database covers over 200 million firms worldwide (Bajgar et al., 2020, 7). Orbis sources information from various vendors for different countries in addition to its proprietary, in-house efforts. Table 7.6 summarizes the information providers that account for the data in our pre-invasion sample. Note that data on some firms is informed by multiple data sources.

Table 7.6. Information Providers

Information Provider	Firm count	Percentage
CredInform	44,968	93.66
BvD Ownership database	3,024	6.30
BvD Research	11	0.02
World'Vest Base Inc.	3	0.01
A.M. Best	2	0.00
LEI	2	0.00
BvD Research Bank Regulatory Feeds	1	0.00

Each company and its shareholders in Orbis are assigned a unique BVD number, allowing users to track ownership changes and other information based on these numbers. What we call foreign-invested firms have unique BVDs. Shareholders of a BVD are referred to as owners or shareholders at the first level. What we call the parent company always indicates the controlling global ultimate owner (GUO), which is the GUO with greater than 50% ownership. In Orbis nomenclature, this is GUO50. We account for missing and incomplete information at both the BVD and GUO50 level in making coding decisions and probing the robustness of results.

7.1 Russian reporting interruption

In response to conversations about data disruption issues during the study period, Moody's shared with the authors a memo (received via email on 28 August 2023). We quote relevant sections here:

> Last year, we communicated that due to legislation passed by the government of Russia which significantly reduced the availability of data on companies, their shareholders, and individuals, as well as disruptions to company data collection in Ukraine, we had taken steps to pause all updates to Russian, Ukrainian and Kazakh entities in Ruslana and Orbis by 5th August 2022. ... We paused all updates in order to prevent disruptions to our clients due to these significant data losses. Since that time, we developed a solution which will update Ruslana and Orbis to include the most up-to-date information available, while also enabling clients to access a new dataset that provides historical data through a separate product which we made available on 20th June 2023. We resumed publishing updated data for these countries in Orbis and Catalysts products on 2nd June 2023.

Data Changes: Changes to Russian Statutory Data Disclosure Requirements

- The names of some, but not all, Russian individuals who are shareholders of company equity have been removed from data we receive and have been replaced by labels such as "Other person" or "Other natural person" or "Other legal person," which masks the shareholder's identity.
- This change includes individuals or companies that may be sanctioned by compliance authorities, and may limit our ability to detect when a company is owned by a sanctioned Russian entity. This may also impact our ability to detect companies which have been sanctioned by extension.
- All ownership data that depends on identifying a shareholder may be affected as the relationship between shareholder and their controlling interest is no longer visible for persons or companies that are now reported as "Other person" or "Other natural person" or "Other legal person."
- Russian companies can choose to no longer publicly disclose their financial reporting statements. We will retain all historical financials, but may not receive updated financials for some companies in the future.

7.2 Selection into pre-invasion sample

To construct the pre-invasion sample of foreign-invested firms in Russia, we queried from Orbis's semi-annual ownership history table all observations in Russia (ISO = "RU") that had at least one non-Russian shareholder at the first level (type_of_relation = "SHH" or "HQ") or whose GUO50 was non-Russian, as of 31 December 2021. We also queried complete shareholder information as of 31 December 2021.

We keep all observations with a non-Russian GUO50. We also keep observations in which a single non-Russian shareholder (i.e., ISO $\neq$ "RU") at the first level meets the 10% ownership threshold. It is not relevant for our purposes whether ownership is established via direct or total channels, so our decisions are not influenced by these factors; an owner can meet the threshold via direct or total ownership.

In some instances, an observation is selected into the sample because the GUO50 is non-Russian, but there is not sufficient information at the first level to select the observation into the sample. For these observations, we turn on an indicator variable Classification via parent.

In some instances, GUO50 information is missing. This can be because (a) ownership is dispersed, and no single foreign owner holds a majority stake in the parent – hence no GUO50 exists; (b) Orbis is unable to fully identify the parent, and thus the GUO50 is not determined; or (c) there is an error in the data. This affects 5,898 observations (13.8% of the pre-invasion sample). We test robustness to dropping these observations (see Appendix 12, Table 12.19).

In addition to those explained here and in the text, we made several additional choices:

- We exclude 16 observations of Public administration (NAICS 92) from our pre-invasion sample, as this is an unusual industry for FDI. Upon examination, we judge that these organizations are not profit-motivated entities and instead BVDs associated with entities like consulates.

- Observations with completely missing ownership information are excluded from our dataset, as we cannot have confidence in whether they are foreign or not.
- Of the observations selected by our procedures, several thousand were classified by Orbis as "inactive" (indicating that the firm is dissolved, liquidated, in liquidation, or subject to a demerger, merger, or takeover, although the lion's share of codings are "Inactive [no precision]"). Per our definition of exit, these firms had already exited Russia and are thus excluded from the sample. We also confirm that none of these observations had become active as of the end of the study period.

7.3 Coding exit: Additional information

We follow the same procedures to draw data as of 31 August 2023 (18 months into the war). We merged these two datasets using unique BVDs. When we are assessing exit at the BVD (subsidiary) level, we take into account changes in legal status, changes in shareholders at the first level, and changes in the parent (GUO50). In addition to those explained in the text, we made several additional choices in coding exit:

- For each BVD, if the BVD's legal status becomes inactive at t+1, it is coded as exit. There are no further decision rules; this code is final.
- If there are changes in ownership at the first level from t to $t+1$ but the GUO50 is the same at time t and $t+1$, then no exit is recorded. Put differently, we do not code exit if the BVD remains active and the largest foreign owner at the first level changes but the GUO50 remains the same. This allows us to avoid erroneously calling internal corporate reshuffling exit, while accepting the possibility of "false negative" errors leading to an undercount of exit.
- If the GUO50 is missing at $t+1$, we do not have sufficient evidence that it has changed, so we also conservatively do not code exit even if shareholders change at the first level.
- If there is only one qualifying foreign owner at the first level at time t, we code exit if at time $t+1$ that foreign owner does not meet the FDI threshold (and the GUO50 has changed).
- If there are multiple foreign owners at the first level that meet the FDI threshold at time t, then the indicator variable MULTIPLE DIRECT INVESTORS turns on. We define exit based on the largest foreign shareholder, assuming that is the foreign owner exercising the greatest managerial control.
- In a handful of cases, ownership is split among multiple foreign shareholders and there is no unique largest foreign shareholder. In those cases, we implement a lottery to draw what we treat as the largest foreign shareholder.
- If we have insufficient information to code exit at the first level, but the GUO50 has changed from t to $t+1$, we code exit.
- For observations that enter the dataset based on information about the GUO50 (meaning we have insufficient information at the first level to select into the sample), recall that the CLASSIFICATION VIA PARENT indicator turns on. In these cases, we code exit based on changes in the GUO50 from t to $t+1$. Again, if GUO50 is missing at $t+1$, we do not code exit.
- To code *exit-to-domestic* or *exit-to-foreign*, we apply the nationality coding rules to the identity of the owners at time $t+1$, as described in the text and the following Appendix 7.4. If there are no owners at $t+1$ suitable to enter a code of foreign, then the outcome is *exit-to-domestic*.

As a hypothetical example, consider a scenario in which a GUO50 controls five BVDs in the pre-invasion sample. Perhaps BVD-1 exits to inactive, meaning that the BVD's legal status is inactive at

$t+1$. Perhaps BVD-2 and BVD-3 exit, such that the foreign shareholders at the first level are no longer present $t+1$. Before finalizing the BVD-2 and BVD-3 codes, we look up the corporate ladder to confirm that the GUO50 has also changed. Suppose that the GUO50 has changed for BVD-2; that confirms a code of exit. Suppose the GUO50 has not changed for BVD-3; we override the BVD-level information and do not code exit. In this way, we take both our level of analysis (BVD/foreign-invested firm) and the parent company (GUO50) into account in coding exit.

Continuing this hypothetical, suppose that for BVD-4 and BVD-5, we do not find sufficient evidence at the first level to code exit. Again, we confirm these codes of non-exit by looking up the corporate ladder to GUO50 at time $t+1$. Suppose the GUO50 for BVD-4 has changed at $t+1$; this information causes us to override, as we now have sufficient evidence to code exit (to foreign or domestic depending on the nationality of the new GUO50). Suppose the GUO50 for BVD-5 is unchanged at $t+1$; in this case there is no reason to override the BVD-level code of non-exit.[14]

Altogether, in this scenario, we code exit for BVD-1, BVD-2, and BVD-4, but not for BVD-3 or BVD-5. In our primary dependent variable, we aggregate across sub-components of exit to form one outcome variable, so the dependent variable equals 1 for BVDs 1, 2, and 4, and it equals 0 for BVDs 3 and 5. In our exploratory extension we take sub-codings into account (Section).

7.4 Coding nationality: Additional information

It is important for us to identify the nationality of each BVD in our data. The first decision rule is that the nationality of each BVD is equivalent to the nationality of the largest foreign shareholder at the first level. In our data, the nationality of each BVD's largest foreign shareholder at the first level is uniquely identified.[15] In the event that first-level information is missing or insufficient, the nationality of the BVD is defined as the nationality of its GUO50.

BVDs can have ties to more than one nationality. In our data and per our definitions, this happens when the GUO50's nationality is different from the nationality of the largest foreign owner at the first level. If this is the case, the indicator variable Multiple home states turns on. In practice, the largest foreign shareholder at the first level and the GUO50 may be located in different jurisdictions for various reasons. For example, the parent company may strategically register an intermediate holding company in a tax haven; subsidiaries may be controlled by a regional office; or mergers and acquisitions (M&As) may result in a complex corporate structure spanning multiple jurisdictions.

[14] To illustrate one more complication, it is possible that there were changes in ownership recorded in Orbis for BVD-5 at intermediate levels between the BVD and the GUO50. For example, there may be domestic ultimate owners (DUOs) recorded. We wholly disregard changes like these as they do not constitute exit.

[15] In the handful of cases in which we implement a lottery to decide the largest foreign shareholder (see above), all candidates are of the same nationality.

Our goal is to capture all the home states to which a given BVD is exposed, to the extent it is sensible and possible with our data. Practically, we pursue this goal by coding variables based on the first-level nationality, and updating those codes if and when different information at the GUO50 level merits doing so. These coding choices to account for multiple nationalities apply to the following explanatory and control variables: Unfriendly home state, Tax haven, EU member, Cyprus, Ukraine, Economic treaties (IIA, PTA, DTT).

The situation is more complicated for continuous variables – Trade with Russia, as well as robustness variables GDP per capita, Liberal democracy (V-Dem), and UNGA voting similarity. For these, we implement the following decision rule: the first-level nationality determines the home state, or, if first-level information is missing or insufficient, the GUO50 nationality is used.

7.5 Coding observations linked to Russian expropriation in study period

As discussed in the text, it was well-known and well-covered in the international press that Russia expropriated assets of four large multinational corporations in the study period: Carlsberg (Denmark), Uniper SE (Germany), Fortum (Finland), and Danone (France). Changes in ownership of these entities during the study period is complicated by Russian actions, such that we cannot interpret changes in these firms' ownership as voluntary. It is thus important that we establish robustness of results to these firms' inclusion or exclusion from the analytical sample. We take a conservative approach to coding observations whose ownership decisions might be affected. We mark all BVDs in our pre-invasion sample under the parent companies Carlsberg A/S (17 observations) and Danone (54 observations). For Fortum, the Finnish government is the majority shareholder and thus the parent company, so we mark all subsidiaries with the Finnish government as GUO50 (49 observations), as well as any additional observations with Fortum in the name although the Finnish government is not the GUO50 (1 observation). Uniper SE is more complicated. The German government took over near-full ownership of Uniper SE in the study period (December 2022). We therefore mark all subsidiaries with the German government as GUO50 (10 observations). We further mark observations with names that have been linked to Uniper SE in Russia but do not have the German government as GUO50 (1 observation).[16]

To augment this measure, we look at Decree N 302 issued by the Russian state during the study period, "concerning the temporary administration of certain property," which was originally issued on 25 April 2023, updated 16 July 2023, and updated 18 September 2023 (only 18 days after the study period, so we treat it as in the study period). This decree and its revisions contains lists of entities tied to "unfriendly" states for which the Russian state asserted temporary control, with the stipulation that

[16] What were in the study period Uniper SE investments in Russia had been repeatedly restructured under different ownership combinations and names; we looked for matches to: E.ON, Unipro, Uniper, and OGK-4 (ОГК-4).

"Temporary management of property shall be terminated by decision of the President of the Russian Federation" (authors' translation). These are the decrees underpinning the expropriation of the firms mentioned above. We add BVDs that are directly or indirectly (via their parent company) tied to entities on this list and not already matched (5 observations).

Last, we consider revisions to Decree N 302 outside of the study period, as summarized in the revision of 30 December 2024 (16 months after the study period). We again add BVDs that are directly or indirectly implicated (87 observations). While these BVDs were not expropriated during our study period, it is possible that they were already subjected to additional Russian interference during the study period and thus any ownership changes during the study period cannot be interpreted as voluntary.

Table 7.7 summarizes the results of our matching procedure for the 137 pre-invasion sample observations linked to "temporary administration" in the study period and an additional 87 observations after the study period, broken down by exit outcomes in the study period. First, the percentage linked in the study period and coded as exit in the study period is far from 100%. This is consistent with the empirical reality that Russian "temporary administration" was not equivalent to outright nationalization; instead, Russian interference with ownership has operated in a quasi-legal way, consistent with past state behaviors well-documented by comparative politics scholars of the Russian political economy. Note also that only four BVDs subject to "temporary administration" *after* the study period matched as having exited *during* the study period, suggesting that "temporary administration" has generally been a tool deployed before (rather than after) a foreign-invested firm has made an ownership change.

Table 7.7. Observations linked to Russian "temporary administration": Exit outcomes in study period

	Total	Exit	To Foreign	To Domestic	To Inactive
Linked in study period	137	44 (32.1%)	24 (17.5%)	15 (11.0%)	5 (3.7%)
Linked after study period	87	4 (4.6%)	1 (1.1%)	2 (2.3%)	1 (1.1%)

Notes: "Linked after study period" is assessed after 16 months (30 December 2024). See above for detail.

An observable implication of our H2b is that foreign-invested firms in strategic industries are more likely to be included in formalized "temporary administration" efforts. In support, 73.2% of observations in Table 7.7 are also in Russian strategic industries. As reported in Appendix 12, results are robust to dropping Table 7.7 observations from the analytical sample.

8 Orbis data: Coverage and representativeness

8.1 Study period v. historical data

While the study period covers an 18-month time span, our reconstruction of historical data for context and placebo tests is on an annual (12-month) basis. The reason for this difference is that we wanted to maximize the time span of the study period, and were able to collect monthly data to do so, but we cannot do the same for historical periods. For the study period, we did our final data query in real time in early September 2023, to represent the most up-to-date information as of the end of August 2023.[17] We were thus able to calibrate historical data with real-time data from the Orbis interface (online version), which is updated more frequently than the historical databases. However, the Orbis interface (online version) is designed to only provide the most recent information, such that updates overwrite previous information. For the pre-study period, our conversations with experts at Orbis confirmed that the annual snapshots we recover from historical data reflect firms' status at the end of the calendar year. We thus rely on Moody's internal data procedures to reconcile potential discrepancies between fiscal and calendar years.

8.2 Considerations regarding missing ownership information and exit

As explained in the text and Appendix 7.3, the bases for coding exit (other than to inactive) are changes in the first-level FDI-qualifying foreign owner and/or the GUO50. Since the exit variable is coded based on changes in ownership, missing ownership information poses a serious challenge. This section details the missingness in ownership information and validates our exit variable. In sum, our adjudication is that to the extent that missing ownership information affects our ability to code exit, it is very limited, and it is biasing our coding away from recognizing exit when it does occur.

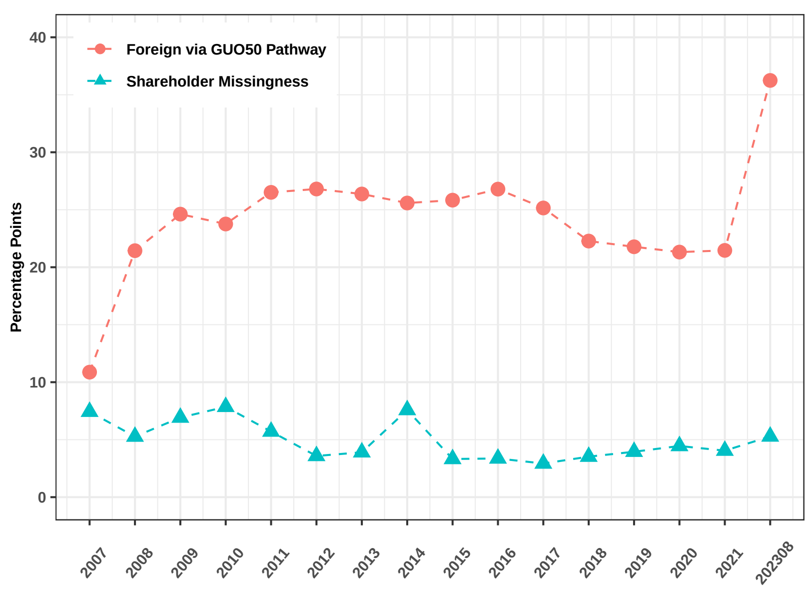
First, we examine missingness in shareholder information by summing the ownership shares of all recorded shareholders for each foreign-invested firm (BVD) in the pre-invasion sample. If the sum exceeds 90%, it is not possible for a single foreign shareholder with at least 10% ownership to be missing. For our purposes, these observations can be understood as having full shareholder information. However, if the sum is less than or equal to 90%, there is a possibility that a foreign shareholder with at least 10% ownership is not recorded. How prevalent is this shareholder missingness issue in the data? Figure 8.11 (triangles) plots the percentage of foreign-invested firms with shareholder missingness from 2007 through the end of the study period in August 2023. In recent years, around 5% of foreign-invested firms suffer from shareholder missingness. Put differently, it is at least theoretically possible that about 5% of observations

[17] Recall that data reporting had been suspended from 5 August 2022 to 2 June 2023 (see Appendix 7.1).

in our sample have an unreported FDI-level owner that our procedures are not picking up. Analytically, the consequence of this very limited missingness would be that we are under counting exit.

Second, recall that in the absence of sufficient first-level information, we select a firm into our sample if its GUO50 is non-Russian. In some instances, it is known that there are not FDI-level foreign owners at the first level (i.e., all greater than 10% first-level owners are located in Russia). In other instances, first-level information is missing or unknown, such that it is possible that there is an FDI-level foreign owner at the first level that our procedures are not picking up. Figure 8.11 (dots) plots the percentage of foreign-invested firms defined via the GUO50 pathway over time. This proportion remained slightly above 20% in the years immediately preceding the study period but rose sharply to 36% by August 2023. Put differently, we lean much more heavily on the GUO50 in defining foreign ownership at the end of the study period, compared to the beginning of the study period and historical data. This spike is consistent with Orbis's acknowledgment that after Russian data reporting restarted, many shareholder-level details previously available were now missing (see again Appendix 7.1). Our sensitivity to these complications informed our coding decisions regarding exit. As discussed in the text and Appendix 7.3, our coding of exit (other than to inactive) requires that the GUO50 is different at time t and $t + 1$. If there is missing data on GUO50 at $t + 1$, we do not code exit.

Figure 8.11. Ownership data considerations, in historical comparison



Notes: Triangles indicate the percentage of BVDs whose first-level shareholder ownership sums to $\leq 90\%$. Dots represent the percentage of BVDs classified via the GUO50 pathway.

8.3 Representativeness for Russia

It is a difficult task to compile the population of foreign-invested firms in a highly integrated, large economy at a given point; this is one reason studies often select on the largest or most prominent firms, for example. The advantage of using Orbis data, in our view, is to draw a pre-invasion sample that is as close to the population as possible. How representative is our pre-invasion sample? To assess this question, we compare Orbis data to data obtained from the Federal Tax Service of Russia (FTS). To clarify, we cannot use FTS data for our study, as these data report numbers of firms only, and at high levels of aggregation. First, we evaluate Orbis's coverage of firms operating in Russia, of whatever type. Second, we examine the representativeness of our pre-invasion sample of foreign-invested firms. To summarize, we find an exceptionally good match between the FTS data and Orbis, which increases our confidence in Orbis as a data source and the validity of our approach.

To address the first point, we queried all entities in Russia as of 31 December 2021, from Orbis's semi-annual ownership history table. The initial query returned 8,890,028 records. We excluded entities lacking legal form information (2,033,534), those classified as sole traders (3,598,673),[18] and branches (109,161),[19] based on Orbis's standardized legal form column. After filtering, 3,148,660 observations remained. For benchmarking, we use FTS data released on 1 October 2021, which is the release date closest to the beginning of our study period (31 December 2021).[20] The FTS reported a total of 3,379,384 registered legal entities in Russia as of that date. Orbis's count is 93.2% of the FTS count, which suggests that Orbis provides comprehensive coverage of firms in Russia.

To assess the representativeness of the Orbis data, we compare the industry distribution of firms in Orbis to that reported by Russia's FTS at the two-digit NAICS level.[21] One limitation of the Orbis data is that 45.7% of records lack an industry classification code. Consequently, the industry distribution in Figure 8.12 is based on only the Orbis records that include valid industry codes. Even with that caveat, the distribution of firms across industries in the left and right panels of Figure 8.12 is very similar; Orbis does not appear to be systematically missing firms by industry.

It is a more difficult task for us to examine the representativeness of the Orbis sample of foreign-invested firms. Russia's FTS does not define foreign-invested firms as we do. We define foreign-invested firms according to international standards.[22] Whereas, Russia's FTS classifies foreign-invested firms into two mutually exclusive categories: wholly foreign-owned (Иностранная собственность) and joint

[18] Sole traders are not considered legal entities under Russian law.

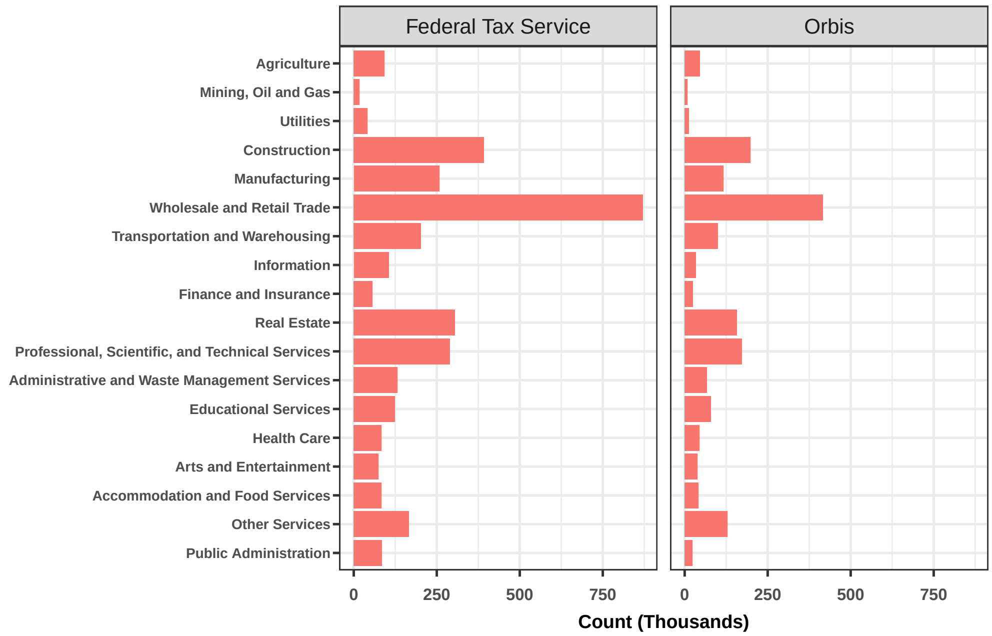
[19] A branch is part of the same legal entity as the main (or head) office. It is not a separate legal entity but rather an extension of another company.

[20] We thank David Szakonyi for directing us to the data.

[21] To facilitate a crosswalk from Russia's OKVED classification to NAICS, we aggregate NAICS codes 31–33 into Manufacturing, 42–45 into Wholesale and Retail Trade, and 54–55 into Professional, Scientific, and Technical Services.

[22] A single foreign owner at the first-level with 10% or more (direct or indirect) ownership, and/or BVDs ultimately controlled by non-Russian entities (GUO50).

Figure 8.12. Industry distribution of all firms in Russia (2021)



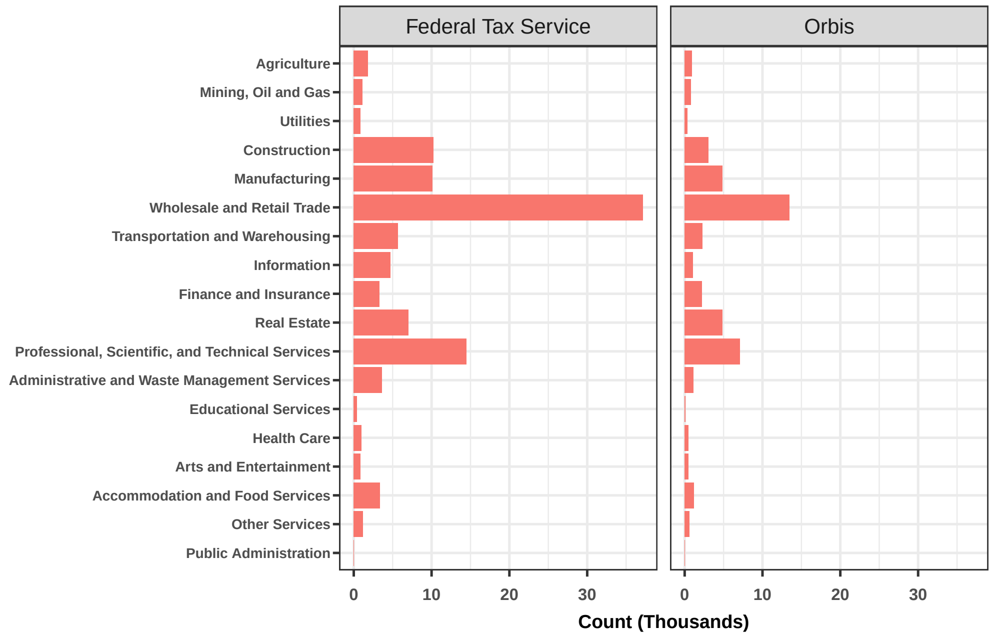
ventures (Совместная российская и иностранная собственность). The latter category includes all firms with any degree of foreign ownership. Thus, the FTS data marks firms with foreign owners that are engaging in portfolio, rather than direct, investment, and are therefore outside our scope. The FTS data are also from 1 October 2021 (3 months before our study period), are collected domestically through Russian government bureaucracies rather than augmented with international sources; and in general have characteristics that are likely to create further discrepancies with Orbis data.

The FTS data also come with limited information on firm-level characteristics, except for industry. However, we can evaluate the representativeness of our pre-invasion sample by comparing it to the industry distribution in the FTS data on foreign firms. As shown in Figure 8.13, the two industry distributions are very similar, suggesting that our sample is broadly representative. Recall also that we use industry fixed effects in analyses, so if and when there are industry-specific complications in the Orbis data, fixed effects go some way toward accounting for them.

In sum, our assessment suggests that the Orbis data provides comprehensive coverage of firms in Russia – 93.2% of firms against a benchmark from the Russian tax service. Additionally, our pre-invasion sample appears representative against the best metric available to us as a benchmark – the distribution by industry of firms the Russian tax service identifies as foreign.

That said, Orbis coverage varies considerably across countries. Just because it is representative for Russia and our purposes does not imply that will be in all times and places. An additional challenge

Figure 8.13. Industry distribution of foreign firms in Russia (2021)



Notes: Definitions of foreign firms different between the Russian FTS and Orbis data. See text.

lies in the substantial number of missing values in key variables such as financials, which can significantly reduce the number of usable observations and may affect the dataset's representativeness depending on the research question. We recommend that researchers evaluate the coverage and representativeness of Orbis data on a case-by-case basis. See Bajgar et al. (2020) for a more systematic evaluation of Orbis coverage across a large number of countries.

8.4 Considerations regarding coding re-entry

For the reader interested in the question of re-entry by foreign owners that left in period t-1 and reinvested in Russia in a future period, we note that the replication data have technical issues that limit their immediate use in such a study. As explained, the Orbis database assigns each shareholder a unique BVD. In the Russian case, the BVD typically consists of a unique local tax ID and a two-letter ISO country code. We can use this information to track changes in shareholders and thus identify exit. However, after a shareholder or firm exits, the unique BVD is no longer valid. If the same firm re-enters, it will receive a new tax ID and be assigned a new BVD in the Orbis database. In our understanding, it is incorrect to assume that new BVDs will be derived from or systematically related to previous BVDs. Thus, relying on BVDs is not an appropriate strategy to identify re-entry after exit.

9 Control variables: Definitions and coding

9.1 Variables from Orbis

These variables are taken from Orbis and coded as follows:

- Industry: Industry is coded at the BVD-level (our unit of analysis). This matches the reality that the same parent company (GUO50) can have subsidiaries operating in a variety of disaggregated industries. If BVD-level information is insufficient to code industry, the GUO50 industry is used as a substitute.
- Years in Russia: The year of incorporation on which this measure is based is capped at 1992 so that all firms are incorporated in Russia and not the USSR.
- State-owned equals one if the BVD has an Orbis type "S" shareholder (i.e., non-Russian state, governmental agency, governmental department, and/or local authority as a shareholder). This variable turns on whether or not the type "S" shareholder is the largest foreign shareholder.
- Russian subsidiary presence is calculated as follows: we calculate the proportion of Russian subsidiaries (BVDs) relative to the global total for both the parent company (GUO50) and the largest foreign shareholder at the first level. For each observation, we take the higher of the two proportions to obtain an upper-bound measure of Russian presence.
- Listed outside of Russia: Equals 1 if the BVD's largest foreign shareholder at the first level and/or its GUO50 is listed on any stock exchange(s) outside of Russia.
- Ukraine, UK, Cyprus, EU member: Coding these takes into account the nationality at the unit of analysis and parent level. See additional information on coding nationality above.
- Size: Orbis classifies each BVD into one of four size categories: very large, large, medium, and small, if they meet *at least one of the conditions* listed in each cell for each category in Table 9.8. (While listed status is a component of the very large category, we control for listed status separately in analyses.)

Table 9.8. Orbis firm size criteria

Very Large	(1) Operating Revenue >= 100 million EUR (130 million USD); (2) Total assets >= 200 million EUR (260 million USD); (3) Employees >= 1,000; (4) Listed.
Large	(1) Operating Revenue >= 10 million EUR (13 million USD); (2) Total assets >= 20 million EUR (26 million USD); (3) Employees >= 150; (4) Not Very Large.
Medium	(1) Operating Revenue >= 1 million EUR (1.3 million USD); (2) Total assets >= 2 million EUR (2.6 million USD); (3) Employees >= 15; (4) Not Very Large or Large.
Small	(1) Not included in another category.

9.2 Tax havens

We use the European Union's list of non-cooperative tax jurisdictions, which was adopted in 2017 and since 2020 has been revised twice per year.[23] The EU uses an ordinal coding system: (1) Cooperates with the EU and has no pending commitments; (2) Cooperates with the EU and has pending commitments; (3) Listed: Does not cooperate with the EU or has not fully met its commitments.[24] Our primary coding is an indicator that equals 1 if the state has ever been on the EU list from its inception to the end of our study period, which includes all states listed in Table 9.9. Results of interest are robust to replacing the indicator variable with the ordinal values in Table 9.9.

Table 9.9. EU List of Non-Cooperative Tax Jurisdictions, with codes as of August 2023

Jurisdiction	Code	Jurisdiction	Code
Albania	2	Marshall Islands	3
American Samoa	3	Mauritius	1
Andorra	1	Mongolia	1
Anguilla	3	Montenegro	1
Antigua and Barbuda	1	Montserrat	2
Armenia	2	Morocco	1
Aruba	2	Namibia	1
Australia	1	Nauru	1
Bahamas	3	New Caledonia	1
Bahrain	1	Niue	1
Barbados	1	North Macedonia	1
Belize	2	Oman	1
Bermuda	1	Palau	3
Bosnia and Herzegovina	1	Panama	3
Botswana	2	Peru	1
British Virgin Islands	3	Qatar	2
Cabo Verde	1	Russia	3
Cayman Islands	1	Saint Kitts and Nevis	1
Cook Islands	1	Saint Lucia	1
Costa Rica	3	Saint Vincent and the Grenadines	1
Curacao	2	Samoa	3
Dominica	2	San Marino	1
Eswatini	2	Serbia	1
Faroe Islands	1	Seychelles	2
Fiji	3	Switzerland	1
Greenland	1	Taiwan	1
Grenada	1	Thailand	2
Guam	3	Trinidad and Tobago	3
Guernsey	1	Tunisia	1
Hong Kong	2	Turkey	2
Isle of Man	1	Turks and Caicos Islands	3
Israel	2	United Arab Emirates	1
Jamaica	1	Uruguay	1
Jersey	1	US Virgin Islands	3
Jordan	2	Vanuatu	3
Korea	1	Vietnam	2
Labuan Island	1		
Liechtenstein	1		
Macao	1		
Malaysia	2		
Maldives	1		

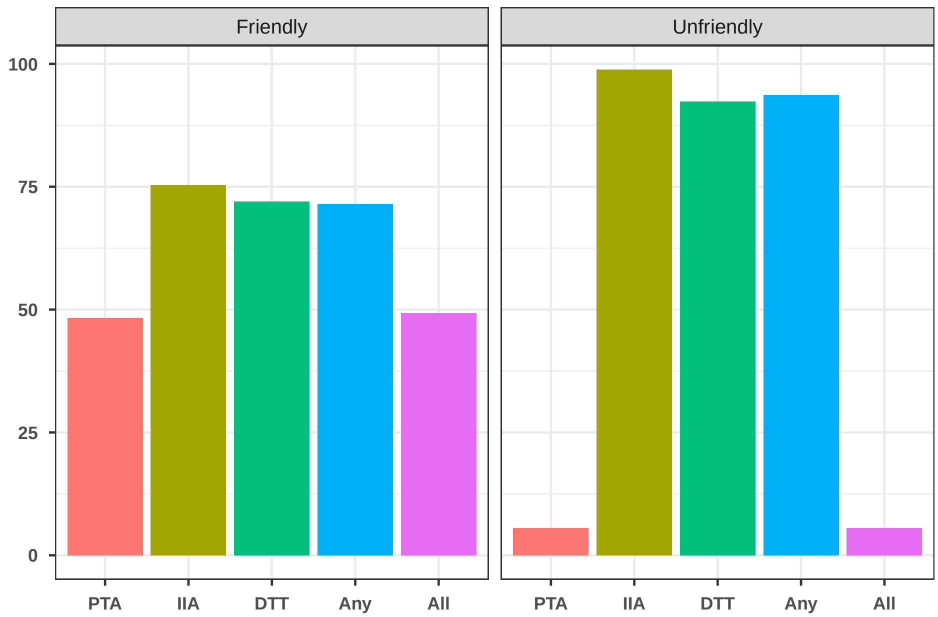
[23] `https://www.consilium.europa.eu/en/policies/eu-list-of-non-cooperative-jurisdictions/`. Last accessed 20 October 2023. A consequence of coding tax havens based on this list is that no EU member state is a tax haven, although some EU states are sometimes considered as such. We control for EU membership in analyses.

[24] Upgraded to 3 during the study period: 4 Oct 2022: Anguilla, Bahamas, and Turks and Caicos. 13 February 2023: British Virgin Islands, Costa Rica, Marshall Islands, and Russia.

9.3 Russian economic treaties

Of the unique homes in the data, 66 are covered by International Investment Agreements (IIAs), the most directly relevant to FDI and political risk. Preferential Trade Agreements (PTAs) cover 14 homes, mostly "friendly" homes in the post-Soviet space. Double Taxation Treaties (DTTs) cover 74 homes. Figure 9.14 summarizes the data by "(un)friendly" status.

Figure 9.14. Percent of pre-invasion sample covered by economic treaties



Notes: Treaties in force as of 24 February 2022. PTA = Preferential Trade Agreement, IIA = International Investment Agreement, DTT = Double Taxation Treaty.

In May 2023 (15 months post-invasion), Russia officially suspended DTTs with a wide swath of "unfriendly" states. These include DTTs with Australia, Austria, Albania, Belgium, Bulgaria, United Kingdom, Hungary, Germany, Greece, Denmark, Ireland, Italy, Iceland, Spain, Canada, Cyprus, South Korea, Latvia, Lithuania, Luxembourg, Malta, North Macedonia, New Zealand, Norway, Poland, Portugal, Romania, Singapore, Slovakia, Slovenia, United States, Sweden, Switzerland, Finland, France, Japan, Croatia, Czech Republic, and Montenegro.

10 UN General Assembly votes

- United Nations General Assembly Resolution ES-11/1 was the original UN vote against the Russian invasion. It was adopted on 2 March 2022. These are the votes other than "approved":[25]
  - Against (5): Belarus, Democratic People's Republic of Korea, Eritrea, Russia, Syria
  - Abstention (35): Algeria, Angola, Armenia, Bangladesh, Bolivia, Burundi, Central Africa Republic, China, Congo, Cuba, El Salvador, Equatorial Guinea, India, Iran, Iraq, Kazakhstan, Kyrgyzstan, Laos, Madagascar, Mali, Mongolia, Mozambique, Namibia, Nicaragua, Pakistan, Senegal, South Africa, South Sudan, Sri Lanka, Sudan, Tajikistan, Uganda, Tanzania, Vietnam, Zimbabwe
  - Absent (12): Azerbaijan, Burkina Faso, Cameroon, Eswatini, Ethiopia, Guinea, Guinea-Bissau, Morocco, Togo, Turkmenistan, Uzbekistan, Venezuela
- United Nations General Assembly Resolution ES-11/2 was the second vote taken against the Russian invasion. It was adopted on 24 March 2022. These are the votes other than "approved":[26]
  - Against (5): Belarus, Democratic People's Republic of Korea, Eritrea, Russia, Syria
  - Abstention (38): Algeria, Angola, Armenia, Bolivia, Botswana, Brunei, Burundi, Central Africa Republic, China, Congo, Cuba, El Salvador, Equatorial Guinea, Eswatini, Ethiopia, Guinea-Bissau, India, Iran, Kazakhstan, Kyrgyzstan, Laos, Madagascar, Mali, Mongolia, Mozambique, Namibia, Nicaragua, Pakistan, South Africa, Sri Lanka, Sudan, Tajikistan, Togo, Uganda, Tanzania, Uzbekistan, Vietnam, Zimbabwe
  - Absent (10): Azerbaijan, Burkina Faso, Cameroon, Comoros, Dominica, Guinea, Morocco, Somalia, Turkmenistan, Venezuela
- United Nations General Assembly Resolution ES-11/3 was the third vote taken against the Russian invasion. It was adopted on 7 April 2022. These are the votes other than "approved":[27]
  - Against (24): Algeria, Belarus, Bolivia, Burundi, Central Africa Republic, China, Congo, Cuba, Democratic People's Republic of Korea, Eritrea, Ethiopia, Gabon, Iran, Kazakhstan, Kyrgyzstan, Laos, Mali, Nicaragua, Russia, Syria, Tajikistan, Uzbekistan, Vietnam, Zimbabwe
  - Abstention (58): Angola, Bahrain, Bangladesh, Barbados, Belize, Bhutan, Botswana, Brazil, Brunei, Cabo Verde, Cambodia, Cameroon, Egypt, El Salvador, Eswatini, Gambia, Ghana, Guinea-Bissau, Guyana, India, Indonesia, Iraq, Jordan, Kenya, Kuwait, Lesotho, Madagascar, Malaysia, Maldives, Mexico, Mongolia, Mozambique, Namibia, Nepal, Niger, Nigeria, Oman, Pakistan, Qatar, Saint Kitts-Nevis, Saint Vincent and the Grenadines, Saudi Arabia, Senegal, Singapore, South Africa, South Sudan, Sri Lanka, Sudan, Suriname, Thailand, Togo, Trinidad-Tobago, Tunisia, Uganda, UAE, Tanzania, Vanuatu, Yemen
  - Absent (18): Afghanistan, Armenia, Azerbaijan, Benin, Burkina Faso, Djibouti, Equatorial Guinea, Guinea, Lebanon, Mauritania, Morocco, Rwanda, Sao Tome-Principe, Solomon Islands, Somalia, Turkmenistan, Venezuela, Zambia
- United Nations General Assembly Resolution ES-11/4 was the fourth vote taken against the Russian invasion. It was adopted on 12 October 2022. These are the results other than "approved":[28]
  - Against (5): Belarus, Democratic People's Republic of Korea, Nicaragua, Russia, Syria
  - Abstention (35): Algeria, Armenia, Bolivia, Burundi, Central Africa Republic, China, Congo, Cuba, Eritrea, Eswatini, Ethiopia, Guinea, Honduras, India, Kazakhstan, Kyrgyzstan, Laos, Lesotho, Mali, Mongolia, Mozambique, Namibia, Pakistan, South Africa, South Sudan, Sri Lanka, Sudan, Tajikistan, Thailand, Togo, Uganda, Tanzania, Uzbekistan, Vietnam, Zimbabwe
  - Absent (10): Azerbaijan, Burkina Faso, Cameroon, Djibouti, El Salvador, Equatorial Guinea, Iran, Sao Tome-Principe, Turkmenistan, Venezuela
- United Nations General Assembly Resolution ES-11/5 was the fifth vote taken against the Russian invasion. It was adopted on 14 November 2022. These are the results other than "approved":[29]
  - Against (14): Bahamas, Belarus, Central African Republic, China, Cuba, North Korea, Eritrea, Ethiopia, Iran, Mali, Nicaragua, Russian Federation, Syria, Zimbabwe
  - Abstention (73): Algeria, Angola, Antigua and Barbuda, Armenia, Bahrain, Bangladesh, Barbados, Belize, Bhutan, Bolivia, Botswana, Brazil, Brunei, Burundi, Cambodia, Congo, Egypt, El Salvador, Equatorial Guinea, Eswatini, Gabon, Gambia, Grenada, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Iraq, Israel, Jamaica, Jordan, Kazakhstan, Kyrgyzstan, Laos, Lebanon, Lesotho, Libya, Madagascar, Malaysia, Mauritania, Mauritius, Mongolia, Mozambique, Namibia, Nepal, Nigeria, Oman, Pakistan, Rwanda, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Saudi Arabia, Serbia, Sierra Leone, South Africa, South Sudan, Sri Lanka, Sudan, Suriname, Tajikistan, Thailand, Timor-Leste, Trinidad and Tobago, Tunisia, Uganda, United Arab Emirates, Uzbekistan, Vietnam, Yemen

[25] Source: `https://www.aljazeera.com/news/2022/3/3/unga-resolution-against-ukraine-invasion-full-text`
[26] Source: `https://news.un.org/en/story/2022/03/1114632`
[27] Source: `https://news.un.org/en/story/2022/04/1115782`
[28] Source: `https://news.un.org/en/story/2022/10/1129492`
[29] Source `https://digitallibrary.un.org/record/3994052?ln=en`

- Absent (12): Azerbaijan, Burkina Faso, Cameroon, Democratic Republic of the Congo, Dominica, Morocco, São Tomé and Príncipe, Senegal, Tonga, Tanzania, Turkmenistan, Venezuela

- United Nations General Assembly Resolution ES-11/6 was the sixth vote taken against the Russian invasion. It was adopted on 23 February 2023. These are the results other than "approved":[30]
  - Against (7): Belarus, Democratic People's Republic of Korea, Eritrea, Mali, Nicaragua, Russia, Syria
  - Abstention (32): Algeria, Angola, Armenia, Bangladesh, Bolivia, Burundi, Central African Republic, China, Congo, Cuba, El Salvador, Ethiopia, Gabon, Guinea, India, Iran, Kazakhstan, Kyrgyzstan, Laos, Mongolia, Mozambique, Namibia, Pakistan, South Africa, Sri Lanka, Sudan, Tajikistan, Togo, Uganda, Uzbekistan, Vietnam, Zimbabwe
  - Absent (13): Azerbaijan, Burkina Faso, Cameroon, Dominica, Equatorial Guinea, Eswatini, Grenada, Guinea-Bissau, Lebanon, Senegal, Turkmenistan, Tanzania, Venezuela

[30]Source `https://www.aljazeera.com/news/2023/2/24/un-tells-russia-to-leave-ukraine-how-did-countries-vote`

11 Placebo tests

Table 11.10. Determinants of Foreign-Invested Firm Exit (2020–2021)

	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	0.099***	0.096***			
	(0.015)	(0.010)			
On name-praise-shame list	-0.142***	-0.132***			
	(0.013)	(0.012)			
Consumer-oriented industry	0.011	-0.005			-0.003
	(0.018)	(0.020)			(0.021)
Bargaining over terms					
Russian managerial control			-0.053***	-0.032***	-0.032***
			(0.008)	(0.010)	(0.010)
Russian strategic industry			0.015	0.010	0.009
			(0.016)	(0.016)	(0.016)
High fixed assets			-0.034	-0.024	-0.024
			(0.022)	(0.024)	(0.025)
Home level controls					
Trade with Russia		-0.008***		-0.010***	-0.010***
		(0.002)		(0.002)	(0.002)
Tax haven		0.016		0.006	0.006
		(0.010)		(0.012)	(0.012)
Cyprus		0.102***		0.108***	0.108***
		(0.015)		(0.015)	(0.015)
IIA		-0.115***		-0.076***	-0.076***
		(0.015)		(0.013)	(0.013)
PTA		-0.144***		-0.201***	-0.201***
		(0.035)		(0.035)	(0.035)
DTT		-0.081***		-0.074***	-0.074***
		(0.018)		(0.017)	(0.018)
EU member		0.006		0.024*	0.024*
		(0.011)		(0.013)	(0.013)
UK		0.205***		0.217***	0.217***
		(0.033)		(0.039)	(0.039)
Ukraine		-0.033		0.051	0.052
		(0.049)		(0.051)	(0.051)
Firm level controls					
Years in Russia	0.004***	0.003***	0.004***	0.003***	0.003***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Russian subsidiary presence	0.075***	-0.002	0.122***	0.044*	0.043*
	(0.023)	(0.019)	(0.023)	(0.021)	(0.022)
State-owned	0.151***	0.233***	0.133***	0.217***	0.217***
	(0.030)	(0.035)	(0.035)	(0.038)	(0.038)
Listed outside of Russia	-0.426***	-0.498***	-0.419***	-0.498***	-0.498***
	(0.037)	(0.032)	(0.038)	(0.033)	(0.033)
Medium	-0.055***	-0.053***	-0.047***	-0.050***	-0.050***
	(0.010)	(0.009)	(0.009)	(0.010)	(0.010)
Large	-0.025***	-0.036***	-0.026***	-0.044***	-0.044***
	(0.005)	(0.007)	(0.006)	(0.008)	(0.007)
Very Large	-0.005	-0.021*	-0.012	-0.035***	-0.035***
	(0.011)	(0.011)	(0.012)	(0.011)	(0.011)
Multiple home states	-0.001	-0.005	0.032***	0.008	0.008
	(0.006)	(0.005)	(0.007)	(0.008)	(0.008)
Multiple direct investors	-0.004	-0.004	-0.020**	-0.020**	-0.020**
	(0.010)	(0.010)	(0.009)	(0.009)	(0.009)
Classification via parent	0.108***	0.091***	0.103***	0.078***	0.077***
	(0.023)	(0.020)	(0.026)	(0.022)	(0.021)
Constant	0.377***	0.764***	0.402***	0.784***	0.786***
	(0.029)	(0.025)	(0.037)	(0.032)	(0.034)
N	44348	44046	44183	43882	43882
R^2	0.23	0.29	0.21	0.28	0.28
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level;
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 11.11. Determinants of Foreign-Invested Firm Exit (2013–2014)

	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	0.017**	0.010		0.011	
	(0.007)	(0.013)		(0.014)	
On name-praise-shame list	-0.124***	-0.120***		-0.119***	
	(0.018)	(0.018)		(0.017)	
Consumer-oriented industry	-0.014	-0.015		-0.015	-0.016
	(0.019)	(0.020)		(0.019)	(0.019)
Bargaining over terms					
Russian managerial control			0.050***	0.054***	0.059***
			(0.011)	(0.011)	(0.011)
Russian strategic industry			-0.010	-0.012	-0.012
			(0.011)	(0.011)	(0.011)
High fixed assets			-0.017	-0.015	-0.015
			(0.016)	(0.015)	(0.015)
Home level controls					
Trade with Russia		0.001		0.001	0.001
		(0.002)		(0.002)	(0.002)
Tax haven		-0.007		0.001	0.002
		(0.009)		(0.007)	(0.008)
Cyprus		0.044***		0.044***	0.049***
		(0.009)		(0.009)	(0.009)
IIA		0.019**		0.018**	0.022**
		(0.008)		(0.008)	(0.009)
PTA		-0.016		-0.011	-0.016
		(0.018)		(0.017)	(0.020)
DTT		-0.015		-0.012	-0.016
		(0.019)		(0.019)	(0.020)
EU member		-0.031**		-0.026**	-0.025**
		(0.012)		(0.012)	(0.012)
UK		0.046**		0.049***	0.053***
		(0.016)		(0.016)	(0.017)
Ukraine		-0.038*		-0.041*	-0.027
		(0.022)		(0.021)	(0.016)
Firm level controls					
Years in Russia	0.002***	0.002***	0.002***	0.002***	0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Russian subsidiary presence	0.162***	0.141***	0.177***	0.135***	0.153***
	(0.012)	(0.012)	(0.015)	(0.013)	(0.015)
State-owned	-0.053*	-0.042	-0.055**	-0.045	-0.045*
	(0.026)	(0.026)	(0.024)	(0.026)	(0.024)
Listed outside of Russia	-0.075***	-0.073***	-0.100***	-0.071***	-0.096***
	(0.011)	(0.012)	(0.011)	(0.012)	(0.012)
Medium	-0.004	-0.006	-0.004	-0.005	-0.007
	(0.010)	(0.010)	(0.009)	(0.010)	(0.009)
Large	-0.005	-0.009	-0.010	-0.008	-0.016
	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)
Very Large	-0.006	-0.013	-0.020	-0.013	-0.029*
	(0.016)	(0.017)	(0.016)	(0.017)	(0.017)
Multiple home states	-0.027***	-0.024***	-0.055***	-0.054***	-0.060***
	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)
Multiple direct investors	0.021**	0.025***	0.017**	0.025***	0.021**
	(0.007)	(0.008)	(0.008)	(0.008)	(0.009)
Classification via parent	0.151***	0.149***	0.148***	0.151***	0.144***
	(0.014)	(0.015)	(0.016)	(0.015)	(0.015)
Constant	0.106***	0.114***	0.108***	0.121***	0.109***
	(0.014)	(0.033)	(0.013)	(0.035)	(0.035)
N	71862	71357	71635	71130	71130
R^2	0.06	0.06	0.06	0.06	0.06
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

12 Additional results

12.1 Fixed Assets: Significant results

In our main results, our fixed effects approach means we have identified off of variation within 19 unique 2-digit NAICS industries. Here, we leverage an alternative 12-industry classification commonly employed in the finance literature, developed by Fama and French (1996) and based on characteristics like size and profitability as captured in stock market outcomes (Table 12.12). We use the FF industries to create alternative measures for consumer-orientation (H1c) and high fixed assets (H2c), and we include remaining FF industries as dummies, with manufacturing as the excluded reference category.[31]

Table 12.12. Fama-French 12-category industries and associated SIC codes

No.	Category	Description and Codes
1	NoDur	Consumer NonDurables – Food, Tobacco, Textiles, Apparel, Leather, Toys
		0100-0999, 2000-2399, 2700-2749, 2770-2799, 3100-3199, 3940-3989
2	Durbl	Consumer Durables – Cars, TV's, Furniture, Household Appliances
		2500-2519, 2590-2599, 3630-3659, 3710-3711, 3714-3714, 3716-3716, 3750-3751, 3792-3792, 3900-3939, 3990-3999
3	Manuf	Manufacturing – Machinery, Trucks, Planes, Off Furn, Paper, Com Printing
		2520-2589, 2600-2699, 2750-2769, 3000-3099, 3200-3569, 3580-3629, 3700-3709, 3712-3713, 3715-3715, 3717-3749, 3752-3791, 3793-3799, 3830-3839, 3860-3899
4	Enrgy	Oil, Gas, and Coal Extraction and Products
		1200-1399, 2900-2999
5	Chems	Chemicals and Allied Products
		2800-2829, 2840-2899
6	BusEq	Business Equipment – Computers, Software, and Electronic Equipment
		3570-3579, 3660-3692, 3694-3699, 3810-3829, 7370-7379
7	Telcm	Telephone and Television Transmission
		4800-4899
8	Utils	Utilities
		4900-4949
9	Shops	Wholesale, Retail, and Some Services (Laundries, Repair Shops)
		5000-5999, 7200-7299, 7600-7699
10	Hlth	Healthcare, Medical Equipment, and Drugs
		2830-2839, 3693-3693, 3840-3859, 8000-8099
11	Money	Finance
		6000-6999
12	Other	Other – Mines, Constr, BldMt, Trans, Hotels, Bus Serv, Entertainment

The table below reports results, with control variables suppressed for presentation. Results are robust for the unchanged hypothesis covariates, which are also suppressed for presentation. In Model 1 the coefficient for CONSUMER ORIENTED (ALT) is insignificant, although when the measure is broken into its constituent parts in Model 2, CONSUMER DURABLES has a positive and significant coefficient whereas

[31] Manufacturing is an important industry, an archetype of an industry that is not consumer-oriented, and commonly understood as having relatively mobile assets, making it a suitable excluded category for interpreting results.

CONSUMER NONDURABLES does not.[32] These results provide further support for consumer-orientation as a predictor of exit (H1c) while also suggesting heterogeneity open for further study.

Table 12.13. Determinants of Foreign-Invested Firm Exit: Alternative industry classifications

	(1)	(2)
Consumer-oriented (alt)	-0.004	
	(0.007)	
Consumer durables		0.020
		(0.016)
Consumer nondurables		-0.009*
		(0.005)
High fixed assets (alt)	-0.071**	
	(0.029)	
Oil, gas & coal		-0.025***
		(0.006)
Utilities		-0.071***
		(0.011)
Telecommunications		-0.133***
		(0.007)
Constant	0.574***	0.573***
	(0.068)	(0.069)
Hypothesis variables	Yes	Yes
Home- & Firm-level controls	Yes	Yes
N	38971	38971
R^2	0.05	0.05

Notes: Robust standard errors in parentheses, clustered by industry; industry reference category = manufacturing;
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Importantly, results provide statistically significant support for expectations regarding fixed asset intensity (H2c). In Model 1, the aggregated measure HIGH FIXED ASSETS (ALT) is negative and significant, and each coefficient remains so when the measure is broken into its constituent parts in Model 2: OIL, GAS, & COAL, UTILITIES, and TELECOMMUNICATIONS. As our main results using more nuanced, disaggregated measures of asset intensity were signed as expected but not significant, significant results here suggest that the relationship between fixed assets and exit is better explained at a more aggregated cross-industry level.

[32] Durables are understood as goods that do not need to be purchased often and last for at least three years, such as cars, TVs, furniture, and household appliances.

12.2 "Unfriendly" v. "friendly" heterogeneity

To examine potential heterogeneity between firms from "unfriendly" and "friendly" home states, we divide the sample and re-estimate models (table below). Overall, the results visualized in Figure 12.15 provide little evidence that the unprecedented economic statecraft from "unfriendly" states has played a central role in differentiating the decisions of their privately-owned firms regarding exiting Russia. The heterogeneous effects around State-owned provide perhaps the strongest result consistent with statecraft: in the "unfriendly" subsample, foreign-invested firms with state ownership are more likely to exit Russia, whereas the coefficient is insignificant in the "friendly" subsample. On our hypotheses, results are heterogeneous for Consumer-oriented industry: it is the point estimate for "friendly" on consumer-orientation that is positive and significant, suggestive that exposure to consumer pressure can meaningfully impact foreign-invested firm behavior absent concurrent home state foreign policy pressure (H1c).[33] Differences on control variables reinforce literature highlighting heterogeneity in the kinds of firms that become multinational corporations from the Global North versus the Global South, which has some albeit imperfect overlap with the "unfriendly" versus "friendly" distinction.

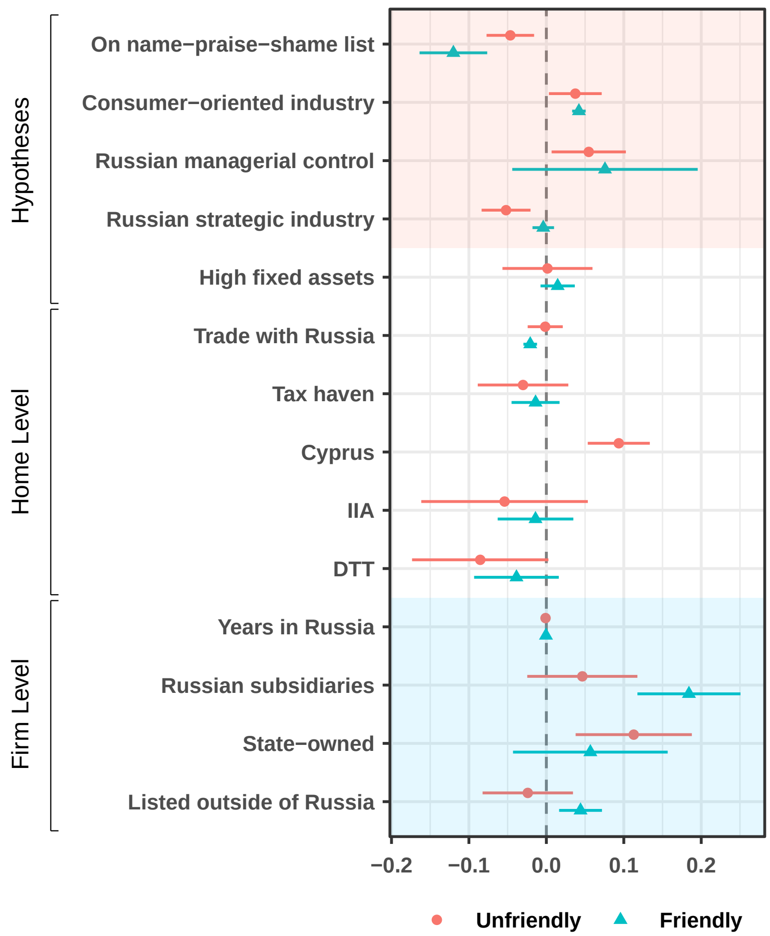
[33]For foreign-invested firms from "friendly" homes High fixed assets has a *positive* sign (contra H2c), but it is statistically indistinguishable from zero.

Table 12.14. Determinants of Foreign-Invested Firm Exit: By Home Status

	(1) Unfriendly	(2) Friendly
Pressure to sell		
On name-praise-shame list	-0.047***	-0.120***
	(0.016)	(0.022)
Consumer-oriented industry	0.037**	0.042***
	(0.017)	(0.004)
Bargaining over terms		
Russian managerial control	0.055**	0.076
	(0.024)	(0.061)
Russian strategic industry	-0.052***	-0.004
	(0.016)	(0.007)
High fixed assets	0.001	0.015
	(0.030)	(0.011)
Home level controls		
Tax haven	-0.030	-0.014
	(0.030)	(0.016)
EU member	-0.029	
	(0.038)	
Cyprus	0.094***	
	(0.020)	
Trade with Russia	-0.001	-0.021***
	(0.012)	(0.004)
UK	0.151***	
	(0.038)	
Ukraine	0.094	
	(0.082)	
IIA	-0.054	-0.014
	(0.055)	(0.025)
PTA	-0.080	0.015
	(0.064)	(0.017)
DTT	-0.085*	-0.039
	(0.045)	(0.028)
Firm level controls		
Russian subsidiary presence	0.046	0.184***
	(0.036)	(0.034)
State-owned	0.113***	0.057
	(0.038)	(0.051)
Years in Russia	-0.001*	-0.001
	(0.001)	(0.001)
Medium	-0.046**	-0.068***
	(0.016)	(0.020)
Large	0.002	-0.051
	(0.016)	(0.033)
Very Large	0.031	-0.047
	(0.022)	(0.045)
Listed outside Russia	-0.024	0.044***
	(0.030)	(0.014)
Multiple home states	-0.025	-0.097*
	(0.017)	(0.051)
Multiple direct investors	-0.037***	0.003
	(0.011)	(0.027)
Classification via parent	0.161***	0.135***
	(0.024)	(0.046)
Constant	0.470***	0.536***
	(0.151)	(0.070)
N	28897	10076
Number of Industries	19	19
R^2	0.05	0.06
Industry FEs	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 12.15. Determinants of foreign-invested firm exit: Comparing "unfriendly" and "friendly" home states

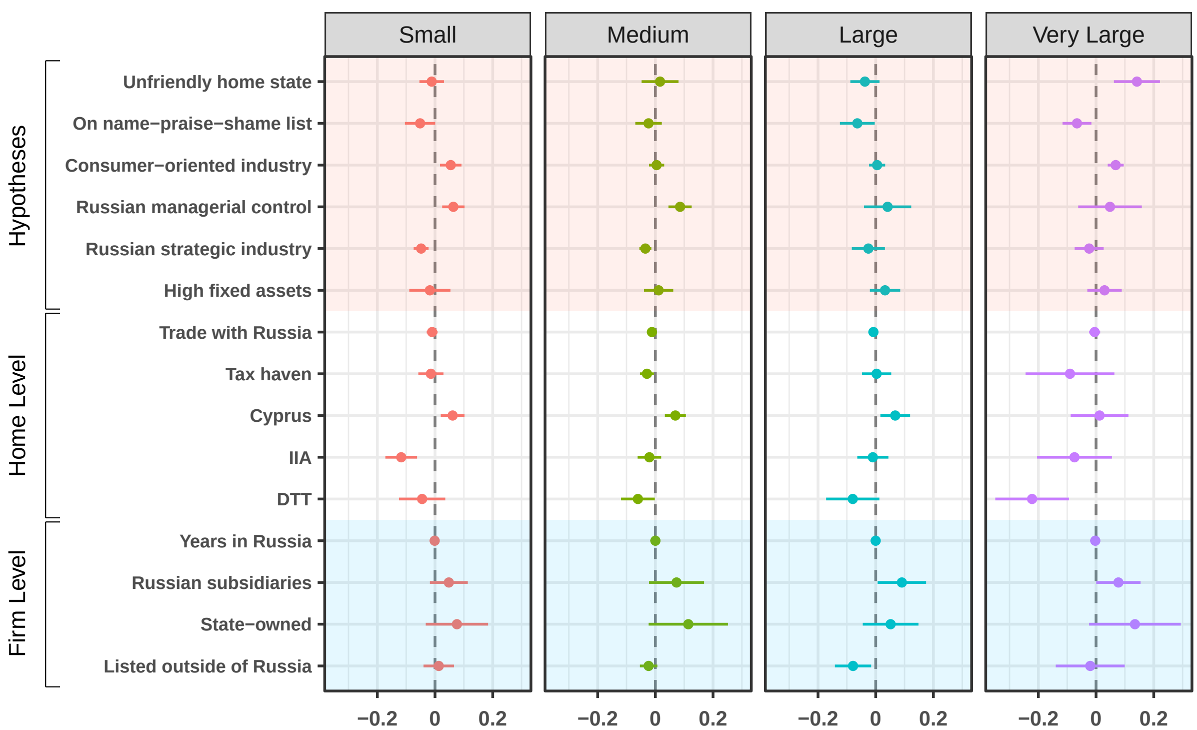


Notes: Plot of point estimates and 95% confidence intervals for Models 1 and 2, Appendix Table 12.14. Selected controls omitted for presentation.

12.3 Size heterogeneity

Although a huge proportion of foreign-invested firms (64.8%) in pre-invasion Russia are small, such firms may receive little public attention and more easily escape public scrutiny; for example, only 14.6% of small foreign-invested firms in our sample are matched to "name, praise, and shame" lists, compared to 35.1% of very large ones. Visualized in Figure 12.16 are results after splitting the sample by size (full table below). We find the closest evidence in support of H1a: very large firms from "unfriendly" home states have a positive and significant point estimate on exit. Very large firms also appear particularly responsive to consumer pressure (H1c) but particularly non-responsive to "name, praise, and shame" lists (contra H1b), which reinforces that financial costs like potential lost sales have different effects than more intangible reputational costs. Other differences across size categories remind us of the relevance of firm financials to firm behavior, something at the center of management literature but sometimes obscured in political science scholarship that does not consider the firm as the unit of analysis.

Figure 12.16. Determinants of foreign-invested firm exit: Examining heterogeneity by size



Notes: Plot of point estimates and 95% confidence intervals for Models 1-4, Appendix Table 12.15. Selected controls omitted for presentation.

Table 12.15. Determinants of Foreign-Invested Firm Exit: By Size

	(1) Small	(2) Medium	(3) Large	(4) Vary Large
Pressure to sell				
Unfriendly home state	-0.012	0.016	-0.037	0.142***
	(0.022)	(0.033)	(0.026)	(0.041)
On name-praise-shame list	-0.052*	-0.024	-0.064*	-0.066**
	(0.027)	(0.023)	(0.031)	(0.026)
Consumer-oriented industry	0.055**	0.004	0.005	0.068***
	(0.019)	(0.013)	(0.014)	(0.014)
Bargaining over terms				
Russian managerial control	0.064***	0.086***	0.041	0.048
	(0.020)	(0.021)	(0.042)	(0.056)
Russian strategic industry	-0.048***	-0.035***	-0.025	-0.024
	(0.013)	(0.011)	(0.029)	(0.026)
High fixed assets	-0.018	0.011	0.032	0.029
	(0.036)	(0.026)	(0.027)	(0.030)
Tax haven	-0.014	-0.029**	0.003	-0.090
	(0.022)	(0.012)	(0.026)	(0.079)
EU member	0.002	-0.033	0.065*	0.025
	(0.032)	(0.024)	(0.033)	(0.070)
Cyprus	0.061***	0.069***	0.068**	0.012
	(0.021)	(0.019)	(0.026)	(0.051)
Home level controls				
Trade with Russia	-0.010	-0.012**	-0.008	-0.005
	(0.010)	(0.005)	(0.005)	(0.010)
UK	0.237***	0.054*	0.152***	-0.002
	(0.032)	(0.026)	(0.038)	(0.080)
Ukraine	0.048	-0.014	0.142*	-0.420***
	(0.035)	(0.047)	(0.071)	(0.069)
IIA	-0.117***	-0.021	-0.010	-0.075
	(0.028)	(0.021)	(0.028)	(0.066)
PTA	0.018	0.033	-0.032	0.071
	(0.022)	(0.032)	(0.033)	(0.080)
DTT	-0.045	-0.061*	-0.080	-0.222***
	(0.041)	(0.030)	(0.047)	(0.065)
Russian subsidiary presence	0.048	0.073	0.091**	0.077*
	(0.034)	(0.049)	(0.043)	(0.039)
State-owned	0.076	0.114	0.052	0.135
	(0.055)	(0.070)	(0.049)	(0.081)
Firm level controls				
Years in Russia	-0.001	0.000	-0.000	-0.003**
	(0.001)	(0.001)	(0.001)	(0.001)
Listed outside Russia	0.013	-0.023	-0.079**	-0.020
	(0.027)	(0.015)	(0.032)	(0.061)
Multiple home states	-0.056***	-0.018	-0.037	-0.009
	(0.016)	(0.014)	(0.031)	(0.043)
Multiple direct investors	-0.007	-0.034*	-0.020	-0.061**
	(0.012)	(0.018)	(0.019)	(0.027)
Classification via parent	0.158***	0.178***	0.147***	0.059
	(0.031)	(0.028)	(0.036)	(0.036)
Constant	0.572***	0.490***	0.512***	0.568***
	(0.110)	(0.049)	(0.080)	(0.138)
N	24163	8374	4726	1710
Number of Industries	19	19	19	18
R^2	0.05	0.06	0.07	0.07
Industry FEs	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

12.4 Full tables and robustness

Table 12.16. Determinants of Foreign-Invested Firm Exit: Limited controls

	(1)	(2)	(3)	(4)	(5)	(6)
Pressure to sell						
Unfriendly home state	-0.005	-0.034			-0.004	-0.030
	(0.024)	(0.023)			(0.024)	(0.021)
On name-praise-shame list	-0.066***	-0.093***			-0.066***	-0.089***
	(0.016)	(0.017)			(0.016)	(0.017)
Consumer-oriented industry	0.026***	0.042***			0.024***	0.040***
	(0.006)	(0.009)			(0.007)	(0.010)
Bargaining over terms						
Russian managerial control			0.016	0.098***	0.011	0.081***
			(0.020)	(0.032)	(0.019)	(0.027)
Russian strategic industry			-0.035**	-0.039***	-0.033**	-0.036***
			(0.015)	(0.013)	(0.014)	(0.012)
High fixed assets			-0.001	-0.008	0.001	-0.008
			(0.018)	(0.019)	(0.018)	(0.018)
Data-related firm level controls						
Multiple home states		0.009		-0.053**		-0.032**
		(0.005)		(0.023)		(0.015)
Multiple direct investors		-0.038**		-0.057***		-0.034**
		(0.014)		(0.015)		(0.013)
Classification via parent		0.175***		0.149***		0.176***
		(0.020)		(0.028)		(0.021)
Constant	0.342***	0.320***	0.363***	0.339***	0.359***	0.338***
	(0.016)	(0.019)	(0.008)	(0.014)	(0.022)	(0.023)
N	39287	39287	39168	39168	39168	39168
R^2	0.00	0.02	0.00	0.02	0.00	0.03
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level;
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12.17. Determinants of Foreign-Invested Firm Exit: Full results

	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	-0.033*	-0.007			-0.005
	(0.018)	(0.021)			(0.021)
On name-praise-shame list	-0.056***	-0.048***			-0.047***
	(0.015)	(0.015)			(0.015)
Consumer-oriented industry	0.048***	0.041***			0.038***
	(0.011)	(0.012)			(0.012)
Bargaining over terms					
Russian managerial control			0.062***	0.062***	0.059***
			(0.020)	(0.020)	(0.020)
Russian strategic industry			-0.042***	-0.043***	-0.041***
			(0.012)	(0.012)	(0.011)
High fixed assets			-0.001	-0.000	-0.001
			(0.023)	(0.026)	(0.024)
Home level controls					
Tax haven		-0.028**		-0.016	-0.018
		(0.013)		(0.013)	(0.014)
EU member		-0.006		-0.001	0.001
		(0.023)		(0.022)	(0.021)
Cyprus		0.065***		0.075***	0.067***
		(0.019)		(0.019)	(0.019)
Trade with Russia		-0.011		-0.011	-0.011
		(0.007)		(0.007)	(0.007)
UK		0.166***		0.172***	0.173***
		(0.022)		(0.023)	(0.023)
Ukraine		0.034		0.032	0.036
		(0.027)		(0.023)	(0.027)
IIA		-0.082***		-0.084***	-0.085***
		(0.022)		(0.023)	(0.023)
PTA		0.013		0.024	0.019
		(0.018)		(0.019)	(0.017)
DTT		-0.061*		-0.064**	-0.060*
		(0.032)		(0.029)	(0.032)
Firm level controls					
Russian subsidiary presence	0.128***	0.075**	0.149***	0.083**	0.069**
	(0.043)	(0.033)	(0.042)	(0.033)	(0.033)
State-owned	0.047	0.084*	0.040	0.073*	0.081**
	(0.040)	(0.040)	(0.041)	(0.040)	(0.039)
Years in Russia	-0.001	-0.001	-0.001*	-0.001**	-0.001*
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Medium	-0.060***	-0.055***	-0.059***	-0.053***	-0.053***
	(0.019)	(0.016)	(0.019)	(0.016)	(0.016)
Large	-0.012	-0.011	-0.016	-0.014	-0.010
	(0.018)	(0.016)	(0.020)	(0.017)	(0.017)
Very Large	0.021	0.018	0.007	0.007	0.016
	(0.022)	(0.023)	(0.020)	(0.021)	(0.023)
Listed outside Russia	0.051**	-0.001	0.044**	-0.001	0.001
	(0.020)	(0.022)	(0.019)	(0.022)	(0.022)
Multiple home states	-0.006	-0.003	-0.044**	-0.040***	-0.035**
	(0.008)	(0.007)	(0.017)	(0.013)	(0.013)
Multiple direct investors	-0.029**	-0.029**	-0.033***	-0.031***	-0.027**
	(0.011)	(0.010)	(0.010)	(0.010)	(0.010)
Classification via parent	0.158***	0.154***	0.142***	0.144***	0.155***
	(0.023)	(0.023)	(0.029)	(0.026)	(0.024)
Constant	0.227***	0.549***	0.252***	0.577***	0.560***
	(0.022)	(0.080)	(0.024)	(0.075)	(0.080)
N	39256	39092	39137	38973	38973
R^2	0.03	0.05	0.03	0.05	0.05
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level;
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12.18. Determinants of Foreign-Invested Firm Exit (Probit)

	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	-0.092*	-0.015			-0.009
	(0.051)	(0.057)			(0.058)
On name-praise-shame list	-0.163***	-0.139***			-0.136***
	(0.043)	(0.044)			(0.043)
Consumer-oriented industry	0.134***	0.113***			0.104***
	(0.031)	(0.032)			(0.032)
Bargaining over terms					
Russian managerial control			0.185***	0.190***	0.182***
			(0.061)	(0.062)	(0.062)
Russian strategic industry			-0.116***	-0.121***	-0.116***
			(0.035)	(0.034)	(0.032)
High fixed assets			-0.001	0.002	-0.002
			(0.063)	(0.070)	(0.065)
Tax haven		-0.083**		-0.045	-0.051
		(0.038)		(0.038)	(0.041)
EU member		-0.023		-0.004	0.002
		(0.065)		(0.063)	(0.061)
Cyprus		0.186***		0.213***	0.192***
		(0.054)		(0.055)	(0.054)
Home level controls					
Trade with Russia		-0.030		-0.029	-0.029
		(0.020)		(0.019)	(0.020)
UK		0.452***		0.474***	0.478***
		(0.060)		(0.062)	(0.064)
Ukraine		0.087		0.087	0.094
		(0.074)		(0.061)	(0.074)
IIA		-0.223***		-0.230***	-0.234***
		(0.060)		(0.064)	(0.063)
PTA		0.047		0.075	0.066
		(0.051)		(0.054)	(0.051)
DTT		-0.166*		-0.173**	-0.162*
		(0.088)		(0.082)	(0.089)
Russian subsidiary presence	0.358***	0.213**	0.416***	0.238**	0.196**
	(0.124)	(0.099)	(0.121)	(0.097)	(0.095)
State-owned	0.137	0.244**	0.113	0.212*	0.235**
	(0.114)	(0.117)	(0.117)	(0.118)	(0.113)
Firm level controls					
Years in Russia	-0.002	-0.002	-0.003*	-0.003**	-0.002*
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)
Medium	-0.176***	-0.164***	-0.173***	-0.156***	-0.158***
	(0.058)	(0.052)	(0.058)	(0.051)	(0.052)
Large	-0.037	-0.037	-0.049	-0.042	-0.032
	(0.052)	(0.048)	(0.056)	(0.050)	(0.050)
Very Large	0.055	0.046	0.017	0.017	0.041
	(0.062)	(0.064)	(0.055)	(0.059)	(0.064)
Listed outside Russia	0.135***	-0.010	0.115**	-0.009	-0.004
	(0.052)	(0.058)	(0.049)	(0.059)	(0.060)
Multiple home states	-0.017	-0.008	-0.136**	-0.125***	-0.113**
	(0.024)	(0.022)	(0.055)	(0.046)	(0.045)
Multiple direct investors	-0.100***	-0.101***	-0.111***	-0.105***	-0.093***
	(0.034)	(0.033)	(0.033)	(0.031)	(0.031)
Classification via parent	0.422***	0.416***	0.377***	0.391***	0.420***
	(0.058)	(0.055)	(0.073)	(0.064)	(0.058)
Constant	-0.648***	0.245	-0.659***	0.247	0.260
	(0.075)	(0.228)	(0.081)	(0.222)	(0.237)
N	39256	39092	39137	38973	38973
Number of Industries	19	19	19	19	19
Pseudo R^2	0.03	0.04	0.03	0.04	0.04
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12.19. Determinants of Foreign-Invested Firm Exit: Additional robustness checks

	No Exprop-linked	No CYP/Haven	Obs w/ GUO50	Addtl Home cntrls	Home FE
	(1)	(2)	(3)	(4)	(5)
Pressure to sell					
Unfriendly home state	-0.002	0.028	-0.013	-0.026	
	(0.021)	(0.050)	(0.027)	(0.038)	
On name-praise-shame list	-0.048***	-0.059***	-0.047***	-0.053***	-0.053***
	(0.015)	(0.019)	(0.015)	(0.015)	(0.012)
Consumer-oriented industry	0.037***	0.045**	0.033***	0.038***	0.031***
	(0.012)	(0.018)	(0.008)	(0.013)	(0.010)
Bargaining over terms					
Russian managerial control	0.059**	0.039	0.075***	0.065***	0.047**
	(0.021)	(0.033)	(0.023)	(0.021)	(0.018)
Russian strategic industry	-0.041***	-0.037**	-0.040***	-0.040***	-0.038***
	(0.010)	(0.014)	(0.011)	(0.011)	(0.011)
High fixed assets	-0.001	0.009	-0.004	0.012	0.003
	(0.024)	(0.019)	(0.023)	(0.016)	(0.014)
Tax haven	-0.019		-0.013	-0.016	
	(0.014)		(0.016)	(0.016)	
EU member	-0.001	-0.022	0.003	0.005	
	(0.021)	(0.039)	(0.022)	(0.022)	
Cyprus	0.069***		0.086***	0.055***	
	(0.019)		(0.021)	(0.014)	
Home level controls					
Trade with Russia	-0.010	-0.005	-0.007	-0.012	
	(0.007)	(0.013)	(0.008)	(0.010)	
UK	0.171***	0.166***	0.113***	0.173***	
	(0.023)	(0.031)	(0.022)	(0.031)	
Ukraine	0.033	-0.002	0.060	0.026	
	(0.027)	(0.044)	(0.035)	(0.037)	
IIA	-0.090***	-0.075*	-0.051*	-0.053**	
	(0.022)	(0.041)	(0.028)	(0.020)	
PTA	0.021	0.044*	0.016	0.018	
	(0.017)	(0.021)	(0.018)	(0.017)	
DTT	-0.059*	-0.038	-0.084**	-0.100**	
	(0.032)	(0.044)	(0.038)	(0.036)	
UNGA Voting Similarity				-0.190***	
				(0.051)	
GDP PC (log)				-0.006	
				(0.013)	
Liberal Democracy				-0.000	
				(0.073)	
Russian subsidiary presence	0.072**	0.056*	0.010	0.054	0.057*
	(0.032)	(0.029)	(0.030)	(0.034)	(0.032)
State-owned	0.076*	0.078*	0.069*	0.086**	0.064*
	(0.042)	(0.038)	(0.037)	(0.039)	(0.032)
Firm level controls					
Years in Russia	-0.001*	-0.001	-0.001*	-0.001	-0.001**
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
Medium	-0.053***	-0.059***	-0.036**	-0.056***	-0.051***
	(0.016)	(0.019)	(0.014)	(0.016)	(0.016)
Large	-0.009	-0.020	0.004	-0.009	-0.007
	(0.017)	(0.016)	(0.016)	(0.018)	(0.016)
Very Large	0.018	0.022	0.032	0.009	0.022
	(0.022)	(0.031)	(0.024)	(0.023)	(0.022)
Listed outside Russia	0.002	0.005	-0.016	-0.001	-0.019
	(0.022)	(0.028)	(0.027)	(0.019)	(0.015)
Multiple home states	-0.035**	-0.037	-0.017	-0.034**	-0.022*
	(0.013)	(0.022)	(0.011)	(0.015)	(0.012)
Multiple direct investors	-0.026**	-0.031**	-0.041**	-0.025**	-0.021*
	(0.010)	(0.013)	(0.016)	(0.010)	(0.011)
Classification via parent	0.158***	0.177***	0.182***	0.155***	0.163***
	(0.024)	(0.050)	(0.020)	(0.026)	(0.020)
Constant	0.555***	0.430**	0.526***	0.755***	0.476***
	(0.080)	(0.192)	(0.094)	(0.141)	(0.154)
N	38771	22399	33544	36037	39137
Number of Industries	19	19	19	19	19
R^2	0.05	0.05	0.05	0.05	0.07
Industry FEs	Yes	Yes	Yes	Yes	Yes
Home FEs	No	No	No	No	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level;
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 12.20. Determinants of Foreign-Invested Firm Exit: Alt. operationalizations

	(1)	(2)	(3)	(4)	(5)
Pressure to sell[a]					
Unfriendly home state	-0.033*	-0.006			-0.004
	(0.018)	(0.021)			(0.021)
On name-praise-shame list	-0.056***	-0.048***			-0.047***
	(0.015)	(0.015)			(0.015)
Consumer orientation: Mean cutoff	0.043***	0.044**			0.044**
	(0.014)	(0.018)			(0.017)
Bargaining over terms[a]					
Russian managerial control			0.062***	0.062***	0.059***
			(0.020)	(0.020)	(0.020)
Russian strategic industry			-0.042***	-0.043***	-0.042***
			(0.012)	(0.012)	(0.010)
Fixed assets: Continuous			0.003	0.003	-0.004
			(0.019)	(0.020)	(0.017)
Tax haven		-0.028*		-0.016	-0.018
		(0.014)		(0.013)	(0.014)
Cyprus		0.068***		0.075***	0.069***
		(0.020)		(0.019)	(0.020)
Home level controls					
Trade with Russia		-0.011		-0.011	-0.010
		(0.007)		(0.007)	(0.007)
IIA		-0.082***		-0.084***	-0.085***
		(0.023)		(0.023)	(0.024)
DTT		-0.063*		-0.064**	-0.061*
		(0.032)		(0.029)	(0.033)
Russian subsidiary presence	0.127***	0.073**	0.149***	0.084**	0.068**
	(0.041)	(0.032)	(0.042)	(0.033)	(0.031)
State-owned	0.047	0.085**	0.039	0.073*	0.082**
	(0.040)	(0.040)	(0.041)	(0.040)	(0.039)
Firm level controls[b]					
Years in Russia	-0.001	-0.001	-0.001*	-0.001**	-0.001*
	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Listed outside Russia	0.052**	-0.001	0.044**	-0.001	0.001
	(0.020)	(0.022)	(0.019)	(0.022)	(0.022)
Constant	0.251***	0.569***	0.255***	0.580***	0.575***
	(0.023)	(0.084)	(0.038)	(0.076)	(0.086)
N	39256	39092	39137	38973	38973
Number of Industries	19	19	19	19	19
R^2	0.03	0.05	0.03	0.05	0.05
Industry FEs	Yes	Yes	Yes	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Suppressed for presentation: [a]PTA, EU, UK, Ukraine; [b]Size categories, Multiple homes, Multiple direct investors, Classification via parent.

Table 12.21. Determinants of Foreign-Invested Firm Exit: Praise or Shame?

	(1) Separate	(2) Drop Praised
Pressure to sell		
Unfriendly home state	-0.006	-0.003
	(0.021)	(0.021)
Named + Praised	-0.013	0.000
	(0.019)	(.)
Named + Shamed	-0.086***	-0.081***
	(0.021)	(0.021)
Consumer-oriented industry	0.038***	0.042**
	(0.012)	(0.015)
Bargaining over terms		
Russian managerial control	0.061***	0.063***
	(0.020)	(0.015)
Russian strategic industry	-0.041***	-0.036***
	(0.011)	(0.010)
High fixed assets	-0.001	0.008
	(0.023)	(0.029)
Tax haven	-0.017	-0.016
	(0.014)	(0.013)
Cyprus	0.067***	0.084***
	(0.019)	(0.022)
Home level controls[a]		
Trade with Russia	-0.011	-0.011*
	(0.007)	(0.006)
IIA	-0.082***	-0.074***
	(0.023)	(0.024)
DTT	-0.059*	-0.059**
	(0.032)	(0.026)
Russian subsidiary presence	0.072**	0.080**
	(0.031)	(0.029)
State-owned	0.080**	0.068*
	(0.038)	(0.034)
Firm level controls[b]		
Years in Russia	-0.001*	-0.001
	(0.000)	(0.001)
Listed outside Russia	-0.001	-0.001
	(0.023)	(0.024)
Constant	0.564***	0.559***
	(0.080)	(0.078)
N	38973	35739
R^2	0.05	0.05
Industry FEs	Yes	Yes

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Suppressed for presentation: [a]PTA, EU, UK, Ukraine; [b]Size categories, Multiple homes, Multiple direct investors, Classification via parent.

Table 12.22. Determinants of Foreign-Invested Firm Exit (Multinominal Logit)

	Active to Inactive	Foreign to Domestic	Foreign to Foreign
Pressure to sell			
Unfriendly home state	0.001	0.309***	-0.378**
	(0.078)	(0.118)	(0.170)
On name-praise-shame list	-0.486***	-0.057	-0.511***
	(0.083)	(0.103)	(0.122)
Consumer-oriented industry	0.216**	0.106	0.149***
	(0.094)	(0.072)	(0.043)
Bargaining over terms			
Russian managerial control	-0.011	0.528***	-0.122
	(0.209)	(0.129)	(0.143)
Russian strategic industry	-0.366***	-0.082	-0.204**
	(0.127)	(0.088)	(0.082)
High fixed assets	-0.008	0.008	-0.028
	(0.173)	(0.116)	(0.204)
Tax haven	-0.230**	0.015	-0.142
	(0.104)	(0.085)	(0.188)
EU member	-0.071	0.001	-0.150
	(0.165)	(0.112)	(0.279)
Cyprus	0.040	0.736***	-0.328***
	(0.174)	(0.095)	(0.117)
Home level controls			
Trade with Russia	-0.104***	0.003	-0.025
	(0.035)	(0.038)	(0.028)
UK	1.285***	0.601***	-0.330
	(0.162)	(0.106)	(0.338)
Ukraine	0.136	0.043	-0.535**
	(0.252)	(0.139)	(0.266)
IIA	-0.676***	-0.271**	0.276
	(0.085)	(0.133)	(0.226)
PTA	0.218**	0.408***	-0.451**
	(0.109)	(0.099)	(0.227)
DTT	-0.142	-0.616***	0.346*
	(0.176)	(0.187)	(0.186)
Russian subsidiary presence	1.057***	0.175	-0.353*
	(0.242)	(0.156)	(0.200)
State-owned	0.643***	0.427*	-0.024
	(0.201)	(0.252)	(0.202)
Firm level controls			
Years in Russia	-0.029***	0.004	0.013***
	(0.007)	(0.003)	(0.005)
Medium	-1.320***	0.125*	0.182**
	(0.083)	(0.075)	(0.089)
Large	-1.488***	0.314***	0.476***
	(0.163)	(0.074)	(0.114)
Very Large	-2.272***	0.464***	0.555***
	(0.418)	(0.135)	(0.186)
Listed outside Russia	0.621***	-0.435***	0.151
	(0.079)	(0.087)	(0.225)
Multiple home states	-0.378**	-0.001	-0.315***
	(0.148)	(0.065)	(0.099)
Multiple direct investors	-0.464***	-0.375***	0.480***
	(0.093)	(0.081)	(0.097)
Classification via parent	-0.992***	1.233***	0.839***
	(0.195)	(0.112)	(0.183)
Constant	0.047	-1.264***	-2.162***
	(0.405)	(0.460)	(0.367)
N	38973		
Number of Industries	19		
Pseudo R^2	0.10		
Industry FEs	Yes		

Notes: Robust standard errors in parentheses, clustered at the two-digit NAICS level; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.