

Sanctions in an Interconnected World: Firm Effects from Institutional Disruption and Exposure

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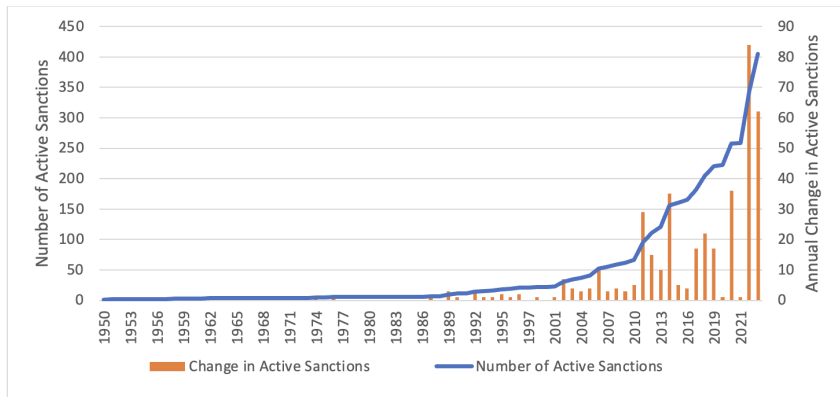
As of year-end 2022, there were (Felbermayr et al., 2020):

- 405 active sanctions internationally,
- with 284 of these sanctions coming into existence since 2014.

This trend has been driven by the United States that has been:

- a leader in creating “smart” sanctions targeting individuals or firms (Tostensen & Bull, 2002).
- and, more expansively, in imposing extraterritorial (“secondary”) sanctions targeted at third parties doing business with a sanctioned country (Ruys & Ryngaert, 2020).

Active sanctions as of 2022



Source: Data from Syropoulos et al. (2022).

- **Political science:** if the sanctions “worked,” in terms of getting the sanctioned country to comply with the wishes of the sanctioning country?
 - Hovi et al. (2005), Hufbauer et al. (1990), Hufbauer & Oegg (2003), Jones (2015), Peksen (2019).
- **Economics:** what are the effects of sanctions on trade and investment in the sanctioned country and, sometimes, in the sanctioning country?
 - Kohl & Reesink (2019), Kohl (2021), Neuenkirch & Neumeier (2015).
- **Research gap:**
 - Impact of sanctions on firms.
 - Impact of sanctions on firms not in the sanctioned country.

This research

Research questions:

- What are the channels through which sanctions affect MNEs in their global operations?
- What are the effects of institutional uncertainty triggered by sanctions on MNEs?

Hypotheses:

- Sanctions affect firms with subsidiaries in sanctioned countries negatively (**target exposure**).
- Firms operating in sanctioning countries may experience short-term negative abnormal returns due to sanctions announcement (**source exposure**).
- The greater a firm's degree of internationalization, the less negative abnormal returns upon announcement of the sanctions (**international context**).
- Firms operating in sanctioned industries experience positive abnormal returns upon announcement of the sanctions (**industry context**).

Contribution:

- Sanctions matter for all MNEs, regardless of their country of incorporation.
- Sanctions offer MNEs not only risks, but also opportunities.

Preview of the results

- The impact of sanctions on MNEs during Russia's war on Ukraine (2014-present).
- Event study and panel methodology.
- MNEs are vulnerable to targeted or comprehensive sanctions imposed by multiple countries.
- Effects of firm exposure to sanctions vary based on different exposure types.
- Our results suggest that firms in non-participating countries may gain market advantages.
- These findings hold across sub-samples and timeframes.

What are sanctions from the international business perspective?

- Sanctions constitute a form of political risk in a narrow sense, imposed by a political actor that may interfere with or prevent business transactions (Kobrin, 1979; Weston & Sorge, 1972).
- A sanctioning government targets entities (individuals, organizations, firms) outside its sovereign territory.
- Sanctions alter the institutional envelope (Ahuja et al., 2018; Peng, 2003) in which firms operate—regardless of whether the sanctions target these firms.
- This fundamental change in institutions creates uncertainty, inhibiting investment via a particular case of political risk (Lundan & Leymann, 2021).

Properties of sanctions as an institutional disruption:

- individual, firm-specific, or government-specific (Biersteker et al., 2018);
- primary or secondary (Hartwell, 2023);
- exogenous shocks with an element of surprise pertaining to the size and extent of the sanctions (Ghasseminejad & Jahan-Parvar, 2021);
- intensity: multilateral sanctions are more efficacious on country behavior if international organizations are involved (Bapat & Morgan, 2009; Joshi & Mahmud, 2018)

How are MNEs exposed to sanctions?

- through trade flows (Afesorghbor, 2019; Caruso, 2003),
- supply chains (Bugert & Lasch, 2018),
- investment (Korhonen et al., 2018),
- tourism (Seyfi & Hall, 2020),
- and other macroeconomic indicators (Ghareghozli, 2017; Gurvich & Prilepsky, 2015; Neuenkirch & Neumeier, 2015).

→ Sanctions do not just *disrupt* trade or investment flows or raise transaction costs for a firm (Spolaore, 2019), they shift the goal of institutions from economic facilitation to the *enforcement of political goals* (Fitzgerald, 1999).

Russia's War in Ukraine

- First sanctions on Russia were imposed after 2014 annexation of Crimea and the start of the war in the east of Ukraine.
- Since then, sanctions were extended annually by the EU and the US.
- They intensified significantly after the full-scale invasion in 2022.
- Sanctions targeted:
 - banking, trade, energy, transport, technology, and defense industries;
 - included asset freezes, restrictions on broadcasting activities of Russian media spreading propaganda and misinformation, diplomatic and visa measures, and restrictions on economic activities with Crimea and other Ukrainian territories annexed by Russia.
- Many MNEs have also decided to exit Russia to respond to the full-scale war (Sonnenfeld et al., 2022).

Number of foreign MNEs in Russia

Status	Number of firms
Exited	296
Leave	1218
Stay	1513
Wait	551
n/a	41
Total	3619

Source: KSE (2023)

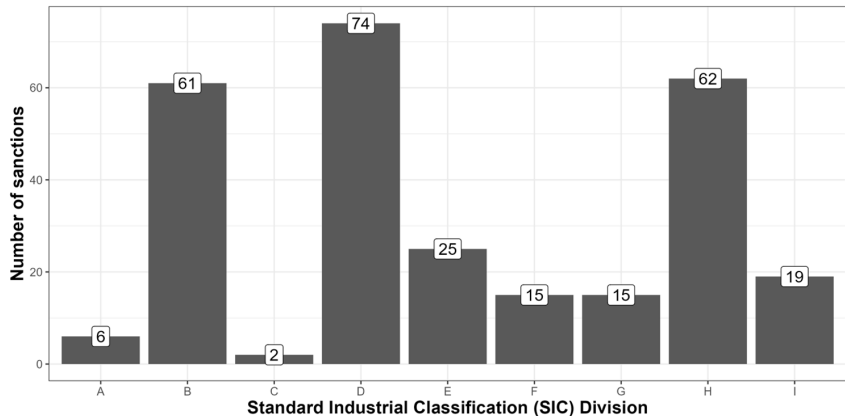
Financial data:

- Non-Russian MNEs from Orbis Cross Border database.
- 4,848 listed firms from 41 countries.
- Timeframe: 2013-2022

Sanctions data:

- US Treasury Department (2022), the European Council (2022), and Reuters (2022).
- 122 sanctions announcements from March 17, 2014, to September 15, 2022.
- All sanctions were imposed on Russia as a reaction to the war in Ukraine.
- 70 announcements relate to EU sanctions, 43 to the US, 4 to the G7, 4 to Canada, and 4 to Switzerland.
- 77 events took place before the full-scale invasion, and the remaining 45 took place after.

Number of sanctions events by affected industry



SIC Divisions: A. Agriculture, Forestry, Fishing; B. Mining; C. Construction; D. Manufacturing; E. Transportation, Utilities; F. Wholesale Trade; G. Retail Trade; H. Finance, Insurance, Real Estate; I. Services.

Event study:

- $AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t})$
- $CAR\left(\begin{smallmatrix} -t_1 \\ +t_2 \end{smallmatrix}\right) = \sum AR_{i,t}$
- where $R_{i,t}$ are the firm i returns on day t ,
- $R_{m,t}$ are market m returns on day t ,
- $AR_{i,t}$ are abnormal returns,
- $CAR_{i,t}$ are cumulative abnormal returns over the event window,
- $(-t_1; +t_2)$ are the lengths of event windows: $(-1; +1)$, $(-2; +2)$, $(-5; +5)$, $(-10; +10)$.

Panel modelling:

- $CAR_{i,t} = \alpha + \beta_1 \text{ExpTarget}_{i\tau} + \beta_2 \text{ExpSource}_{it} + \beta_3 \text{ExpSecondary}_{i\tau} + \beta_4 \text{ExpIndustry}_{it} + \gamma N_t + \delta \Pi_{i\tau} + \theta X_{j\tau} + y_\tau + w_t + \epsilon_{ij\tau t}$
- $\text{ExpTarget}_{i\tau} = 1$ if a firm operates in Russia in year τ when the sanction wave t is announced,
- $\text{ExpSource}_{it} = 1$ if a firm operates in sanctioning country when the sanction wave t is announced,
- $\text{ExpSecondary}_{i\tau} = 1$ if a firm operates in sanctioning country but originates from a third-country in year τ when the sanction wave t is announced,
- $\text{ExpIndustry}_{it} = 1$ if a firm operates in sanctioned industry when the sanction wave t is announced.

Panel modelling:

- $CAR_{i,t} = \alpha + \beta_1 \text{ExpTarget}_{i\tau} + \beta_2 \text{ExpSource}_{it} + \beta_3 \text{ExpSecondary}_{i\tau} + \beta_4 \text{ExpIndustry}_{it} + \gamma N_t + \delta \Pi_{i\tau} + \theta X_{j\tau} + y_\tau + w_t + \epsilon_{ij\tau t}$
- Sanction controls: extensions, the number of sanctioned industries, and the number of separate sanctions packages included in wave t,
- Firm controls: total assets, revenue-to-assets ratio, equity-to-assets ratio, return on equity, and R&D expenditures,
- Country controls: exports from Russia to firm i's home country j in year τ .

Results: Full sample, event window (-2/+2)

	(1) Full sample	(2) Full sample	(3) Full sample	(4) Full sample	(5) Full sample	(6) Full sample	(7) Target exp.	(8) No target exp.	(9) Source exp	(10) No source exp.
Sanction: Extension	-0.0098*** (0.002)	-0.0098*** (0.002)	-0.0107*** (0.002)	-0.0098*** (0.002)	-0.0097*** (0.002)	-0.0106*** (0.002)	-0.0127*** (0.005)	-0.0104*** (0.002)	-0.0090 (0.014)	-0.0116*** (0.002)
Sanction: # industries	0.0021*** (0.000)	0.0021*** (0.000)	0.0019*** (0.000)	0.0021*** (0.000)	0.0022*** (0.000)	0.0020*** (0.000)	0.0044*** (0.001)	0.0019*** (0.000)	0.0022 (0.004)	0.0022*** (0.000)
Sanction: # countries	-0.0015*** (0.000)	-0.0015*** (0.000)	-0.0021*** (0.001)	-0.0015*** (0.000)	-0.0015*** (0.000)	-0.0021*** (0.001)	-0.0005 (0.001)	-0.0022*** (0.001)	-0.0050 (0.007)	-0.0016*** (0.001)
H1: Target exposure		-0.0002 (0.000)				-0.0002 (0.000)			-0.0006 (0.000)	-0.0001 (0.000)
H2a: Source exposure			0.0048 (0.005)			0.0048 (0.005)	0.0035 (0.002)	0.0049 (0.005)		
H2b: Secondary exposure				-0.0000 (0.000)		-0.0000 (0.000)	-0.0000 (0.000)	-0.0000 (0.000)	-0.0000 (0.000)	-0.0001 (0.000)
H3: Industry exposure					-0.0021 (0.003)	-0.0021 (0.003)	0.0011 (0.002)	-0.0023 (0.003)	-0.0101 (0.010)	0.0011 (0.001)
Constant	0.0496*** (0.014)	0.0497*** (0.014)	0.0487*** (0.013)	0.0496*** (0.014)	0.0495*** (0.014)	0.0488*** (0.013)	0.0843*** (0.027)	0.0491*** (0.014)	0.0335 (0.040)	0.0249*** (0.006)
Observations	201,880	201,880	201,880	201,880	201,880	201,880	9,298	192,582	45,249	156,631
Firm controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wave FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Results: After Feb 24, 2022 sample, event window (-2/+2)

	(11) Full sample	(12) Full sample	(13) Full sample	(14) Full sample	(15) Full sample	(16) Target exp.	(17) No target exp.	(18) Source exp	(19) No source exp.
Sanction: Extension	-0.0115*** (0.002)	-0.0114*** (0.002)		-0.0115*** (0.002)	-0.0114*** (0.002)		-0.0108*** (0.002)	0.0044 (0.003)	
Sanction: # industries	0.0022*** (0.000)	0.0022*** (0.000)	0.0022*** (0.000)	0.0022*** (0.000)	0.0022*** (0.000)	0.0016 (0.001)	0.0020*** (0.000)	0.0008 (0.001)	0.0016*** (0.000)
Sanction: # countries	-0.0036*** (0.000)	-0.0035*** (0.000)	-0.0036*** (0.000)	-0.0036*** (0.000)	-0.0035*** (0.000)	-0.0064*** (0.001)	-0.0031*** (0.000)	-0.0004 (0.001)	-0.0018*** (0.001)
H1: Target exposure	-0.0000 (0.000)				-0.0001 (0.000)			0.0000 (0.000)	-0.0001 (0.000)
H2a: Source exposure		-0.0009 (0.001)			-0.0009 (0.001)	0.0019 (0.003)	-0.0009 (0.001)		
H2b: Secondary exposure			0.0001** (0.000)		0.0001*** (0.000)	0.0002* (0.000)	0.0001** (0.000)	0.0001*** (0.000)	0.0001 (0.000)
H3: Industry exposure				0.0011 (0.001)	0.0010 (0.001)	0.0033 (0.003)	0.0009 (0.001)	0.0023 (0.002)	0.0005 (0.001)
Observations	29,245	29,245	29,245	29,245	29,245	1,722	27,523	7,182	22,063
Firm controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wave FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Results: After Feb 24, 2022 sample, event window (-10/+10)

	(20) Full sample	(21) Full sample	(22) Full sample	(23) Full sample	(24) Full sample	(25) Target exp.	(26) No target exp.	(27) Source exp	(28) No source exp.
Sanction: # industries	0.0022*** (0.001)	0.0023*** (0.001)	0.0022*** (0.001)	0.0020*** (0.001)	0.0021*** (0.001)	0.0029 (0.002)	0.0019*** (0.001)	0.0013 (0.001)	0.0016* (0.001)
Sanction: # countries	0.0008 (0.001)	0.0010 (0.001)	0.0008 (0.001)	0.0009 (0.001)	0.0011 (0.001)	0.0016 (0.005)	0.0008 (0.001)	0.0031 (0.002)	-0.0023 (0.002)
H1: Target exposure	-0.0003* (0.000)				-0.0003* (0.000)			-0.0003 (0.000)	0.0021 (0.004)
H2a: Source exposure		-0.0023 (0.002)			-0.0021 (0.002)	-0.0116 (0.008)	-0.0012 (0.002)		
H2b: Secondary exposure			-0.0000 (0.000)		0.0000 (0.000)	0.0001 (0.000)	-0.0000 (0.000)	0.0001 (0.000)	0.0004 (0.001)
H3: Industry exposure				0.0045* (0.003)	0.0044* (0.003)	0.0059 (0.009)	0.0045* (0.003)	0.0013 (0.003)	0.0078* (0.004)
Observations	11,708	11,708	11,708	11,708	11,708	685	11,023	6,576	5,132
Firm controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wave FE	YES	YES	YES	YES	YES	YES	YES	YES	YES
Clustered SE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Conclusions

- MNEs with target country exposure experience negative abnormal returns upon announcement of the sanctions.
- These negative abnormal returns are higher as the number of countries announcing the sanctions increase and when sanctions are extended, indicating an escalation of institutional disruption.
- On the other hand, comprehensive sanctions, including a larger number of industries, do not trigger negative abnormal returns.
- Firms with target and source country exposure exhibit positive abnormal returns upon announcements.
 - Presumably, markets react positively toward the dissolution of uncertainty for these most intensely exposed firms.

Limitations

- Only short-term effects of sanctions are considered.
- With sanctions being a true institutional disruption, the effects will likely not be fully known for years.
- We consider investor reactions to sanctions announcements rather than news from the front.
- Sanctions may be circumvented.

Thank you!

Thank you.

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