Who cares about sanctions?
Observations from annual reports of European firms

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Abstract

This paper uses textual analysis to examine how European corporations assess sanctions in their annual reports. Using observations from a panel of almost 11,500 corporate annual reports from 2014–2017, we document significant cross-country variation in how firms perceive Russia-related sanctions. Even after controlling for firm-level characteristics, cross-country differences remain for sentiments about sanctions and contexts in which sanctions are mentioned. We also examine the role of macroeconomic linkages in explaining these differences. We show that the Russia’s inward and outward FDI stocks and high levels of imports and exports with Russia only partially explain the cross-country variation, leaving a nontrivial share of variation unexplained.

Extended abstract

To the best of our knowledge, ours is the first paper to use the only publicly available and reasonably comparable data, i.e. firm annual reports, to gauge firm perceptions of Russia-related sanctions. We collect a representative database of almost 11,500 firm annual reports from 2014 to
In essence, we let the firms speak for themselves. Economic sanctions invariably inflict costs on both the target and the sender country. When it comes to Russia-related sanctions, however, the distinction between sender and target gets blurred. Almost all European countries are simultaneously senders and targets for restrictive measures. We thus sample firms from over 35 European countries, including Russia, to achieve a broad perspective suitable for analysis of cross-country variation.

Specifically, we are interested in detecting how firms mention Russia-related sanctions in their annual reports. For this purpose, we search for keywords in the narrative sections of the reports. We interpret the occurrence of the words “sanction” and “Russia” in reasonable proximity as a mention of Russia-related sanctions in the text. We find that a nontrivial share (11%) of all firms consider Russia-related sanctions worth mention in their annual reports. As the narrative sections of firm annual reports tend to primarily highlight positive news (see e.g. Li, 2010), this can be considered as a lower bound for firms that consider sanctions important for their past or future operations.

We also document high cross-country variation in the propensity of firms to mention sanctions in their annual reports. We use three standard methods of textual analysis (topic modeling, sentiment analysis, and text classification) to examine the tone and context where firms mention Russia-related sanctions. Even when controlling for firm-level variables, we document significant country-level variation in how firms perceive sanctions. Regardless of location, firms view restrictive measures in negative terms. But in a number of countries, the overall sentiment is extremely negative. Likewise, in some countries sanctions are mostly viewed as having a tangible impact on specific markets, whereas in other countries firms tend to view sanctions in terms of influencing the general business environment. Our analysis confirms that politicians and firms across Europe may view sanctions very differently from their neighbors.

Do standard macroeconomic factors explain these cross-country variations? To find out, we determine whether a firm’s vigilance to sanctions correlates with FDI or its trade links with Russian partners. While traditional country-level macroeconomic factors explain a good share of firm-level vigilance to sanctions, we find that the attitudes of firms to sanctions in some countries remain hard to fathom.

Our contribution is twofold. First, we bring textual analysis into the literature on firm-level effects of economic sanctions. Sentiment analysis has been used to analyze the effects of Russia-related tweets by US president Donald Trump on the Russian ruble’s exchange rate (Afanasyev, 2021), but this study is the first to rely on corporate annual reports in gauging firm perceptions of sanctions. We show that textual analysis can bring meaningful insights into how firms view economic sanctions. Second, we provide new insights on country-level variation into the rapidly growing literature on the effects of Russia-related sanctions on European firms.

**Keywords:** sanctions, textual analysis, European firms, annual reports

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1 Firms tend to find ways to adjust to trade restrictions. These adjustments include diverting trade routes, finding new markets, and modifying their products (Luo, Sun, and Wan, 2020; Weber and Stepien, 2020). Here, we focus only on the year when major Russia-related sanctions were imposed and the following three years (i.e. 2014 plus 2015–2017).