Firms Entangled in Geopolitical Conflicts: Evidence from the Russia – Ukraine War

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Abstract

We examine the responses of US-based multinationals and subsequent financial market reactions to Russia's invasion of Ukraine in February 2022. The firm-level decisions range from clean exits from the Russian market, all the way to 'digging in' as if the war never happened. Findings show that, in the short-term, markets favour 'middle ground' decisions which balance shareholder interests with regulatory and ethical concerns. This is manifest through those firms taking extreme decisions, on either end of the stay-or-leave spectrum, experiencing more negative returns. In the longer term, however, ethical concerns and other considerations dominate such that firms announcing clean breaks incur lower losses. In other words, sitting on the fence does not pay off for long. We also show interesting differences in investor reactions between two major non-US markets: China, a Russia-leaning country, vs India, a neutral country. While Indian investors behave similar to US investors, Chinese investors do not significantly punish firms that stay put in Russia. We re-examine the situation later and show that markets reward a Russia-opposing corporate position in the longer term.

Keywords: War; Market Reaction; Sanctions; Corporate Finance; Multinational Enterprises

JEL Classification: G10, G18

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1. INTRODUCTION

As the world's largest country in size and one of its most populous nations, post-Soviet Russia has historically been an important market for multinational firms. The Russian invasion of Ukraine on 24 February 2022 left firms which had a presence in or an exposure to the Russian market with an important question: how best to react? The response to this question was (and still is) complicated due to potential conflicts in shareholder and broader stakeholder interests, regulatory and governance challenges, and complex ethical concerns. Since the invasion, the firms exposed to the Russian market have made a wide spectrum of strategic decisions that ranged from staying put and digging in Russia, all the way to complete and clean exits from the Russian market. In this paper, we study these corporate decisions and their financial impact in a number of ways. In doing so, we contribute to the emerging literature on market reactions to corporate decisions in times of geopolitical uncertainty with a focus on the still unfolding Russia-Ukraine war. We also make a secondary contribution to the financial literature on corporate exit or re-entry during times of conflict.

Specifically, we follow Sonnenfeld's (2022) classification of firms with headquarters in the US into five categories ('A' for full exits all the way to 'F' for companies that stay and dig in)[1] according to their reactions to the Russian invasion of Ukraine. Sonnenfeld covers 269 US firms with Russian business and their strategic decisions regarding their Russian operations. By examining cumulative abnormal returns, we find that companies in Grades A and F with "extreme" actions i.e., leaving or digging in Russia, experience the highest financial cost (lowest CARs). Specifically, firms which continue their operations in Russia as before (Grade F) face the lowest cumulative abnormal returns within five days after their decision announcement i.e., -3.1%. In contrast, firms with more moderate corporate actions i.e., Grades B to D, incur lower financial costs and thus fare better in comparison. In other words, taking the middle ground seems to be more favourable to investors compared to taking

[1] Please note that a category "E" does not exist as per Sonnenfeld (2022).

radical measures one way or another.

Then, we conduct a more granular analysis focusing on particular actions that firms take in the wake of the conflict. Specifically, we examine eight distinct action types: 1) closing down the business, 2) suspending all operations, 3) suspending non-essential operations, 4) ceasing new businesses, 5) no further investments, 6) no new shipments to branches, 7) scaling back operations, 8) carrying on as usual. This granular analysis further consolidates our core finding that extreme measures on both ends of the spectrum are followed by heavier market penalties than more moderate measures.

Changing our focus from the first few days to the first month and then later the first year, we notice that investors which initially appreciated moderate corporate decisions change their preference for decisive exits in the longer terms. This may be due to investors' concerns in relation to Russia dominating in the longer term either through an inward transition of their ethical position, or under the pressure of negative media portrayal and/or sanctions imposed on those firms staying in the market. Thus, we find that sitting on the fence cannot be an effective strategy for most firms caught up in conflicting interests.

Finally, we show noticeable and interesting differences in investor reactions between two major non-US markets, namely, China (as an example of a Russia-leaning country) vs India (as an example of a Russia-neutral country). While Indian investors behave more similar to US investors in their attitude towards extreme decisions, Chinese investors do not punish firms digging in the Russian market significantly. That said, Chinese investors do seem to break ranks with the official Chinese government position and initially support firms taking mild corporate decisions against Russia.

Our analysis is grounded in a largely consistent prior literature on the negative impact of military conflicts, sanctions and boycotts on target firms involved in such episodes. Finance literature shows that the aggregate impact of international conflicts on financial markets is typically negative in the short term. This strand of literature goes back to studies on the destructive impact of World War II on equity and particularly debt markets (e.g., Frey and Waldenstorm, 2004; Schneider and Troeger, 2006; Choudhry, 2010; Hudson and Urquhart, 2015). There are qualitatively similar results when more recent conflicts are examined such as the conflict between Israel and Palestine, the Gulf War, the

conflicts in former Yugoslavia (Schneider and Troeger, 2006), the Iraq War (Leigh et al., 2003), or terrorist events such as 9/11 (Tosun et al., 2021). Overall, geopolitical risk is detrimental not only for equity markets (Rigobon and Sack, 2005; Kannadhasan and Das, 2020) but also for commodities, cross-market interdependence during financial crises (Yuan, Wang and Wang, 2023) and the stability of the financial system in aggregate (Caplan, 2002; Phan et al., 2021).

As for the Russia-Ukraine war, Sonnenfeld (2022) argues that it is beneficial to leave Russia, examining the short-term effects of the non-adjusted market value-weighted stock returns. Glambosky and Peterburgsky (2022), in contrast, show that firms fully withdrawing from Russia experience the highest negative abnormal returns, while Tosun and Eshraghi (2022) create portfolios of firms staying in Russia and firms exiting the country and find that a portfolio of firms staying in Russia underperforms a portfolio of leaving firms. Our analysis additionally provides insights in the optimal strategy for companies from a capital market perspective.

Specifically, we are interested in examining the complex trade-off that firms face when operating in foreign countries that face sudden political and/or military externalities. On the one hand, they must keep the profitability of their operations and the extent of their long-term investment in mind. On the other hand, as public companies, their share price will be subject to more volatility than unexposed firms. This is due to the wide range of views investors may have on what constitutes the optimal response in such circumstances. As such, firms have to balance opposing views and practice full-on diplomacy with their stakeholders including investors but also suppliers and regulatory bodies both home and abroad. These are just part and parcel of the business risks associated with the foreign environment and the 'liability of foreignness' (Zaheer, 1995).

These costs of doing business abroad include, inter alia, unfamiliarity with the foreign environment, cultural, political, and economic differences, and the need for coordination across multiple geographic regions and distances. Therefore, cutting down business operations or expanding them in response to the Russia-Ukraine war is due to firms strategizing to minimize these costs and maximize their benefits. From an international business perspective, Verbeke and Yuan (2021) and Guedhami et al. (2022) suggest several elements that stand out as the canvas for many contemporary research studies.

In our context, it is worth noting firm-specific advantages (FSAs) that allow companies to overcome the additional costs of doing business abroad. Firms also consider the country-specific advantages (CSAs), with home-country factors operating as building blocks for developing corporate strengths, and with a limited number of critical host country characteristics determining location choices. Verbeke and Kano (2016) argue that many firms cannot emulate their domestic success outside of their home region, an inability which 'can be mitigated in part, by infusing a regional component into the firm's international strategy.' The CSA play an important part in this respect. However, we argue this works well in normal times only. In times of exceptional volatility and major external shocks such as the Russia-Ukraine war, these CSAs cease to be as effective as before. This trade-off between FSAs and CSAs of continuing business in Russia following the invasion is particularly noticeable in our context.

Moreover, similar to Zaheer (1995), we argue that FSAs provide more help to firms in overcoming the liability foreignness compared to local isomorphism, i.e., trying to act like local firms. In our context, this means that US-based firms operating in Russia prior to the conflict would find it more effective to cater to their global (and predominantly US investors) and follow the line set by the US government in terms of its approach to the conflict. Mimicking the behavior of Russian firms would not bode well with US and western investors over the long term. In other words, local isomorphism fails as a strategy to pacify investors.

In addition, our analysis borrows from the literature on applications of real options in international businesses. The value of a real option derives from a type of managerial flexibility to acquire, dispose of, or alter an asset based on new information received in the future (Chi et al., 2019). The value of such real options can be influenced by the three elements of 1) uncertainty, 2) irreversibility, and 3) risk of early expiration or competitive pre-emption (ibid). Others argue that firm responses to external threats in war-afflicted countries depend on their vulnerabilities. These can be divided into 1) exposure (proximity to threat), 2) at-risk resources (potential for loss), and 3) resilience (capacity for coping). We argue that the options to defer, grow and exit in the context of the Russia-Ukraine War fit the theoretical lens of real options in international business quite well. Firstly, the breaking out of war between the two nations was considerably unanticipated both in political and

business circles. As such, this episode is a suitable example of exogenous uncertainty. Relevant research also suggests that institutional unpredictability can influence exit or re-entry dynamics (e.g., Tang, 2022). Specific forms of uncertainty such as terrorism-induced uncertainty (e.g., Li et al., 2022) or corruption-induced uncertainty (e.g., Sartor and Beamish, 2020) can influence exit or re-entry decisions.

Secondly, as Chi et al. (2019) argue, there is limited value to managerial flexibility derived from real options if the decision can be reversed at no cost. In our context, corporate decisions to stay in the Russian market are of course reversable, but corporate decisions to exit the Russian market are typically irreversible in the short term. Lee and Chung (2022) show that exit decision of firm subsidiaries located in conflict zones depends on the operational scope of the subsidiary. For example, whether "the subsidiary conducts natural resource-seeking operations" as well as "the degree of operational overlap with the same-parent affiliates" can explain companies' heterogeneous responses in these situations (ibid). Finally, the risk of early expiration is also manifest. For instance, a firm may choose to exit Russia and shortly after, the two countries may come to a cease-fire or peace agreement. This has so far not materialised, but the theoretical possibility is not negligible.

Our analysis of the heterogeneity in responses by US, Indian and Chinese firms to the conflict is also built on our theoretical understanding of the role of political connections in encouraging corporate risk taking. Of course, both domestic and international forces are relevant in determining of equity returns (Chen, Roll and Ross, 1986; Bodurtha, Cho and Senbet, 1989). As evidenced by Otchere, Senbet and Zhu (2020), political connections induce higher risk taking by connected firms but, importantly, not by their competitors. In our context, we show that Chinese firms take higher risks by staying in Russia in the months after the war breaks out, although their rivals from the US (and, to some extent, India) choose to exit the market. Interestingly, however, Chinese investors initially seem to prefer their firms to take less radical positions and play the middle ground, in other words, adopting more conservative strategies similar to their non-connected rivals.

2. DATA SELECTION AND EMPIRICAL DESIGN

2.1 Data Sample and Variables

Our data span from 12 January 2022 to 27 May 2022. This period includes +/- 30-day interval around each firm's announcement of its corporate decision in response to the Russian invasion of Ukraine on 24 February 2022. In our sample, the first announcements date back to February 25 while the latest announcements are on April 14[2]. Relying on the daily updated list of firms by Sonnenfeld (2022), we obtain 269 firms with headquarters in the US and publicly traded in NYSE. Panel A of Figure 1 shows the classification of firms into five categories as per Sonnenfeld (2022). Panel B displays the industry distribution of the firms. While service (30%) and manufacturing (17%) make almost half of our sample, firms operating in electronics and consumer goods are 14% and 13% of the sample, respectively. With 8% and 7%, finance and healthcare are the other sectors represented. Our final sample contains 15,956 firm-day observations.

[Insert Figure 1 Here]

We collect daily stock data on publicly traded US firms from CRSP and data on those firms' characteristics from Compustat. We measure investor reaction through *Return*, that is the daily stock return. Investors might have a bias towards larger firms (Dahlquist and Robertsson, 2001); thus, we further control for firm size through *Size* that is natural logarithm of total assets. Following the literature on market reaction (e.g., Tosun, 2021), we also consider *Leverage* as debt in current liability plus long term debt, scaled by total assets; *Growth* as capital expenditures, scaled by total assets; *Cash Ratio* as cash, scaled by total assets; *Profitability* as cash flow from operations, scaled by total assets. Relevant variables are winsorized at the 1st and 99th percentiles. Appendix describes the variables.

Table 1 reports descriptive statistics for *Excess Market Return, Market Volume, GDP, SMB, HML, RMW, CMA, Return, Daily Number Grade, Size, Leverage, Growth, Cash Ratio* and *Profitability.* Descriptives for firm specific variables are given for each grade group separately. While the excess

[2] We exclude firms from our sample if they change their decisions i.e., their grade, throughout this period. Further, a non-trading day announcement is forwarded to the next available trading day in our sample; and the first announcement date is taken in case of multiple announcement dates of the same decision.

return for the market is -9.9% on average, the mean value for market trading volume is about $4.37 Billion, and the average GDP rate is 24.5. Majority of firms in the sample belong to Grades A (leaving Russia), B, and C with 69, 106, and 44 companies, respectively, followed by 31 Grade C and 19 Grade F (digging in Russia) firms. While the average daily return of firms in Grades A – C fluctuates between -8.9% and -12.5%, it is 4.1% and -0.5% for Grade D and Grade F firms, respectively. Firm size also differs across these group of companies. Particularly, Grade B and Grade D firms are comparable to each other and they are the largest firms on average in the sample with around $44 Billion worth of total assets. While the size of Grade C firms are about $37 Billion, Grade A and Grade F companies are similar in size by being the smallest firms on average in our sample (around $20 Billion). Interestingly, mean leverage (about 35%), growth (3%), and profitability (about 8%) values do not fluctuate much across firms in different grades with exception of Grade F firms' leverage (40%) and Grade A firms' profitability (11%). While companies in Grades C to F have an average cash ratio of 8%, Grade A and Grade B firms seem to have a higher cash ratio on average, 16% and 12%, respectively.

[Insert Table 1 Here]

2.2 Methodology

In this paper we investigate two major aspects of investor response to corporate decisions during the Russia – Ukraine conflict: initial as well as longer term reactions. To study the immediate investor reaction during the Russian invasion of Ukraine, we first examine the cumulative abnormal returns (CAR). Abnormal returns (AR) are calculated using a 3-month estimation window[3], which ends 30 days before the invasion (24 February 2022). Initially, we estimate AR using a +/-10-day event window around each firm's announcement of their corporate decision to determine the best event window capturing the announcement effect. Expected returns are estimated using the recent five-factor specification outlined in Fama and French (2015). As is common in event study analysis, the identifying assumption is that the Russian invasion is not correlated with a firm's expected return after controlling for the tradable risk factors. Figure 2 presents results for firms in each different grade group. They indicate a clear pattern of initial investor reaction that can be observed up to 5 days after the

[3] We obtain similar results with a 6-month estimation window, as well.

announcement date. Thus, we decide to set the event window as [1,5] after each firm's announcement of their decision. For the main analyses, we sum AR during each [1,5] event window to construct the CAR for each firm. To benchmark our results, we repeat this exercise for each grade group, as well as, each action group in our sample.

[Insert Figure 2 Here]

Next, we run an OLS regression analysis to better explain the casual effect of different levels of firms' responses to the Russian invasion on investors regarding abnormal returns. We estimate a set of panel regressions of the form:

$$Abnormal\ Returns_{i,t} = \alpha + \sum_{n=A}^{F} \beta_n\ Grade_{i,n} + \sum_{k=1}^{5} \gamma_k controls_{i,t,k} + \delta_i + \mu_t + \varepsilon_{i,t} \quad (1)$$

where $Grade_{i,n}$ is a dummy variable equal to one if a firm *i* is in a particular grade group *n,* and zero for any other grade groups; $controls_{i,t,k}$ is a set of control variables, i.e. *Size, Leverage, Growth, Cash Ratio,* and *Profitability;* δ_i and μ_t are firm and time fixed effects, respectively. The time span *t* for the analysis is [1,5] after each firm's announcement. Standard errors are clustered at the firm level. In further analyses, we repeat this exercise for each grade group separately rather than collectively in one model.

To study the longer-term investor response to different levels of corporate decisions during the Russian invasion of Ukraine, we study 12-month CAR. Daily AR are calculated through the five-factor specification outlined in Fama and French (2015) for 12-month estimation window, which end 30 days before the invasion. The results are estimated for a 252-day (12-month) event window after each firm's announcement of their corporate decision. Lastly, we sum AR during each event window to construct the CAR for each firm. The analysis is repeated for all firms in each grade group, as well as, for subset of firms which stayed at the same grade or moved up or moved down after their initial grade decision.

In further analyses, we consider longer term overall market reaction to firms' decisions rather than investor responses to individual stocks. For that, we conduct a time-series analysis where we

examine how daily market index premium is related to the daily increasing number of firms announcing different corporate decisions. We estimate a time-series regression of the form:

$$Excess\ Market\ Return_t = \alpha + \sum_{m=A}^{F} \beta_m\ Ln(NumberGrade)_{t,m} + \gamma\ controls_t + \varepsilon_t \quad (2)$$

where $Excess\ Market\ Return_t$ is the daily NYSE composite index return in excess of the risk-free rate proxied by the one-month T-Bill rate; $Ln(NumberGrade)_{t,m}$ is the natural logarithm of daily number of firms in a particular grade *m* within +/- 30-day interval of the Russian invasion of Ukraine (24 February 2022); $controls_{i,t}$ is a set of control variables, i.e. *Market Volume*$_t$, *GDP*$_t$, *SMB*$_t$, *HML*$_t$, *RMW*$_t$, and *CMA*$_t$. Robust standard errors are used. *Market Volume* is the daily trading volume of a firm's shares in billions USD. *GDP* is the gross domestic product to control for time-variant macro-economic factors in the model [4].

3. EMPIRICAL RESULTS

3.1 Initial Investor Reaction as Returns

We investigate the financial cost/benefit of a political stand for the firms in the form of investor reaction and subsequent excess returns during the Russia – Ukraine conflict. Table 2 presents CAR values for firms in different grades that are determined according to their corporate decisions. Companies in Grades A and F with "extreme" actions i.e., leaving or digging in Russia, experience the highest financial cost as lowest CARs. Especially, firms continuing their operations in Russia (Grade F) face the lowest cumulative abnormal returns within five days after their announcement of that decision i.e., -3.1%. Although not as severe as companies in Grade F, firms shutting down their operations fully also lose value due to negative investor reaction initially (about -1.4%).

[4] In untabulated analysis, we see that the replacement of GDP with other macro-economic factors such as unemployment rate or inflation does not change the interpretation of our findings.

[Insert Table 2 Here]

Table 2 reveals another interesting finding. Firms with more moderate corporate actions, i.e., Grades B to D, have lower financial costs and they are better off compared to firms in Grade F, confirmed by the statistically significant difference-values in Table 2. Moreover, investors react positively to firms in Grade D that buy time and only hold off new investments/developments but carry on with other operations as usual. In fact, those firms experience a financial gain due to positive CAR of 0.8% within five days. Overall, these findings suggest that firms should refrain from engaging extreme decisions, yet they are better off taking more moderate corporate actions during times of political and military conflict.

Firms in each grade group can still differ from each other based on their unique corporate actions. A more granular level analysis focusing on particular actions reveals further information regarding initial reaction of investors. Relying on the data from Sonnenfeld (2022), we identify eight different action subgroups in our sample: 1) close down the business (40 firms), 2) suspend all operations (70 firms), 3) suspend non-essential operations (13 firms), 4) cease new businesses (19 firms), 5) no further investments (22 firms), 6) no new shipments to branches (48 firms), 7) scale back operations (38 firms), 8) carry on as usual – Grade F (19 firms). Similar in Table 2, we conduct a CAR analysis with these corporate action groups. Table 3 reveals findings consistent with the results from the analysis with grades. Specifically, there are two major takeaways. First, corporate actions at each end of the spectrum i.e., close down the business and suspend all operations versus carry on as usual – Actions 1 and 2 versus 8, respectively – face the harshest negative investor reaction as lowest CARs. The financial cost of continuing operations as usual (Action 8) is the most severe at -3.1% while it is -0.6% and -1.4% for "close down the business" (Action 1) and "suspend all operations" (Action 2), respectively. The investor reaction to these two corporate decisions on the one extreme is not statistically different from the one to Action 8, supporting the argument that firms pay a high financial cost for extreme corporate actions during crises no matter what. The second major message by Table 3 is that markets react more supportively to companies with moderate actions. In particular, firms experience financial gain of 0.6% and 0.5% in abnormal returns due to support by investors if they

suspend non-essential operations (Action 3), do not investments further (Action 5), or scale back operations (Action 7), respectively. Although none of these moderate actions, including ceasing new businesses in Russia (Action 4) and no new shipments to firms' branches in Russia (Action 6), spark statistically significant investor reaction, their significance is evident when they are benchmarked to lowest extreme action i.e., carrying on business as usual in Russia (Action 8). Overall, these additional findings further support our conjecture that moderate corporate actions are more beneficial for firms in first days of a military conflict.

[Insert Table 3 Here]

To investigate any causal effect of different levels of firms' corporate decisions on investors, we conduct an OLS regression analysis where we regress the cumulative abnormal returns on dummies representing firms' different grades along with a rich set of controls. Findings in Table 4 confirm our original interpretation of CAR analyses. Specifically we observe statistically significant and positive effect of having a moderate corporate decision (Grades B – D) on cumulative abnormal returns while controlling for joint effect of these grades and several firm characteristics i.e., size, leverage, growth, cash ratio, and profitability. Firms decided to keep options open for return (Grade B) have 2.6% higher cumulative abnormal returns within five trading days after their announcement while the increase in those cumulative abnormal returns are 3.2% and 3.5% for companies reducing current operations (Grade C) and holding off new investments/development (Grade D), respectively. However, investors react insignificantly to firms in Grade A that leave Russia. All these findings confirm our conjecture that extreme corporate decisions during a turmoil do not lead to significant and positive reaction of investors initially. Therefore, firms are better off with moderate actions during first days of such a conflict.

[Insert Table 4 Here]

3.2 Investor Reaction in the Longer Term

An extended research question is whether initial investor reaction prevails longer term without any changes. To investigate this further, we conduct CAR analyses where the ARs are estimated through the five-factor specification outlined in Fama and French (2015) with a 12-month estimation window,

ending 30 days before the invasion, and with a 252-day (12-month) event window after each firm's announcement of their decision. Table 5 reveals a different pattern for investor reaction regarding longer term. The less negative actions the firms take against Russia (Grades C to F) are matched with mostly negative CAR, although statistically insignificant. Moreover, firms with more negative corporate decisions e.g., Grade A and Grade B, face a significantly more positive reaction by investors in longer term. Those companies standing against Russia are rewarded with positive CAR by investors from 8.4% to 11.4% for Grades B and A, respectively. Within a year after their first announcement, we see that 218 firms stick with their initial decision while 51 firms change their grades. 33 of them move up in grades and take a more negative stand against Russia regarding their operational decisions while 18 move down and take a more supportive view towards Russia in their business decisions. In further analyses, we exploit this differentiation in firms' decisions and find that companies change their initial policy and alter their operations more severely against Russia experience positive CAR. Particularly, if they change their decision of continuing their businesses in Russia as usual and move up from Grade F, they experience a significant CAR of 27.6%. Expectedly, firms face rather strong and negative investor reaction if they switch to a lower grade from Grade A or Grade B after their initial decision and align more with Russia. The financial cost for those firms can be up to -100.5% in CAR.

[Insert Table 5 Here]

Overall, these are interesting findings compared to initial investor responses. Firstly, there is a reversal in investor reaction for one of the extreme corporate decisions. Traders actually reward firms significantly in the long term if those firms with US-based headquarters protest Russia and move their businesses completely out of the country. Secondly, investors who initially appreciate moderate corporate decisions change their behaviour where they punish firms with negative CAR in the long term if those companies take moderate, yet less negative, actions against Russia. Lastly, the financial cost of staying in Russia and continuing with operations as usual is always the most severe for firms both in shorter and longer term during such a military turmoil.

In further analyses, we focus on overall market reaction to firms' decisions as a response to the Russia – Ukraine conflict. We study how US markets react in longer term when US-based firms

operating in Russia take a political stand. We conduct a time-series analysis within +/- 30-day interval of the Russian invasion of Ukraine where we examine daily market index premium in relation to the daily increasing number of firms in different grades. Results in Table 6 are in line with the previous findings of the long-term investor reaction. Specifically, as more firms take stronger and negative corporate actions against Russia (Grade A), the excess market return increases most significantly. Firms suspending their operations in Russia (Grade B) have a similar positive effect on the NYSE. However, excess market return starts to drop as firms take less negative corporate actions e.g., just scaling back (Grade C) or buying time through curtailing future businesses only (Grade D), as a response to the Russian aggression towards Ukraine. In longer term, the most severe and significantly negative effect on US stock markets comes through firms deciding not to take any action against Russia and operating as usual (Grade F). As the number of such firms increases, the excess market return declines most significantly within 30-day period after Russia invaded Ukraine. Overall, these findings indicate that investors and US markets change their perception of US-based firms taking corporate actions with different levels of severity as the Russia – Ukraine conflict progresses. They support firms standing against Russia while those traders punish companies taking moderate and less negative actions against Russia with lower excess returns resulting higher financial costs for their political stand.

[Insert Table 6 Here]

3.3 Reaction of Investors in Neutral and Russia-Leaning Countries

An extension to our research is to examine the financial cost of such a political stand at a wider international level. Relying on the classification by the Economist (2022), we identify countries that are either neutral or Russia-leaning. We select one country from each group as a representative that has the most firms with announcements based on Sonnenfeld (2022). We decide on China and India as Russia-leaning and neutral countries, respectively. Our final sample is rather small due to fewer firms with announcements. Particularly, we have 22 Chinese firms and 20 Indian firms operating in Russia with shares traded in Shanghai Stock Exchange (SSE) and National Stock Exchange of India (NSE), respectively. Out of 22 Chinese firms, only three companies announce they suspend their operations in Russia (Grade B) and the rest decide to carry on with their businesses as usual (Grade F). Considering

20 Indian firms, two companies leave Russia (Grade A), four firms scale back their operations (Grade C), two firms buy time through holding of new businesses (Grade D), and 12 companies defy demands for exit or reduction of operations (Grade F). Given the size of available data and the unbalanced distribution of firms across grades for these countries, we acknowledge that any findings from this exercise using these data should be treated only as indicative and suggestive. Nevertheless, this is the best one can achieve with available data at this point of time, and any results should still give a general idea of investor reaction in other neutral and Russia-leaning countries.

We conduct CAR analyses with ARs calculated through the CAPM market model for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for an event window [1,5] after each firm's announcement of their corporate decision. Table 7 presents the results for Chinese firms. They indicate that investors in China do not punish firms significantly for operating in Russia without any changes (Grade F). Although such firms face a negative CAR of -2.2%, it is statistically insignificant. However, compared to Grade F firms, investors significantly appreciate Chinese firms taking moderate actions against Russia i.e., suspending operations temporarily (Grade B). While the former results are in line with the political view of China in general, the latter findings are somewhat controversial. They suggest that Chinese investors break ranks with Chinese government and initially support firms taking mild corporate decisions against Russia.

[Insert Table 7 Here]

Table 8 provides the results for Indian firms. Similar to the US investors, the traders in India dislike the extreme reaction of exiting Russia (Grade A) or carrying on with their businesses in Russia (Grade F) as such Indian firms have a CAR of -6.1% and -0.2%, respectively. Nevertheless, none of these reactions are statistically significant. However, compared to Grade F firms, Indian companies leaving Russia are punished severely by investors in the short term unlike their US peers. Considering the moderate actions by Indian firms operating in Russia (Grades C and D), the increase in CAR for such firms ranges from 1.9% to 55.9%. Particularly, these Indian firms are better off due to the support of investors when they are compared to Grade F firms. This is again a similar reaction as their US counterparts. Overall, investors in India do not share the neutral political view of the Indian government

about Russia because they penalise companies leaving or digging in Russia while rewarding the ones with mild actions.

[Insert Table 8 Here]

4. CONCLUSIONS

Conducting a granular analysis of corporate decisions in the wake of the Russia-Ukraine war, we find that, in the short term, investors favour firms taking the middle ground rather than radical measures one way or another, i.e., by conducting clean and full market exits or staying put and operating as normal. Changing our focus from the first few days to the first month, we notice that markets which initially appreciated moderate corporate decisions change their preference for decisive exits in the longer terms. This may be due to investors' concerns in relation to Russia dominating in the longer term either through an inward transition of their ethical position, or under the pressure of negative media portrayal and/or sanctions imposed on those firms staying in the market. Thus, we find that sitting on the fence cannot be an effective strategy for most firms caught up in conflicting interests. In doing so, we make direct contributions to the emerging literature on the financial impact of the Russia-Ukraine conflict (see, e.g., Ahmed et al., 2022; Berninger et al., 2022; Boungou and Yatié, 2022; Federle et al., 2022; Mohamad, 2022) by examining the so-far overlooked role of 'taking the middle ground.'

Looking at the longer terms, we re-examine the situation one year following the war outbreak and show that markets reward a Russia-opposing corporate position. We also contribute to the financial literature on corporate exit or re-entry during times of conflict. In a sense, we find that firm-specific advantages provide more help to firms in overcoming their liability foreignness compared to acting like local firms, i.e., local isomorphism (Zaheer, 1995; Verbeke and Yuan, 2021). In other words, US-based firms need to satisfy their US and global shareholders by doing what is considered ethically and morally right (ceasing to operate in Russia) and yet balance this with their shareholder interests. These findings have important implications for investors and market regulators who wish to understand market volatility in times of political uncertainty. Corporate executives can also learn from these lessons by moderating their response in the short term but taking more decisive actions in the longer term. As such, our study provides guidance for firms' optimal reactions in times of conflict

abroad in order to elicit positive investor reactions, which indirectly improves firm value and access to equity finance.

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TABLES AND FIGURES

Table 1: Descriptive Statistics

This table reports descriptive statistics for *Excess Market Return, Market Volume, GDP, SMB, HML, RMW, CMA, Return, Daily Number Grade, Size, Leverage, Growth, Cash Ratio* and *Profitability*. The mean, standard deviation, and quartiles are reported for the +/- 30-day period around each announcement between 12 January 2022 and 27 May 2022. Firm specific descriptive statistics are given for each grade group (A to F) separately.

	Mean	**St Dev.**	**25th**	**Median**	**75th**
Excess Market Return	-0.099	1.508	-1.280	-0.265	1.310
Market Volume ($bn)	4.372	0.638	3.951	4.267	4.586
GDP	24.545	0.183	24.400	24.560	24.800
SMB	-0.024	0.599	-0.490	-0.070	0.500
HML	0.129	1.436	-0.790	0.350	1.230
RMW	-0.014	0.840	-0.690	0.155	0.490
CMA	0.211	0.889	-0.200	0.310	0.960
Grade A Firms (N=69):					
Return	-0.089	3.362	-1.826	-0.105	1.546
Daily Number Grade A	34.968	29.012	0	48	61
Size ($bn)	20.254	26.938	3.282	13.465	25.944
Leverage	0.339	0.201	0.174	0.307	0.464
Growth	0.031	0.036	0.009	0.016	0.037
Cash Ratio	0.157	0.122	0.062	0.123	0.216
Profitability	0.105	0.072	0.052	0.094	0.147
Grade B Firms (N=106):					
Return	-0.125	3.079	-1.667	-0.126	1.408
Daily Number Grade B	53.842	47.418	0	65	103
Size ($bn)	44.032	52.377	6.038	13.343	64.167
Leverage	0.354	0.198	0.213	0.356	0.483
Growth	0.032	0.034	0.011	0.021	0.044
Cash Ratio	0.118	0.114	0.055	0.080	0.126
Profitability	0.082	0.101	0.037	0.087	0.140
Grade C Firms (N=44):					
Return	-0.086	2.605	-1.445	-0.059	1.219
Daily Number Grade C	22.047	18.282	0	29	40
Size ($bn)	36.854	40.756	10.345	20.745	35.672
Leverage	0.358	0.181	0.229	0.308	0.450
Growth	0.026	0.016	0.016	0.023	0.038
Cash Ratio	0.078	0.053	0.045	0.064	0.098
Profitability	0.072	0.082	0.036	0.078	0.096
Grade D Firms (N=31):					
Return	0.041	2.635	-1.251	0.027	1.296
Daily Number Grade D	15.746	13.721	0	24	29
Size ($bn)	44.035	49.082	6.016	17.971	71.162
Leverage	0.332	0.159	0.228	0.285	0.458
Growth	0.028	0.017	0.016	0.027	0.040
Cash Ratio	0.083	0.090	0.036	0.060	0.105
Profitability	0.088	0.060	0.055	0.094	0.143
Grade F Firms (N=19):					
Return	-0.005	4.137	-1.441	-0.158	1.247
Daily Number Grade F	9.634	8.852	0	16	18
Size ($bn)	20.781	23.969	4.791	8.221	25.338
Leverage	0.400	0.212	0.275	0.346	0.527
Growth	0.031	0.017	0.016	0.033	0.039
Cash Ratio	0.083	0.041	0.048	0.080	0.117
Profitability	0.085	0.037	0.061	0.091	0.111

Table 2: Cumulative Abnormal Returns of Firms in Different Grades

This table presents the cumulative abnormal returns for firms in different grades regarding their corporate decisions during the Russian invasion of Ukraine. Daily abnormal returns are calculated through the Fama-French Five-Factor for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 5-day event window after each firm's announcement of their corporate decision. The differences in CAR values between Grade F firms and other firms in remaining grades are also reported separately along with the statistical significance. Robust standard errors are reported in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Estimation window:	**3-Month**	
Event window:	**5-Day**	
	CAR	***Difference from Grade F***
Grade A (N=69)	-0.014	*0.017*
	(0.013)	
Grade B (N=106)	-0.003	*0.028***
	(0.006)	
Grade C (N=44)	-0.004	*0.027***
	(0.008)	
Grade D (N=31)	0.008	*0.039****
	(0.009)	
Grade F (N=19)	-0.031**	*0*
	(0.015)	

Table 3: Cumulative Abnormal Returns of Firms Different Corporate Actions

This table presents the cumulative abnormal returns for firms with different corporate actions during the Russian invasion of Ukraine. Daily abnormal returns are calculated through the Fama-French Five-Factor for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 5-day event window after each firm's announcement of their corporate decision. The differences in CAR values between Grade F firms and other firms with other actions are also reported separately along with the statistical significance. Robust standard errors are reported in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Estimation window:	**3-Month**	
Event window:	**5-Day**	
Action	**CAR**	***Difference from Grade F***
(1) Close down the business (N=40)	-0.006	*0.025*
	(0.017)	
(2) Suspend all operations (N=70)	-0.014	*0.017*
	(0.010)	
(3) Suspend non-essential operations (N=13)	0.006	*0.037***
	(0.011)	
(4) Cease new businesses (N=19)	-0.010	*0.021**
	(0.010)	
(5) No further investments (N=22)	0.006	*0.037***
	(0.013)	
(6) No new shipments to branches (N=48)	-0.005	*0.026**
	(0.009)	
(7) Scale back operations (N=38)	0.005	*0.036***
	(0.009)	
(8) Carry on as usual (N=19) (Grade F)	-0.031**	*0*
	(0.015)	

Table 4: Regression Analysis of Cumulative Abnormal Returns on Firms

This table presents regression analysis estimates for firms regarding their corporate decisions during the Russian invasion of Ukraine, along with control variables including *Size, Leverage, Growth, Cash Ratio,* and *Profitability*. The dependent variable is cumulative abnormal returns (CAR). Daily abnormal returns are calculated through the Fama-French Five-Factor for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 5-day event window after each firm's announcement of their corporate decision. Variable definitions are available in Appendix. Standard errors are clustered by firms and given in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Est. window:	**3-Month**
Event window:	**5-Day**
	CAR
Grade A	0.014
	(0.021)
Grade B	0.026*
	(0.016)
Grade C	0.032**
	(0.016)
Grade D	0.035**
	(0.017)
Size	-0.005
	(0.004)
Leverage	-0.056**
	(0.028)
Growth	-0.301
	(0.196)
Cash Ratio	-0.009
	(0.069)
Profitability	0.097
	(0.074)
Constant	0.038
	(0.049)
Observations	231
Adj. R^2	0.055

Table 5: Long Term Cumulative Abnormal Returns of Firms in Different Grades

This table presents the long term cumulative abnormal returns for firms in different grades regarding their corporate decisions during the Russian invasion of Ukraine. Daily abnormal returns are calculated through the Fama-French Five-Factor for 12-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 252-day (12-month) event window after each firm's announcement of their corporate decision. The analysis is repeated for all firms, as well as, for subset of firms which stayed at the same grade or moved up or moved down after their initial grade decision. Robust standard errors are reported in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Estimation window:	**12-Month**			
Event window:	**12-Month**			
	CAR			
	All Firms	**Stayed at**	**Moved Up from**	**Moved Down from**
Grade A	0.114**	0.140**	N/A	-0.260*
	(0.053)	(0.058)		(0.140)
	(N=69)	*(N=54)*		*(N=15)*
Grade B	0.084*	0.113**	0.021	-1.005**
	(0.046)	(0.051)	(0.101)	(0.240)
	(N=106)	*(N=89)*	*(N=14)*	*(N=3)*
Grade C	-0.037	-0.048	0.055	N/A
	(0.180)	(0.214)	(0.101)	
	(N=44)	*(N=38)*	*(N=6)*	
Grade D	0.060	0.023	0.149	N/A
	(0.063)	(0.064)	(0.211)	
	(N=31)	*(N=26)*	*(N=5)*	
Grade F	-0.036	0.003	0.276**	N/A
	(0.178)	(0.006)	(0.113)	
	(N=19)	*(N=11)*	*(N=8)*	

Table 6: Time-Series Analysis on Longer Term Market Return

This table presents estimates for $Ln(NumberGrade)_{t,m}$ along with *Market Volume, GDP, SMB, HML, RMW,* and *CMA* as control variables. *Excess Market Return* is the dependent variable. $Ln(NumberGrade)_{t,m}$ is the natural logarithm of daily number of firms in a particular grade *m* within +/- 30-day interval of the Russian invasion of Ukraine (24 February 2022). *Excess Market Return* is the daily NYSE composite index return in excess of the risk-free rate that is proxied by the one-month T-Bill rate. *GDP* is the gross domestic product to control for time-variant macro-economic factors in the model. Variable definitions are given in Appendix. Robust standard errors are given in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	Excess Market Return
Ln(Number Grade A)	1.176***
	(0.218)
Ln(Number Grade B)	3.612*
	(2.021)
Ln(Number Grade C)	-0.695
	(0.567)
Ln(Number Grade D)	-1.049**
	(0.469)
Ln(Number Grade F)	-4.781**
	(2.224)
Market Volume	-0.395*
	(0.209)
GDP	-2.866
	(3.669)
SMB	0.0431
	(0.364)
HML	-0.122
	(0.214)
RMW	-0.134
	(0.193)
CMA	-1.101***
	(0.300)
Constant	71.43
	(89.30)
Adj R^2	0.761
Observations	61

Table 7: Cumulative Abnormal Returns of Chinese Firms in Different Grades

This table presents the cumulative abnormal returns for Chinese firms in different grades regarding their corporate decisions during the Russian invasion of Ukraine. Daily abnormal returns are calculated through the CAPM market model for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 5-day event window after each firm's announcement of their corporate decision. The difference in CAR values between Grade F firms and Grade B firms is also reported separately along with the statistical significance. Robust standard errors are reported in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Estimation window:	**3-Month**	
Event window:	**5-Day**	
	CAR	***Difference from Grade F***
Grade B (N=3)	0.005	*0.027**
	(0.017)	
Grade F (N=19)	-0.022	*0*
	(0.014)	

Table 8: Cumulative Abnormal Returns of Indian Firms in Different Grades

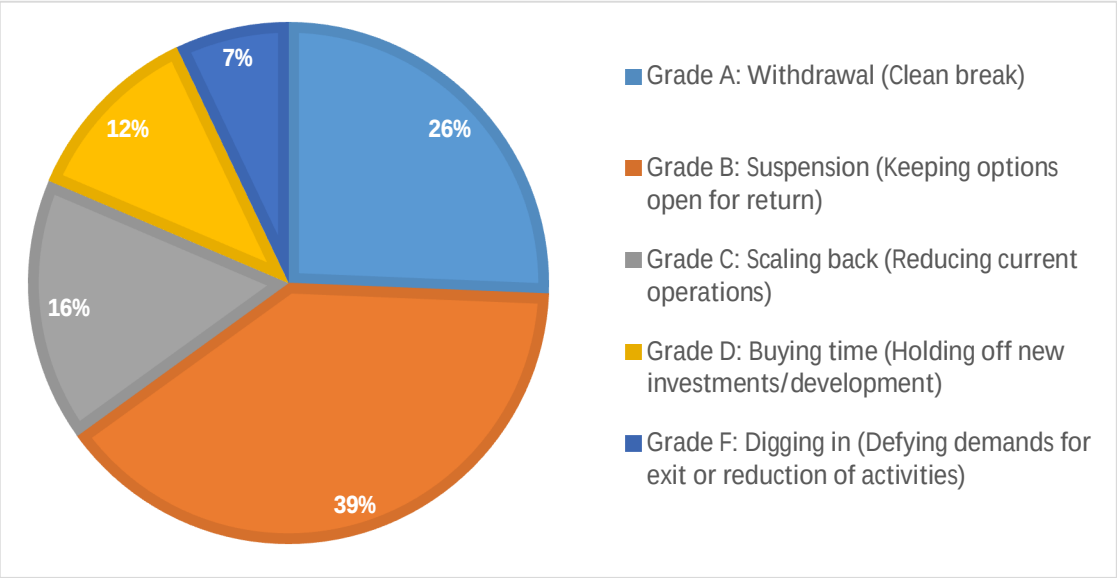
This table presents the cumulative abnormal returns for Indian firms in different grades regarding their corporate decisions during the Russian invasion of Ukraine. Daily abnormal returns are calculated through the CAPM market model for 3-month estimation window, which end 30 days before the invasion (24 February 2022). The results are given for a 5-day event window after each firm's announcement of their corporate decision. The differences in CAR values between Grade F firms and other firms in remaining grades are also reported separately along with the statistical significance. Robust standard errors are reported in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Estimation window:	**3-Month**	
Event window:	**5-Day**	
	CAR	***Difference from Grade F***
Grade A (N=2)	-0.061	*-0.060***
	(0.013)	
Grade C (N=4)	0.019	*0.021**
	(0.013)	
Grade D (N=2)	0.559	*0.560**
	(0.439)	
Grade F (N=12)	-0.002	*0*
	(0.019)	

Figure 1: Classification of Firms in the Sample

Figure 1 displays the classification of companies in the sample. Specifically, Panel A shows the categorization of firms according to five grades by Sonnenfeld (2022) based on their reaction to the Russian invasion of Ukraine while Panel B gives the industry distribution of those companies.

Panel A: Distribution of Firms across Five Grades



Panel B: Sector Distribution of Firms

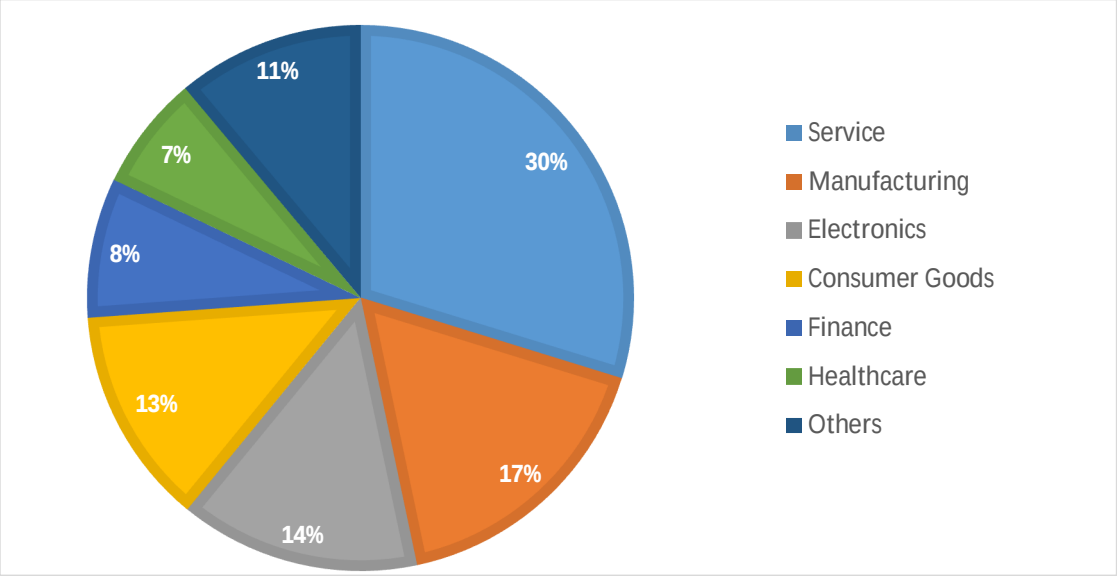
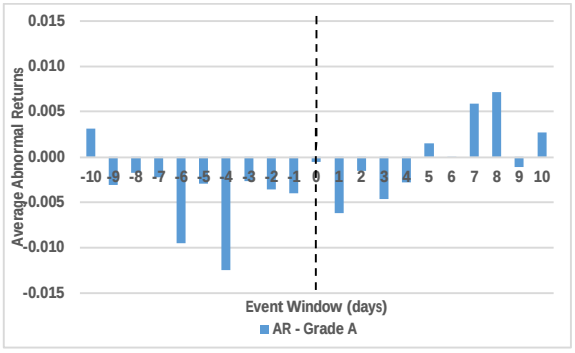
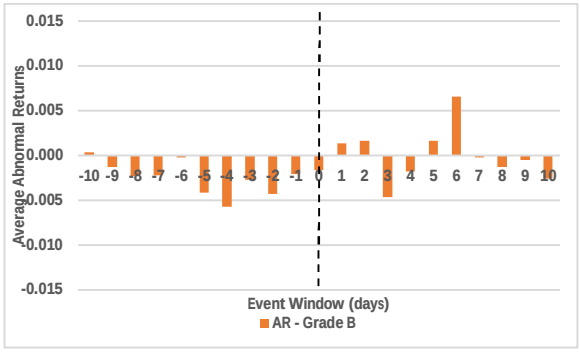
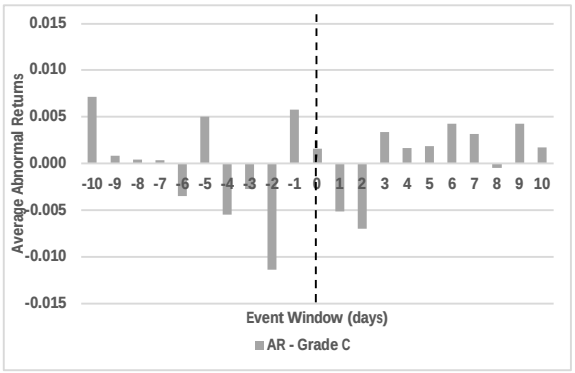


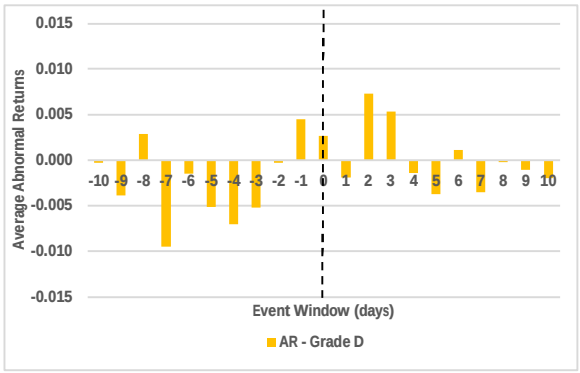
Figure 2: Abnormal Returns of Firms in Different Grades

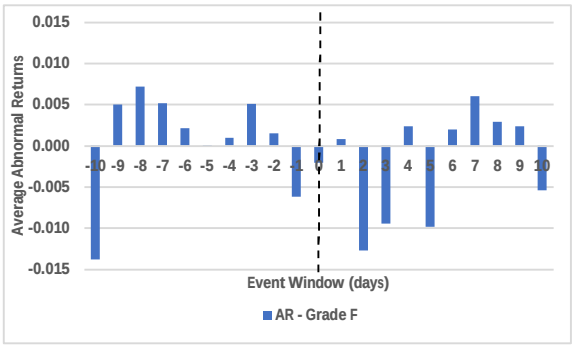
Figure 2 displays the average abnormal returns of firms in five different grades for an event window of +/-10 days around each firm's announcement of their corporate decision. Daily abnormal returns are calculated through the Fama-French Five-Factor for 3-month estimation window, which end 30 days before the invasion (24 February 2022).











Appendix: Definition of Variables

Variable	Description
AR	Daily abnormal returns are calculated through the Fama-French Five-Factor for 3-month estimation window, which end 30 days before the invasion (24 February 2022).
CAR	Cumulative abnormal returns are calculated for a 5-day event window after each firm's announcement of their corporate decision.
Grade	The dummy variable equal to one if a firm is in a particular grade group, and zero for any other grade groups.
Return	Daily stock return.
Daily Number Grade	Daily number of firms in a particular grade within +/- 30-day interval of the Russian invasion of Ukraine (24 February 2022).
Ln(NumberGrade)	The natural logarithm of daily number of firms in a particular grade within +/- 30-day interval of the Russian invasion of Ukraine (24 February 2022).
Excess Market Return	The daily NYSE composite index return in excess of the risk-free rate that is proxied by the one-month T-Bill rate.
Market Volume	The daily trading volume of a firm's shares in billions USD.
GDP	The monthly gross domestic product in US.
ShanghaiMktRf	The daily return of Shanghai Stock Exchange in excess of the risk-free rate that is proxied by the one-year government bond rate.
NationalMktRf	The daily return of National Stock Exchange of India in excess of the risk-free rate that is proxied by the one-year government bond rate.
Size	Natural logarithm of total assets.
Leverage	Debt in current liability plus long term debt, scaled by total assets.
Growth	Capital expenditures, scaled by total assets.
Cash Ratio	Cash, scaled by total assets.
Profitability	Cash flow from operations, scaled by total assets.
SMB	SMB (Small Minus Big) is the average return on the nine small stock portfolios minus the average return on the nine big stock portfolios. (Fama and French, 2015)
HML	HML (High Minus Low) is the average return on the two value portfolios minus the average return on the two growth portfolios. (Fama and French, 2015)
RMW	RMW (Robust Minus Weak) is the average return on the two robust operating profitability portfolios minus the average return on the two weak operating profitability portfolios. (Fama and French, 2015)
CMA	CMA (Conservative Minus Aggressive) is the average return on the two conservative investment portfolios minus the average return on the two aggressive investment portfolios. (Fama and French, 2015)