Does remaining in Russia affect analysts' sentiment?

Abstract

Design/methodology/approach: Leveraging data on Analysts' Revision Scores (ARS) from Eikon, Refinitiv, our analysis underscores the importance of analysts during periods of uncertainty (Kacperczyk and Seru, 2007; Loh and Stulz, 2018). Using static and dynamic panel analysis, we examine the impact of Russia exposure on ARS while controlling for key variables.

Purpose: Since February 2022, the conflict between Ukraine and Russia has significantly influenced global financial markets, altering investor behavior and increasing market volatility. Western countries' sanctions on Russia have influenced market uncertainty. Academic literature has deeply investigated the market's reaction to the conflict and demonstrated a diverse range of impacts. Our study delves into how corporate decisions to remain in or exit Russia during the conflict influence analyst sentiment.

Findings: Companies that retain a presence in Russia tends to enhance the overall ARS score, contributing to increased optimism among analysts regarding forecasts for the firms in question. Controlling for endogeneity and underlying dynamics in ARS does not alter the main findings. All in all, the results confirm the absence of an impact on the companies 'returns post announcement to continue or leave Russia after the start of the conflict (Balyuk and Fedyk, 2023).

Originality/value: This research sheds light on the complex relationship between geopolitical events, corporate decisions, and investor sentiment, offering valuable insights for stakeholders, policy makers and regulators.

Keywords: analysts' forecasts; exit from Russia; optimism.

JEL Codes: F51, G11, G14, G31.

1. Introduction

Geopolitical tensions inject uncertainty into the market, leading to fluctuations in stock prices, currency values, and commodity prices (Krishnamurti *et al.*, 2020). Lately, this uncertainty has been evident with the start of the conflict between Ukraine and Russia, which has resonated across global markets, reshaping investor behavior and the market (Belke *et al.*, 2019). Investors find themselves navigating through uncertain ground, closely monitoring developments, and adjusting their strategies to mitigate risks and seize opportunities (Taylor and Ng, 2024). This new geopolitical landscape is even more complex given the imposition of sanctions by Western countries on Russia, which specifically target key sectors of the Russian economy and affect international companies and industries with ties to the Russian market. Consequently, these companies face restricted access to international markets, capital, and technology, which can stifle economic growth and dampen investor sentiment (Belke *et al.*, 2019).

A new strand of literature has emerged on how the capital stock market reacted to the military conflict (Glambosky and Peterburgsky, 2022; Umar *et al.*, 2022a, 2022b; Kumari *et al.*, 2023; Yudaruddin and Lesmana, 2023). An analysis of stock returns and investor preferences (Boubaker *et al.*, 2022; Boungou and Yatie, 2022) suggested that the conflict has a heterogeneous negative impact on the financial markets. Part of this literature has investigated the financial market reaction to the corporate decisions to withdraw their operation from Russia amid the investors' judgement for their involvement in the conflict (Tosun and Esharaghi, 2022). Glambosky and Peterburgsky (2022), using the theoretical perspective of a company's activism (Strine, 2015), found that companies' decision to act earlier than others in withdrawing from the Russian market had a negative impact on the

stock price. This impact was, indeed, not identified for the companies that had taken the same action (withdrawn) later in the year. Balyuk and Fedyk (2023) report that the decision of firms to exit Russia was primarily influenced by market pressures in terms of lower stock price returns prior to the announcement to exit. However, Balyuk and Fedyk (2023) show that post-announcement, there is no impact on returns.[1] Moving from stock market reaction and investor preference, our study contributes to this literature by analyzing how analyst forecast sentiment has been influenced by the corporate decision to withdraw/remain in Russia. To the best of our knowledge, this is the first study to investigate the impact of the decision to remain in Russia on the analyst revision model (ARM) score. This study aims to clarify how investor behavior can be affected by narrative economics (Shiller, 2017).

There is a large literature on the role of analysts as information intermediaries, with their revision signals being incorporated into the investors' priors (Loh and Stulz, 2018; Vukovic *et al.*, 2020). The analysts' revision forecasts became more valuable for investors during bad news (Kacperczyk and Seru, 2007) and under macro uncertainty conditions and shocks (Loh and Stulz, 2018). This argument supports the use of the ARM as a measure to understand financial market behaviors after the corporate decision to continue or leave Russia after the start of the conflict.

To this end, we employ the Analysts' Revision Score (ARS) as reported in Eikon, Refinitiv. The ARS has displayed robust predictive capabilities in relation to relative stock price movements and has proven effective across a wide spectrum of stocks, encompassing different capitalization categories, investment styles, and market sectors.

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[1] See an article in Washington Post that finds a positive association between exiting Russia and stock returns (https://www.washingtonpost.com/opinions/202=2/04/26/businesses-that-left-russia-not-hurting-better-off).

The main contributions of our study are as follows: Firstly, unlike the extant literature focused on investor and market reactions, we provide evidence on how the analyst' forecast model has improved for the companies that decided to remain in Russia. This result supports Balyuk and Fedyk (2023) results on the lack of implications of the corporate decision to stay or leave Russia on the company's returns. Our short-term analysis and long-term analysis indicate that the corporations decision to remain in Russia has a positive impact on the analysts' sentiment. This result contributes to the literature on the impact of the companies' activism on stock market reactions (Glambosky and Peterburgsky, 2022) and supports the previous studies on how analyst revisions are more informative for investors during periods of macro shocks (Loh and Stulz, 2018). Second, our analysis employs the Yale SOM data set, which provides unique information about firms that exit or remain to operate in Russia. We match this specific sample with firm-specific data and ARS. With the use of the data, we provide a flexible identification to examine the impact of remaining in Russia on ARS and a dynamic estimation of the impact of exiting Russia while controlling for some key firm and country-specific variables and tackling issues of endogeneity.

In what follows, Section 2 presents the literature review while Section 3 discusses the data. Section 4 reports and discusses the results and last Section concludes.

2. Literature review

2.1 Ukraine Russia war and market reaction

The recent body of literature examining the capital stock market's reaction to the military conflict between Russia and Ukraine has provided significant insights into investor behavior and market dynamics during such turbulent times. Studies by Glambosky and Peterburgsky

(2022), Umar *et al*. (2022a, 2022b) and Kumari *et al*. (2023) examine how geopolitical tensions influence stock returns and capital allocation. These studies collectively highlight that the conflict has introduced considerable volatility and uncertainty into global financial markets. Glambosky and Peterburgsky (2022) focus on the immediate and short-term impacts of the conflict on stock markets, noting that investor sentiment reacts and often leads to a decline in stock prices. Their research emphasizes that military conflicts increase risk-averse behavior among investors, who tend to move their capital away from risky equities and towards safer assets such as gold or government bonds. For example, Chortane and Pandey (2022) investigate the impact of the Russia-Ukraine war on currency asymmetries, particularly focusing on the US dollar. They find that the war has led to notable asymmetries in currency valuations, with the US dollar exhibiting significant strength compared to other currencies. This phenomenon is attributed to the dollar's status as a global safe-haven asset, which tends to appreciate during periods of geopolitical instability due to investors' risk adverse behavior. In a recent paper, Maurya *et al.* (2023) showed that the Russia-Ukraine conflict contributed to global inflation, raising concerns about macroeconomic uncertainty and price instability. Additionally, French *et al.* (2023) in their analysis of the financial repercussions for firms that took corporate actions against Russia following the onset of the Ukraine-Russia conflict, found out that such actions generally led to negative cumulative abnormal returns (CARs) (French *et al.*, 2023). In contrast, Kumari *et al*. (2023) extend this analysis by examining the longer-term effects of the conflict on market performance. They find that while initial reactions are typically negative, some markets demonstrate resilience over time as investors adjust to the new geopolitical reality. This adjustment process, however, is uneven across different regions and sectors, suggesting a heterogeneous impact.

On this point, Umar *et al.* (2022a, 2022b) explore how market reactions differ based on their proximity to the conflict in terms of economic ties. They find that markets in countries closely tied to Russia and Ukraine, either through trade or political alliances, exhibit more pronounced negative reactions compared to those more distantly connected.

Further analysis of stock returns and investor preferences supports the notion of a heterogeneous negative impact (Boubaker *et al.*, 2022; Boungou and Yatie, 2022). Boungou and Yatie (2022) argue that the overall negative impact on financial markets is moderated by varying degrees of exposure to Russian and Ukrainian markets. In the context of the Indian stock market, the study by Pandey *et al.* (2023) demonstrated resilience despite initial negative impacts from the Russia-Ukraine conflict. This resilience is attributed to strategic shifts in investor preferences towards stable sectors like energy and defense, which align with the broader patterns of investor behavior during geopolitical crises. The market's recovery also underscores the significance of sectoral and firm-specific characteristics in mitigating the adverse effects of such global events. Singh *et al.* (2022) argue that investor preferences have been shifting since the Russia-Ukraine conflict. In this study, the authors show that after February 2022, the energy, aerospace, and defense industries have gained the net benefits of return spillover effects from ESG investments. The findings suggest that investor priorities have changed because of the Russian invasion of Ukraine. The expanding sustainability role of the energy and aerospace & defense sectors has led to a rise in investor interest in these sectors.

These studies collectively underscore the complexity of financial market reactions to geopolitical conflicts. This complexity varies widely, influenced by factors such as the

nature of economic ties to the conflict regions, industry exposure, and the geopolitical strategies of individual countries.

2.2 ARM and investors behavior

In response to the uncertainty surrounding the Ukraine-Russia conflict, investors are closely monitoring factors such as the intensity and duration of the conflict, the involvement of other countries, and potential economic sanctions or geopolitical repercussions (Taylor and Ng, 2024). These factors can influence investors' sentiment with an increased level of fear or uncertainty that could lead to a sell-off and a decrease in stock prices.

Investors' sentiment can be substantially influenced by human stories and narratives, as discussed in Shiller's theory of narrative economics (Shiller, 2017). Shiller's narrative economics theory suggests that widely adopted narratives impact economic decisions and market outcomes, showing how these can deviate from pure rationality (Shiller, 2017). These narratives propagate through media and social networks, becoming self-reinforcing, with analysts playing a crucial role in their dissemination (Shiller, 2017). Analysts' reports and revisions amplify existing narratives, leading to herding behavior among investors, occasionally exacerbating market bubbles or crashes (Hong *et al*., 2000). The alignment between analyst sentiment and narrative economics creates feedback loops where positive narratives drive optimistic analyst sentiment, resulting in upward revisions of stock ratings and higher stock prices, contributing to market bubbles (Brunnermeier and Nagel, 2004). Conversely, negative narratives drive pessimistic sentiment, leading to lower stock prices and reinforcing a narrative of economic decline, potentially causing market crashes (Baker and Wurgler, 2006).

The relationship between investor sentiment, market volatility, and trading volumes complements narrative economics (Barberis *et al.*, 1998; So and Lei, 2015). So and Lei (2015) show this correlation during geopolitical tensions, investigating the Volatility Index (VIX) and the decreased or increased trading volumes and market returns. When positive narratives dominate (lower VIX) optimistic investor sentiment tends to drive higher trading volumes as market participants seek to capitalize on the perceived opportunities for growth. This increased activity can contribute to further positive momentum in the market, creating a feedback loop that reinforces the prevailing narrative (Barberis *et al.*, 1998; So and Lei, 2015).

Conversely, during periods of negative sentiment, investors become more risk-averse, leading to reduced trading volumes as market participants withdraw from the market to mitigate potential losses. This decline in activity can exacerbate downward pressure on stock prices, reinforcing the negative narrative and contributing to market downturns. (So and Lei, 2015).

Analyst sentiment, especially in the context of ARM, is closely related with investor sentiment and the economic narrative and has a significant influence on market reactions. Analysts, often regarded as experts within financial markets, offer recommendations and forecasts that drive investor behavior and shape market trends, reflecting prevailing narratives within the market (Jegadeesh and Kim, 2010).

Although ARMs track changes in analysts' earnings forecasts and stock ratings, demonstrating correlations with prevailing market narratives (Barber *et al*., 2001), the predictive power of ARMs extends beyond merely reflecting market sentiment.

Among the large literature on the role played by the analyst forecast on the financial market reactions (Barber *et al.*, 2001), Loh and Stultz (2018) affirm that during macroeconomic uncertainty, such as financial crises or geopolitical upheavals, analysts intensify their efforts to capture information for harder to value firms. By relying on a thorough analysis of financial statements, industry trends, and economic indicators, analysts can provide a clearer picture of a company's future performance, helping investors distinguish between temporary market fluctuations and long-term value. For this reason, analysts' revision models can provide accurate information and counterbalance the destabilizing effects of media sentiment (Tetlock, 2007), which, particularly when negative, drive market volatility by influencing investor perceptions and actions. For instance, during financial crises or significant economic events, sensationalist reporting can induce panic, prompting widespread sell-offs that exacerbate market declines. Moreover, analysts' ability to provide timely updates and revisions in response to new information further enhances their role in countering the destabilizing influence of noise traders and promoting more efficient markets. Barber *et al.* (2001) found that analysts' recommendations and earnings forecasts play a crucial role in guiding investor behavior, especially during periods of uncertainty.

Therefore, analysts' revisions play a vital role in influencing investor behaviors and maintaining market stability. Their rigorous research, timely updates, and credible insights help to mitigate the impact of exaggerated reporting, fostering a more stable and rational investment environment. This leads to our research question, as follows:

*Does remaining in Russia affect analysts' sentiment?*

3. Analysts' Forecasts Sentiment: the StarMine ARM

In this study, we employ data for ARS from Eikon, Refintiv, that is based on the StarMine

ARM.

This model is a sophisticated security ranking model designed to evaluate various factors related to sell-side analysts' estimates (Kerl and Ohlert, 2015). It specifically examines revisions made by these analysts to earnings, revenue, and earnings before interest, taxes, depreciation, and amortization (*EBITDA*) forecasts. Additionally, it considers alterations in analysts' buy/hold/sell recommendations. The ARM model is enriched by StarMine's exclusive Smart Estimate earnings prediction service, which enhances the accuracy of earnings estimates. Moreover, the ARS is a percentile ranking, ranging from 1 to 100, that assesses stocks based on shifts in analyst sentiment. A score of 100 signifies the highest rank in this context. It has demonstrated strong predictive power concerning relative price movements and is effective across stocks of various capitalization levels, investment styles, and market sectors. Figure 1 demonstrates the ARS score for IBM over the period of this study, from February 2022 to September 2023. Overall, the price follows the ARM score quite closely, though there is also some variability.

Figure 1: The ARM North America Score of IBM.
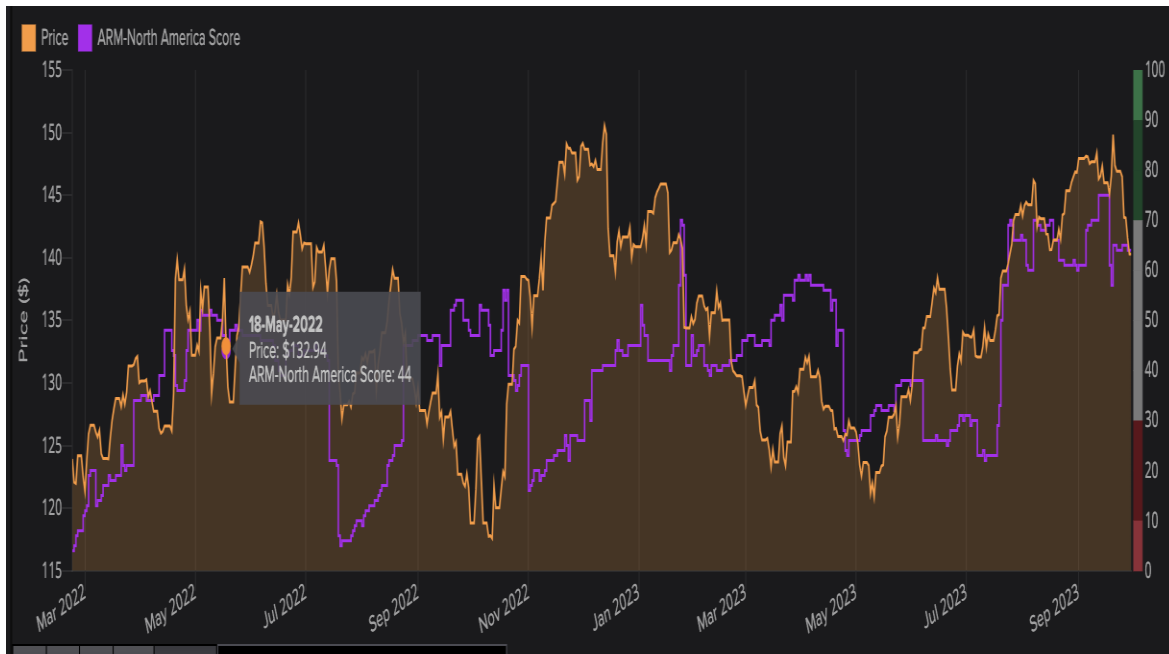
Source: Eikon, Refinitiv.

The Remain index is defined as 1 for F, representing firms that are continuing business as usual in Russia, and 0 for the rest of the grades (*Remain*).

Regarding firm-specific variables, we use earnings per share (*EPS*) as a variable that can influence analysts' forecasts (Goh, 2023). Abarbanell and Lehavy (2003) argue that there is a negative correlation between firm losses and analysts' forecasts. Thus, we consider the impact of firms with losses (*LOSS*) using a dummy variable.

To avoid double-counting issues, we cross check the sample to identify dually listed firms and control for them. We ensure that there are no cross-border cases by matching ARS scores for firm *i* in a specific country with the financial reporting information for firm *i* headquartered in that country. In addition to the country's IMF classification, we include the growth rate of its Gross Domestic Product (*GDP*) to capture the impact of the macroeconomy on ARS.

11

Regarding data on firms' operations in Russia, we opt for the data from the Yale Research Categories (Yale SOM, 2023). The database categorises the companies on the basis of their exposure to Russia's market with the following grade: grade A identifies the clean break case so that companies are totally halting Russian engagements or completely exiting the Russian market; grade B refers to companies that are temporarily curtailing most or nearly all operations with and in the Russian market while keeping their return options open; grade C refers to companies decisions to reduce current operations with and in the Russian market; grade B refers to companies that are temporarily curtailing most or nearly all operations with and in the Russian market while keeping their return options open; grade C refers to companies decisions to reduce current operations with and in Russia while applying a scaling back strategy; grade D refers to companies that have decided to hold off new investments and development in Russia while continuing substantive business; and grade F identifies companies that are continuing business as usual in Russia. Using the Yale database, our sample uses the same classifications for a period that starts on February 28, 2022, and ends in September 2023. Using this data, we employ a dummy variable that equals one if the company continues Russian operations, and zero otherwise. Table 1 reports the descriptive statistics of our variables. Our sample includes 392 firms and generates 76,336 panel observations.

Table 1 reports descriptive statistics.

	Mean	Std.dev.	Min	Max
ARS	42.70	27.58	11.69	93.09
Remain	0.852	0.354	0	1
EBITDA	4.371	5.121	0.049	6.210
EPS	3.303	4.169	0.028	5.550
Loss	0.482	3.201	0.000	1
GDP	3.1925	2.9215	-14.81	15.24

Note: ARS is the Analyst Revision Score; Remain index is defined as 1 for F, representing firms that are continuing business as usual in Russia, and 0 for the rest of grades. EBITDA is the earnings before interest, taxes, depreciation, and amortization; EPS is earnings per share; LOSS notes a dummy for firms with losses; GDP is the growth rate of GDP.
Source: Datastream, Compustat, and Eikon Refinitiv.

4. The effect of exit from Russia on analysts' forecast optimism and uncertainty

To identify the effect of exposure on Russia on *ARS,* we employ a random effect (given that the main variable remain is time invariant) panel analysis model as follows:

$$ARS_{i,j,t} = a_0 + a_1 Remain_{i,j,t} + a_2 EBITDA_{i,j,t} + a_3 EPS_{i,j,t} + a_4 LOSS_{i,tj,} +$$

$$a_5 GDP_{j,t} + \ country\ effects + industry\ effects + time\ effects + \varepsilon_{i,j,t}$$

(1)

where $ARS_{i,j,t}$ is the *ARS*; $Remain_{i,j,t}$ is exposure to Russia, $EBITDA_{i,j,t}$ is the earnings before interest, taxes, depreciation, and amortization, $EPS_{i,j,t}$ is earnings per share, $LOSS_{i,j,t}$ is a dummy variable scoring 1 if a company shows a loss and 0 otherwise, and $GDP_{j,t}$ is the growth rate of GDP. *i* refers to firm, *j* country, and *t* year.

Table 2 reports that the parameter estimate of Remain has a positive sign and it is significant across all specifications, from specific to general. Thus, we observe that retaining a presence in Russia tends to enhance the overall ARS score, contributing to increased optimism among analysts regarding forecasts for the firms in question. The remaining control variables have the expected sign. For example, higher losses would negatively affect the ARS score, reducing analysts' optimism. This is in line with previous literature in the field (Abarbanell and Lehavy, 2003) On the other hand, EBITDA, EPS, and GDP all have a positive impact on the ARS score, confirming previous literature results (Bradshaw *et al*., 2012).

It is worth noting that early in the conflict, Eaglesham and Gryta, in an article in the Wall Street Journal on April 14, 2022, argue that firms facing losses on their Russian operations

should disinvest.[2] The Yale SOM conducted an analysis of the total stock returns for firms that exited Russia from February 23, 2022, to April 8, 2022, and argued that financial markets were rewarding companies that opted to exit Russia while penalising those that decided to stay[3]. Balyuk and Fedyk (2023) findings indicate that the decisions of firms to exit Russia were primarily influenced by market pressure. Our results contribute to this ongoing debate and suggest, based on an updated sample, that remaining in Russia improves analysts' sentiment and enhances optimistic firms' performance. These results are also related to the findings of Glambosky and Peterburgsky (2022), on the impact of companies' activism on the stock price. The use of analysts' sentiment in the context of corporate decisions to withdraw or continue their business with Russia after the start of the Ukraine war, has confirmed the increased value for the investors of the analysts; forecast during periods of macroeconomic shocks (Loh and Stultz, 2018) and of the star-analysts' forecasts ability to predict the future stock market's reaction (Kerl and Ohlert, 2015).

Table 2: Panel regression analysis of the impact of remain to Russia to ARS.

VARIABLES	1	2	3	4
Remain	0.0042*	0.0015***	0.0029**	0.0033***
	(0.002)	(0.0002)	(0.0011)	(0.0012)
EBITDA	0.0678**	0.0917***	0.1310**	0.210***
	(0.0263)	(0.0032)	(0.0624)	(0.0227)
EPS		0.0001	0.0083***	0.00251
		(0.0005)	(0.0002)	(0.0065)
Loss			-0.4028***	-0.3545***
			(0.1452)	(0.0911)
GDP				0.0033***
				(0.0010)
Constant	0.0005**	0.0006**	0.0007**	0.00080**
	(0.0002)	(0.0003)	(0.0003)	(0.00036)
Observations	76,336	76,336	75,492	75,268
Number of firms	392	392	392	392

[2]See https://www.wsj.com/articles/companies-size-up-their-losses-on-russian-operations-11649928600.
[3]See https://www.washingtonpost.com/opinions/2022/04/26/businesses-that-left-russia-not-hurting-better-off.

In addition, we also employ a dynamic panel analysis model that treats for endogeneity and considers that underlying dynamics of ARS:

$$ARS_{i,j,t} = a_0 + a_1 ARS_{i,j,t-1} + a_2 Remain_{i,j,t} + a_3 EBITDA_{i,j,t} + a_4 EPS_{i,j,t} +$$

$$a_5 LOSS_{i,j,t} + a_6 GDP_{j,t} + country\ effects + industry\ effects + time\ effects +$$

$$\varepsilon_{i,j,t} \qquad\qquad\qquad (2)$$

where $ARS_{i,j,t-1}$ is the lagged value of *ARS*.

We estimate the dynamic panel data model using Kripfganz and Schwarz (2019) who provide a two-stage estimation procedure to identify the effects of time-invariant regressors in a dynamic version of the Hausman-Taylor model. The first stage estimates the coefficients of the time-varying regressors and subsequently regress the first-stage residuals on the time-invariant regressors providing analytical standard error adjustments for the second-stage coefficients. Table 3 reports that the effect of remaining in Russia has a positive impact on ARS score, though the magnitude is small. It is worth noting that this positive impact could happen because the analysts consider those firms to have higher performance. Moreover, "*Remain*" firms could benefit from reduced competition. This dominance allows them to exert market power, to control supply chains, and to influence market dynamics in their favour. In addition, if Remain firms have built up trust and credibility among Russian consumers, they can maintain their market share and charge premium prices. Remain firms could receive government support, providing them with preferential treatment further enhancing their competitive position in the market. Moreover, the decreased competition in the Russian market, resulting from the departure of other enterprises, creates unique opportunities for the remaining firms (Lu and Beamish, 2001). Analysts may revise their

projections upward, considering the potential advantages, thereby boosting the anticipated returns for companies opting to stay in Russia. The lack of a significant impact on returns following such announcements might reflect broader market sentiment and risk tolerance during geopolitical upheaval (Dimson *et al.*, 2002). Long-term investors may prioritize strategic positioning, leading to a limited response to statements concerning Russia. This aligns with findings from other studies (Balyuk and Fedyk, 2023).

Table 3: Dynamic panel data analysis of of the impact of remain to Russia to ARS.

VARIABLES	1	2	3	4
ARS_{t-1}	0.4841***	0.5983***	0.5985***	0.6031***
	(0.0345)	(0.0983)	(0.0384)	(0.0430)
Remain	0.00063**	0.000658**	0.00065*	0.00064***
	(0.00026)	(0.00021)	(0.00034)	(0.000112)
EBITDA		0.131***	0.0389	0.0909*
		(0.0248)	(0.08138)	(0.0478)
EPS			0.008***	0.00219*
			(0.0002)	(0.0012)
Loss			-0.402***	-0.115**
			(0.089)	(0.056)
GDP				0.5280***
				(0.127)
Short-run marginal effect of Remain	0.00067*	0.00066	0.000568	0.00067***
	(0.00033)	(0.00038)	(0.000399)	(0.00011)
Long-run marginal effect of Remain	0.00127*	0.00168***	0.001606	0.00161***
	(0.00073)	(0.00018)	(0.000517)	(0.00023)
Constant	0.000480*	0.000516	0.000568	0.000616
	(0.000248)	(0.000387)	(0.000399)	(0.000411)
1st stage instruments	118	118	118	118
Arellano-Bond	z = -0.009	z = -0.009	z = -0.009	z = -0.009
	(0.991)	(0.991)	(0.991)	(0.991)
Hansen	x^2= 43.56	x^2= 43.51	x^2= 44.82	x^2= 48.28
	(0.462)	(0.461)	(0.468)	(0.478)
2^{nt} stage instruments	39	39	39	39
Hansen	x^2= 48.39	x^2= 48.56	x^2= 41.45	x^2= 41.61
	(0.366)	(0.519)	(0.317)	(0.317)
Observations	46,826	46,826	46,413	46,254
Number of firms	392	392	385	383

In the dynamic model, the short-run effects are given by the marginal effects conditional on the lagged dependent variable, while the long-run effects are obtained by scaling the short-run effects by the multiplier $(1 - a_1)^{-1}$.[4] The dynamic model specification estimated with a system GMM estimator supports the assumption of history dependence in the data-generating process of the ARS. The autoregressive coefficient exceeds 0.48 both with a one-stage and a two-stage estimation strategy. When testing the validity of the dynamic model and instruments used, we find that the Hansen (1982) overidentification test based on the one-stage estimates does not provide evidence for the non-validity of instruments. Therefore, we cannot reject the null hypothesis of the joint validity of all instruments. The same holds for the first stage and second stage estimations. The Arellano and Bond (1991) specification test for the absence of second-order serial correlation in the first-differenced residuals is easily passed by both estimators.

Table 3 shows that controlling for endogeneity and underlying dynamics in ARS does not alter our main finding. The parameter estimates of Remain are positive across all specifications, implying that firms that remain in operation in Russia improve their ARS score. It is also worth noting that the long-run effect of remaining on the ARS score is higher than the short-run effect, while the standard errors are also smaller. This result implies that

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[4] Our model in Table 3 is an autoregressive AR(1) model. The autoregressive parameter, a_1, in the AR(1) of Equation 2 notes the correlation coefficient between *ARS* and its own lagged values. The parameter estimate of a_1 provides the short run effect of ARS_{t-1} on ARS_t while we could also estimate the long run effect by the $(1 - a_1)^{-1}$.

remaining in Russia would enhance analysts' optimism about the firm's performance, especially in the long term.

5. Conclusions

The study investigates the impact of firms' decisions to remain in Russia on ARS and analysts' sentiment, employing both static and dynamic panel analysis. Our results reveal that staying in Russia enhances ARS and analysts' optimism, contrary to initial expectations. There is no significant effect on companies' returns post-announcement of their decision to continue or leave Russia after the conflict began (Balyuk and Fedyk, 2023; Glambosky and Peterburgsky, 2022). This unpredicted positive sentiment can be justified through various academic perspectives and empirical findings. Firstly, firms deciding to stay may be perceived as showing robust risk management and operational resilience (Nguyen and Kim, 2020). Their choice signals confidence in facing uncertainties, sustaining business operations, and preserving supply chains, which positively influences analysts' forecasts. Strategic positioning also plays a pivotal role, with companies positioning themselves to capitalize on future opportunities once the geopolitical situation stabilizes (DesJardine *et al.*, 2019). This forward-looking approach induces analysts to revise earnings forecasts upward, distinguishing between long-term gains and short-term challenges. Furthermore, the efficient pricing of geopolitical risks by the market could explain the lack of impact on returns (Fama, 1970). If investors had anticipated firms' decisions regarding Russia, announcements would not have substantially altered stock prices, aligning with previous findings. Additionally, firms may have employed adaptive strategies to mitigate

international sanctions and operational disruptions, enhancing resilience and influencing analyst revisions positively (Brouthers *et al*., 2005).

Industry-specific factors also contribute, with essential industry firms receiving more favorable assessments due to their pivotal role and industry-specific resilience. Reduced competition in the Russian market following the exit of other firms establishes unique opportunities for those that remain (Lu and Beamish, 2001). Identifying potential benefits, analysts may revise forecasts upward, contributing to improved ARS for firms that stayed in Russia. The lack of impact on returns post-announcement could display broader investor sentiment and risk tolerance during geopolitical uncertainty (Dimson *et al.*, 2002). Investors with a long-term perspective may prioritize strategic positioning, resulting in a muted reaction to announcements about Russia, aligning with previous findings (Balyuk and Fedyk, 2023).

In summary, the positive ARS for firms remaining in Russia can be attributed to perceived resilience, strategic positioning, pre-emptive market adjustments, adaptive strategies, industry-specific factors, and reduced competition. These elements shape analyst perceptions and investor behavior, defying initial expectations and indicating the complexity of market reactions to geopolitical conflicts. Future research could investigate the impact of the firms that remain in Russia on economic growth. Recent data shows that the Russian economy has been growing in recent years, and those firms could have positively contributed, confirming analysts' optimism.

To get a deeper understanding of investor behaviour, economic policy makers should improve their surveillance and analysis of market reactions to geopolitical events. This could help develop more rational policy measures and growth-oriented approaches to boost

economic development in the face of geopolitical unpredictability. Because investment policies could be impacted in areas where there are geopolitical tensions, economic policy should support businesses that show resiliency and a dedication to functioning in difficult circumstances. This might be specialised aid initiatives, changes to regulations, or diplomatic initiatives to reduce risks and improve the business climate.

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