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RESEARCH ON THE IMPACT OF GEOPOLITICAL INSTABILITY
ON SINO-RUSSIAN TRADE**Таламанов Павел Андреевич**

аспирант

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В статье рассматривается влияние геополитических рисков на торговлю между Россией и Китаем с 2006 по 2022 год при помощи модели множественной линейной регрессии. Для этой цели автор использует индекс геополитических рисков (GPR-index). Вероятно, это первая статья в литературе, в которой рассматривается GPR-индекс при анализе китайско-российской торговли. Согласно полученным данным, увеличение глобального геополитического риска на 1 % приводит к снижению взаимной торговли между странами на 9 %. Однако, несмотря на то, что общий глобальный геополитический риск играет негативную роль в развитии торговли, геополитические риски обеих стран независимо друг от друга положительно влияют на рост торговли. Увеличение на 1 % геополитического риска Китая и России вызывает увеличение международной торговли на 4,5 и 3 % соответственно. Исследование также содержит предложения по решению связанных с этим проблем.

Using the Multiple Linear Regression model, this paper examines the effects of geopolitical risks on the trade between Russia and China, from 2006 to 2022. For this purpose, the author uses the index of geopolitical risks (GPR index). To the best of my knowledge, this is the first paper in the literature that considers the GPR index in the analysis of the Sino-Russian mutual trade. According to the findings, an increase of 1% in global geopolitical risk cases decline of 9% in mutual trade between the countries. However, even though overall global geopolitical risk plays a negative role in trade development, both countries' geopolitical risks independently positively contribute to trade growth. The increase of 1% in the geopolitical risk of China and Russia causes an increase in international trade by 4,5 and 3% respectively. The research also provides suggestions for the associated challenges.

Ключевые слова: Россия, Китай, геополитический риск, китайско-российская торговля.

Keywords: Russia, China, geopolitical risk, Sino-Russian trade.

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Introduction

Geopolitical risks are likely to have an impact on global trade in addition to economic cycles and financial markets. The term "geopolitics" is currently used to refer to a broad range of events with a variety of causes and effects, from terrorist attacks to the global trade collapse in 2009 (Caldara & Iacoviello, 2018). Geopolitical threats have an immediate impact on international trade, and can also have an indirect impact on trade through the investment corridor.

Geopolitical risks might also influence monetary and fiscal policy expectations, and these concerns can have a considerable impact on exchange rates and trade flows. The paper provides the first empirical evidence in the literature for the effects of geopolitical risks by using the GPR index recently developed by Caldara and Iacoviello (2018) on Sino-Russian trade. By understanding how geopolitical events affected the trade volume between Russia and China, it becomes possible to predict trade changes based on the amplitude of geopolitical risk in the context of the confrontation over Taiwan.

The fact that international conflict and cooperation have a significant impact on trade flows

suggests the value of international collaboration. There have been past studies in the literature that examine how violence, war, terrorism, and conflict affect trade flows. Anderton and Carter (2001) largely give favourable evidence for the trade disruption hypothesis. Glick and Taylor (2010) found significant and long-lasting effects of conflicts on trade as well as national income and overall economic well-being.

The trade war between China and the United States does not have a significant impact on the Russian economy (Ignatova & Gorbunova, 2020). However, if the trade war is protracted, the negative effects will affect the entire world economy. Russia would experience greater economic losses, but both China and Western nations would be negatively impacted (Mahlstein, McDaniel, Schropp, & Tsigas, 2022). The economic argument for convincing China to become a Western ally is less compelling than previously believed. The report by Gupta, R., Gozgor G., Kaya H., and Demir E. (2019) presents evidence of the influence of geopolitical risks on international trade flows using the GPR index. The index can measure all facets of geopolitical risk, including the danger of tensions, terrorist attacks, and conflicts. Trade openness is likely to decrease even in terrorist strikes when there are no or few casualties (Pham & Doucouliagos, 2017).

Methodology

The applied research methodology consists of empirical analysis. The numerical part is made of MLR analysis that will evaluate the influence of geopolitical risks (GPR) on the trade between Russia and China. For this particular analysis, the author will use 3 different geopolitical risks that may influence mutual trade. The risks are

- 1) World geopolitical risk - GPR
- 2) Geopolitical risk of China - GPR_CHN
- 3) Geopolitical risk of Russia - GPR_RUS

The value of the current risks is gathered based on a tally of newspaper articles covering geopolitical tensions and examined by its evolution and economic effects monthly since 2006. The geopolitical risk (GPR) index spiked around the two world wars, at the beginning of the Korean War, during the Cuban Missile Crisis, and after 9/11. Higher geopolitical risk foreshadows lower investment, stock prices, and employment. Higher geopolitical risk is also associated with a higher probability of economic disasters and with larger downside risks to the global economy.

The GPR Index uses 10 newspapers: Chicago Tribune, the Daily Telegraph, Financial Times, The Globe and Mail, The Guardian, the Los Angeles Times, The New York Times, USA Today, The Wall Street Journal, and The Washington Post. Then the index parameter is done by counting the number of articles related to adverse geopolitical events in each newspaper for each month (as a share of the total number of news articles).

The monthly data is available at: <https://www.matteoiacoviello.com/gpr.htm>

In order to collect the data on monthly trade volume, the author of the study addressed the official statistics of the Government of Russia as well as China's customs statistics.

All the monthly trade volume data, including separate import and export, are gathered to create the Y parameter. The X parameters or independent variables consist of Geopolitical risks. After collecting data on X and Y parameters, the multiple regression model is applied.

H0: there is no relationship between trade volume and geopolitical risks.

H1: There is a relationship between trade volume and geopolitical risks.

$$Y(\text{trade volume}) = f(\text{GPR}, \text{GPR_CHN}, \text{GPR_RUS})$$
$$\text{Trade} = X_0 + X_1 * \text{GPR} + X_2 * \text{GPR_CHN} + X_3 * \text{GPR_RUS} + e$$

Results

The detailed monthly Sino-Russian trade graph (Fig. 1) clearly illustrates the remaining influence of geopolitical risks on mutual trade. The increase in geopolitical risks in 2008, 2014, 2020 and 2022 presented on the graph coincide with the following decline in the following trade.

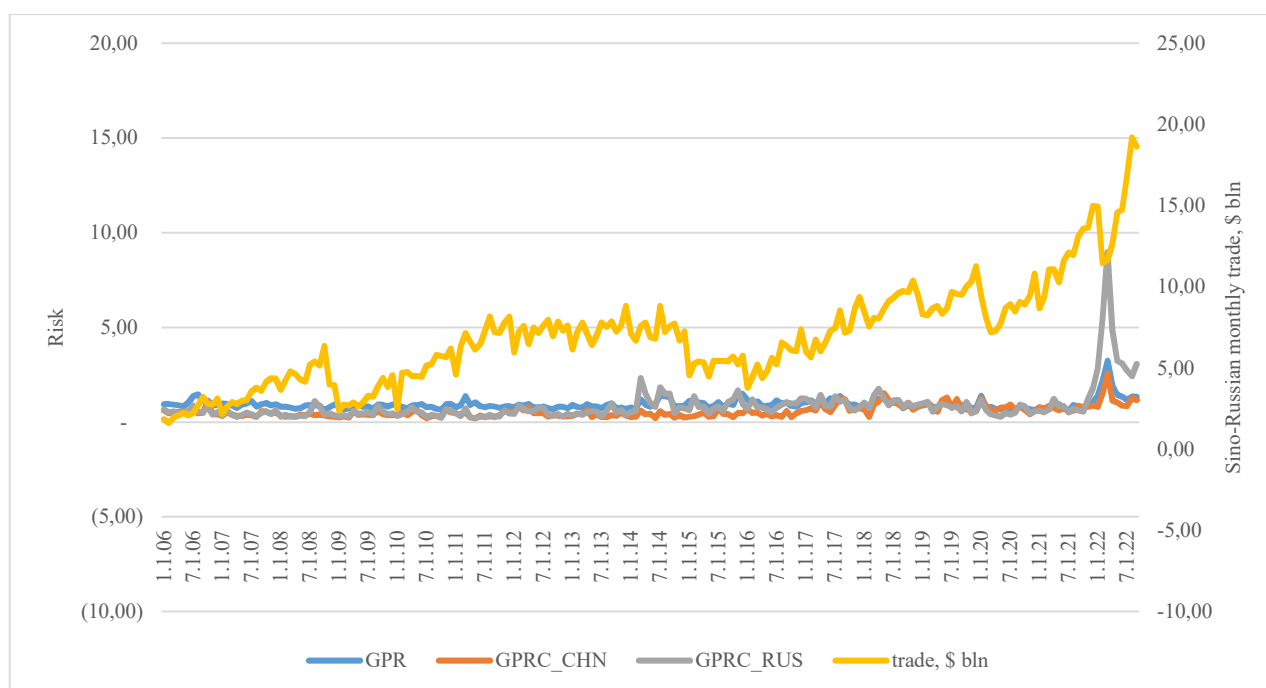


Figure 1 – Monthly Sino-Russian mutual trade, \$ bln

Multiple regression models provide the following results:

Regression Statistics	
Multiple R	0.687925337
R Square	0.47324127
Adjusted R Square	
Square	0.465219563
Standard Error	2.294749445
Observations	201

ANOVA					
	df	SS	MS	F	Significance F
Regression	3	931.9822514	310.6607505	58.9950862	2.948E-27
Residual	197	1037.377378	5.265875013		
Total	200	1969.359629			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	10.32300748	0.889373558	11.60705464	4.51983E-24	8.569092535	12.07692243	8.569092535	12.07692243
GPR	-9.061540946	1.165495753	-7.774838236	4.11104E-13	-11.35999069	-6.763091207	-11.35999069	-6.763091207
GPR_CHN	4.475386622	0.721335049	6.204310504	3.1763E-09	3.052856895	5.897916348	3.052856895	5.897916348
GPR_RUS	3.048002604	0.382183701	7.975229178	1.21514E-13	2.29430614	3.801699068	2.29430614	3.801699068

Figure 2 – Multiple regression model results

In the current empirical analysis (Fig. 2), the p-value is less than the significance level of 5%, that's why the null hypothesis is rejected. R square is equal to 0,47 which means that 47% of results can be explained by the model. The intercept equals 10.32300748.

The data favours the alternative hypothesis:

H1 - There is a relationship between trade volume and geopolitical risks.
The final equation looks the following way:

$$\text{Trade} = 10.32300748 - 9.061540946 * \text{GPR} + 4.475386622 * \text{GPR}_{\text{CHN}} + 3.048002604 * \text{GPR}_{\text{RUS}}$$

Discussions

The results are not homogeneous and contradictory at first glance, however, they can be explained. First of all, global geopolitical risk plays a negative role in Sino-Russian mutual trade. These results align with other existing findings in the literature. According to the findings, an increase of 1% in global geopolitical risk cases decline of 9% in mutual trade between the countries. The reasons for the such decline are overall global economic decline and volume of economic activities, increase of trade expenses, security expenditures, and trade insurance coverage due to the impression of larger geopolitical risks that have the potential to directly impact trade flows, particularly if it results in increased trade costs as well as greater insurance and security expenditures. A key policy for mitigating the negative impacts of geopolitical risk on trade flows is the use of national currencies and trade credits with lower interest rates when geopolitical risks are at their highest.

Geopolitical risks have grown during the conflicts in Georgia in 2008 and Crimea in 2014, the pandemic in 2020, and the crisis in Ukraine in 2022, taking into account the data's coverage period. The analysis also indicated that these events hurt trade flows. It is also important to highlight that certain government acts taken by Russia have contributed significantly to the most obvious geopolitical threats in the world. Geopolitical risks posed by China were also significant in the examination.

However, even though overall global geopolitical risk plays a negative role in trade development, both countries' geopolitical risks independently positively contribute to trade growth supporting the ideas of other researchers (Liu, Yu, Yang, & Li, 2021). They concluded that wars and conflict events lead to an increase in energy trade volume. The author explains this through a big share of energy resources in trade, non-heterogeneous geopolitical space and systemic confrontation of Russia and China with Western countries pushing the towards each other. The increase of 1% in the geopolitical risk of China and Russia causes an increase in international trade by 4,5 and 3% respectively.

According to Russia's customs statistics, mineral resources were mainly Russia's export items for the last ten years (2010-2020). The total share of natural resources in Russia's export to China reached 75% in 2020 and 2021, making it a historical maximum; for the last 20 years (2000-2020) share of China in Russia's trade increased from 5,6% in 2001 up to 18% in 2020 and 2021, making China the biggest Russian trade partner.

Since global uncertainty tends to raise in the last years, especially with the confrontation between China and the US, and a big proportion of energy share in trade, the forecast of the trade development is positive. However, the author cant call this resource-based trade with one country a healthy and long-term one. To tackle this issue the authors suggest the following methods: businesses should diversify their export and import markets (for instance, by expanding services trade and developing digital economies) to reduce the impact of geopolitical risks on trade flows, and improve the trade structure, particularly when such risks are larger. The governments may directly subsidize exporters and importers to reduce trade costs and reveal prospective drivers of bilateral cooperation. Public agents might specifically set off insurance coverage and security spending expenditures.

Conclusion

In this paper, the author considered a Multiple Linear Regression model to examine the effects of geopolitical risks on Sino-Russian trade flow. For this purpose, the study focused on the data from monthly mutual trade for the period from 2006 to 2022. Specifically, the study employed the new index of geopolitical risks, so-called the GPR index of Caldara and Iacoviello (2018).

The findings mainly indicated that geopolitical risks negatively affect mutual trade. According to the findings, an increase of 1% in global geopolitical risk cases decline of 9% in mutual trade between the countries. However, even though overall global geopolitical risk plays a negative role in

trade development, both countries' geopolitical risks independently positively contribute to trade growth. The increase of 1% in the geopolitical risk of China and Russia causes an increase in international trade by 4,5 and 3% respectively.

The author explains this through a big share of energy resources in trade, non-heterogeneous geopolitical space and systemic confrontation of Russia and China with Western countries pushing the towards each other. A key policy for mitigating the negative impacts of geopolitical risk on trade flows is the use of national currencies and trade credits with lower interest rates when geopolitical risks are at their highest, further deepening the cooperation mechanism, enhancing cultural communication, and strengthening the construction of the Sino-Russian free trade area. Countries should also actively participate in the reform of the multilateral trade rules of the World Trade Organization.

To tackle the issue of resource-based trade with one country the authors suggest the following methods: businesses should diversify their export and import markets (for instance, by expanding services trade and developing digital economies) to reduce the impact of geopolitical risks on trade flows, and improve the trade structure, particularly when such risks are larger. The governments may directly subsidize exporters and importers to reduce trade costs and reveal prospective drivers of bilateral cooperation. Public agents might specifically set off insurance coverage and security spending expenditures.

References:

1. Anderton C. H., & Carter J. R. (2001). The impact of war on trade: An interrupted time-series study. *Journal of Peace Research*, 445-457.
2. Caldara D. & Iacoviello M. (2018). Measuring geopolitical risk. *Board of Governors of the Federal Reserve Board International Finance Discussion Paper*.
3. Glick R., & Taylor A. M. (2010). Collateral damage: Trade disruption and the economic impact of war. *The Review of Economics and Statistics*, 102-127.
4. Gupta R., Gozgor G., Kaya H., & Demir E. (2019). Effects of geopolitical risks on trade flows: evidence from the gravity model. *Eurasian Economic Review*, 515-530.
5. Ignatova O. V., & Gorbunova O. A. (2020). US-China trade war: Russia's risk. *Issues of Risk Analysis*, 56-65.
6. Liu Y., Yu L., Yang C., & Li Z. (2021). Heterogeneity of the Impact of Geopolitical Events on Energy Trade: An Empirical Study Based on Regression Discontinuity Design. *Frontiers in Environmental Science*.
7. Mahlstein K., McDaniel C., Schropp S., & Tsigas M. (2022). Estimating the economic effects of sanctions on Russia: An Allied trade embargo. *The World Economy*, 1-40.
8. Pham C. S., & Doucouliagos C. (2017). *An injury to one is an injury to all: Terrorism's spillover effects on bilateral trade*. Bonn: Institute of Labor Economics.

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