The Impacts of Geopolitical Events on the Developed and Developing Stock Markets

Junyi Tan[1](✉) and Chengyu Wang[2]

[1] Chengdu Jiaxiang Foreign Language School, Chengdu 610023, China
18409446@masu.edu.cn
[2] Qingdao No. 2 Middle School of Shandong Province, Qingdao 266000, China

Abstract. The geopolitical conflicts/events usually have caused huge fluctuations on the stock market all over the world. Many scholars have studied the impacts that wars or changes of geopolitical relations on the stock markets. However, it is not clear whether the impacts on the developed and developing countries are the same. Therefore, in this article, we conclude and analyse how the stock markets react to geopolitical events respectively from developed and developing countries by reviewing and summarizing several previous 15 studies and looking at the Dow Jones Industrial Average Index and other stock indices. In the research of this paper, it is found that the reaction varies from countries to countries. For the developed countries, the reaction of the markets depends on their extent of participation in geopolitical events. For instance, the United States react much more slightly compared with the European Union. For developing countries, the reaction is closely connected with their regional or national factors, such as the characteristics of the markets or macro-control of the government, resulting in a gentle fluctuation. Generally speaking, the article provides a relatively complete summary for the effects of geopolitical events on the developed and developing stock markets, and suggests a better explanation of the markets' behaviours.

Keywords: Geopolitical events · Impacts · Stock markets · Developed and developing countries · The United States · The European Union · The United Kingdom · Latin America · China

1 Introduction

In the current society, as the world today is closely linked and the pace of economic globalization is getting faster and faster, the Influences of the geopolitical events on economy are no longer negligible. However, the influences may not be easily manifested. In order to study the topic clearly, we need visual data and information, and the fluctuations of the stock market are certainly suitable to quantify the variations of the economy.

As the study goes on, it is found that developed countries/regions and developing countries/regions have their own respective co-relation with the geopolitical events. The geopolitics does not affect them in the same way, so we decided to discuss the topic separately for the wealthy and the developing. In this paper, Sect. 1 is the review of

G. Ali et al. (Eds.): ISEMSS 2022, ASSEHR 687, pp. 1181–1189, 2022.
https://doi.org/10.2991/978-2-494069-31-2_138

Fig. 1. The fluctuations of the Dow Jones Industrial Average Index, representing the stock market of the United States (From Microsoft).

study in this field for wealthy nations and regions, including the application of Dow Jones Industrial Average Index [1] during the current Russian-Ukrainian conflict for the US stock market, the analysis of Bailey and Chung [3], which jointly draw the conclusion on the co-relations between the US stock market and geopolitics, along with the analysis of the DAX 30 index and the CAC40 index [4] used to for the stock market of the European Union and factors affecting the stock market of the United Kingdom. Section 2 mainly focuses on the developing, collating the data involving the study of co-movement index between China's stock market and G20 members by Wang [10], the influence on China's stock market of certain key events [12] during the US-China trade war, well as the application of [13] Hurst exponent during global financial crisis when talking about the stock market of Latin America.

2 Literature Review

The study on the effects of changes of geopolitical relation on the stock market began shortly after two world wars. The past and empirical research mainly focuses on the macro-effects that massive geopolitical events brought to the global stock markets and concerns not much about the stock markets of specific countries and regions. The following introduces the stock markets in 5 specific countries/regions respectively from developed and developing countries.

2.1 The Effects of Geopolitical Events on the Developed Stock Markets

2.1.1 The United States of America

Guo concluded in his research that the market's reaction on the geopolitical events or regional conflicts is not easy to distinguish from the daily fluctuation of the stock market which makes it hard to predict the trend of the market [1]. This is particularly true in the U.S. If we take a look at the Dow Jones Industrial Average Index during the current Russian-Ukrainian conflict, the lowest point is still insignificant compared with those of the COVID-19 outbreaks and the 2008 financial crisis (Fig. 1).

Nordhaus [2] believed that a prolonged conflict is likely to have more profound macroeconomic consequences on the US's budget and private spending while increasing

Fig. 2. The fluctuations of the DAX 30 index, representing the stock market of Germany (From Microsoft).

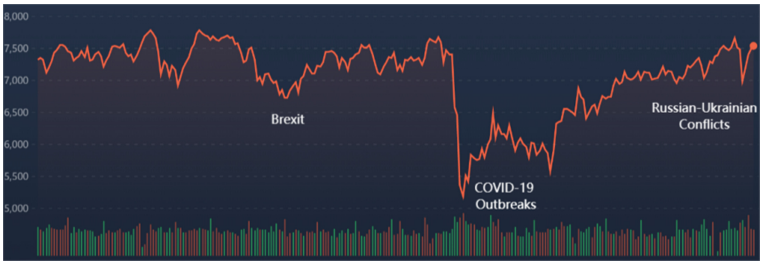

Fig. 3. The fluctuations of the CAC 40 index, representing the market of France (From Microsoft).

the price of oil which leads to a fluctuation in the stock market. Bailey and Chung's analyses [3] showed the similar result in the US's stock market. They considered that urgent geopolitical events that last for a long time may lead to inflation and unequal change in prices of the stock in different industries. The previous conclusion is rather useful in analysing the stock market of the energy industries since the stocks of the energy industries react evidently to the international situation. And such phenomenon is widely seen in both Gulf war and the long-lasting Russian-Ukrainian conflicts. Seljan and Samuel [4] explained the phenomenon that most industries are net energy consumers, and their profits should fall in comparison to energy producers as energy costs rise, increasing their production costs, which causes tremendous uncertainty in the unpredictable geopolitical events. Changes of geopolitical relation's effects on the stock market is indeed significant in a short period of time (like during the war). However, in the long term, the chronic trend still follows the Elliott Wave Principle [5], with a periodic rise and fall in both DJAI and S&P 500 no matter there are regional conflicts or not, which is the common trend without concerning about the geopolitical events. In conclusion, geopolitical events are considered to be not evident in the US stock market because these geopolitical events did not happen in the US.

2.1.2 The European Union

Compared with the US stock market, the stock market in Europe reacts more to urgent geopolitical events, especially when they are happening in Europe, with an analysis of the DAX 30 index and the CAC40 index (Figs. 2 and 3).

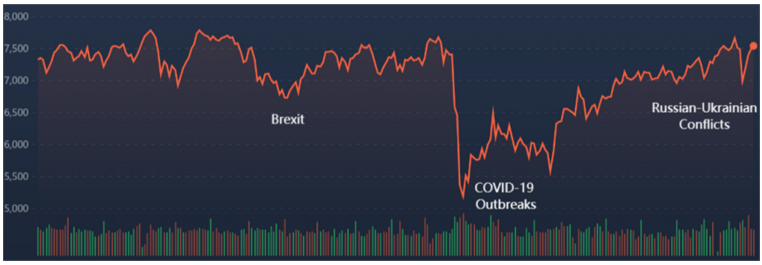

Fig. 4. The fluctuations of the FTSERUSSEL 100 index, representing the stock market of Britain (From Microsoft)

Dobromit and Martin [6] has stated that the stock market of European(mainland) is rather vulnerable for which it highly depends on the international situation that is caused by either US or Russia and is always the direct participant of geopolitical conflicts. This point has been reflected on the drastic changes in eastern Europe during 1990s and the financial sanctions the US Government sent. Christian, Jochum et al. [7] further explored the behaviours of the market when the disintegration of the Soviet Union, a profound geopolitical event, occurred. Their study shows that during that time, developments on the Russian exchange were discovered to have a dominant influence. Frey and Kucher's findings are even more surprising [8]. They found that the trend of the stock market, especially in Europe, can sometimes predict a coming urgent geopolitical event when looking into the World War II. The vulnerability and the special characteristic which is obviously showed in the French stock market (CAC 40) indicate that the total trend is highly connected with the international situation.

2.1.3 The United Kingdom

As the United Kingdom has left the European Union and UK is not traditionally regarded as a part of the Europe mainland. It is necessary to explain the situation separately. O'Sullivan and Sherman [9] reached the conclusion of which the evidence suggests that economic activity uncertainty and UK economic policy uncertainty have the ability to explain a cross-section of UK stock returns, whereas UK inflation, EU economic policy uncertainty, and US economic policy uncertainty factors are not priced in UK stock market. The conclusion strongly suggests that the UK stock market is quite stable and independent. However, with the data from the FTSE RUSSELL 100 Index (Fig. 4),

The fluctuation caused by urgent political events (domestic and abroad) is still situated between that of Europe and that of the United States [10]. World wars, the Brexit and the COVID-19 outbreaks are the dominant factors that affect the UK stock market while geopolitical events or regional conflicts don't seem to have a profound impact. But still, such events surely caused a significant fluctuation when placed in a short period of time.

2.2 The Effects of Geopolitical Events on the Developing Stock Markets

2.2.1 People's Republic of China

The China's stock market's reactions to geopolitical events are quite different from the regions mentioned above. It is not only because China is at a different stage of development, but also because the uniqueness of its socialist market economics [11] concluded in his research that due to the dual structure of China, the direct impacts on China's stock market are relatively small. However, if we take a look on the co-movement between [10] China and other countries stock markets, it can be found that the interactions between the stock market of China and other countries are quite normal. In other words, the floats of China's stock market do follow the trend of the world. Wang [10] has stated in his article that there is such thing called "market co-movement index", with which we can used to show the relativity between two stock markets. Song and Qiao [10] studied the co-movement structure for the US and China's stock markets clearly indicates that the China stock market reacts more slowly when a passive event took place, and it is more majorly affected by the U.S. stock market, in other words, it is still the US who has the initiative, and is considered to be of a single-track co-relation. Besides the finance crisis, the US–China trade war is another event we can use to investigate how geopolitical incidence influence China stock market. Table 1 shows the key events during the US-China trade war.

At the point of some key events, such as, 23 March 2018 a presidential agenda sheet signed by Donald Trump officially announced to rise the tariffs on by 50 USD billion of imports from China, which is believed to be the begin of US-China trade war. China responded with an anti-sanction in a rapid way and the conflicts lasted until 1 December 2018, until then both President Xi and President Trump gave the trade war a pause with a negotiation. Also, on 6 May 2018 During the US-China trade war (starting on the date 6 July 2018), as we discussed, there happened two events with profound consequences on 6 May 2019 and 23 March 2018 to US–China trade war. On 6 May 2019 during the negotiation when everyone was expecting the trade war to end like this, a reversal happened. Trump announced on his personal twitter that 'the 10% (tariffs on 200-billion-dollar Chinese goods) will go up to 25% on Friday. "He also mentioned that additional goods of a budget estimated about 325 billion dollars sent to us by China remain untaxed, but will be in the near future, at a rate of 25%' [12]. Table 1 lists the key events during the US–China trade war. Wang examined the stock market reactions by studying cross-sectional to these events. he measured a stock market reaction in the form of forming cumulative unusual return with event window from the day before trading day to one day after trading day, by applying [12] CAR (−1,1), which it can be determined by market-adjusted return model. Also, to quantify the effects of US–China trade war on stock market, Wang offered the following formula [12]: CARi = ¼ a + þ Export US + c Controls i + μ + j, where CARi is stock market's cumulative abnormal return over the event windows. However, from the table we get to see that due to the government's regulation and control to the stock market, China's stock did not respond to the key events rapidly, it is more influenced by the floating of the US stock market.

Table 1. US-China trade war key events

US-China trade war key events	Event date(China trading day)	Event Description
22-Mar-18	23-Mar-18	Trump administration released 301 investigation report and indicated tariff increase on 50 USD billion Chinese products related to "Made in China 2025"
3-Apr-18	4-Apr-18	Trump administration released 50 USD billion list of Chinese products under consideration for 25% tariffs(4.3 list)
15-Jun-18	19-Jun-18	USTR released a revised 50 USD billion list of products
18-Jun-18	19-Jun-18	Trump directed USTR to identify an additional 200 USD billion on Chinese product for additional 10% tariffs
10-Jul-18	11-Jul-18	USTR released a list of 200 USD billion Chinese products
17-Sep-18	18-Sep-18	Trump finalized the list of 200 USD billion Chinese products(9.17 list)
5-May-19	5-May-19	Trump tweets(later officially confirmed) that US will increase the 10% tariff on 200 USD billion of imports from China to 25% on 10 May 2019

2.2.2 Latin America

When we are discussing Latin America, there is one nation we cannot ignore, the United States. The flow of foreign direct investment (FDI), without doubt, plays a significant role in the development of its economic [13] stiff we look at the impact of the most recent global financial crisis (GFC) on the seven most important Latin American stock markets, it is not difficult to find that America played an important role. By the time of GFC, FDI given from the US was sharply cut and this resulted in a direct shrink [14] in Latin America's stock market.

However, the direct influences from the GFC are still to be discovered. To investigate what the financial crises' impact to stock markets, [13] Zhu and Bai tried to apply Hurst exponent, which is to apply a new ratio to reflect the variation of the stock market in a certain period of time.The specific values are shown in Table 2.

If we take a look on Table 2, the following conclusions are quite obvious, before we get any further, we should all be aware that Hurst exponents [15] direction indicate the

Table 2. Hurst Exponent for Latin American stock markets

Country	Pre	Post
Argentina	0.5631	0.5523
Chile	0.5721	0.592
Colombia	0.5958	0.5944
Ecuador	0.5162	0.5438
Mexico	0.5743	0.5504
Peru	0.6343	0.5901
Brazil	0.5596	0.542

bearing capacity of the market and if all of the Hurst exponents has a value greater that 0.5 whether in the pre- and post-global economic crisis periods, then it'll be suggesting that [13] the rely on long memory for a stock market is no longer exist, and this is exactly the situation for all the stock markets in Latin America. implying that past trends would no longer be a concern about whether they tend will reverse in the future.

Based on the study above, it is hard not to conclude that, Latin American stock markets, unlike most of the stock markets, they gain far less damage during the most recent global financial crisis and because of that, they were able to recover from the GFC in such a short period of time. In general, the post-GFC period for Latin America's stock markets attracted a large number of investors, which means the GFC do help provide some significant funds for the Latin America's stocks. With the sufficient funds obtained from post-GFC period, the stock markets in Latin America are able to evolve into a more mature and effective one. These findings are sure to be considered very valuable for investors and market regulators when they are making investments and regulations.

3 Conclusion

In the rapidly globalizing world economy, the stock markets may be seen as the embodiment of a country's economy and hence reflect the country's unique factors that affect its stock market. In this paper, we analyse the geopolitical events' impacts on developed and developing countries respectively to study the trend and cause of the markets' behaviours. In terms of the developed countries/regions, the United States, for example, its stock market doesn't fluctuate evidently when facing a geopolitical event because the United States is not always the direct participant and these events mostly do not happen in the United States. As for the European Union and Britain, the former reacts more violently while the latter considered being more stable. When talking about the developing countries/regions, like China, the market behaviours are again different as the stock market fluctuates slowly and smoothly under the macro-control of the central government. For regions like Latin America, due to its independent stock market and less globalized economy, the stock market reacts little, causing the benefits of a less globalized market outweigh its drawbacks. The reason for this is the market absorbs

more investors after the geopolitical events. Studying about the impacts of geopolitical events/changes of geopolitical relations on the stock markets of developed and developing countries/regions has an important role to play today, especially for those scholars and investors who would like to further analyse the stock market or make better investment choice. It is necessary to explore in the future the common trend of the market of several countries in the same region during geopolitical events.

References

1. Y. Guo, An Event Study of the Gulf War and Iraq War Effect on Global Stock Market, University of International Business and Economics,(2012). https://doi.org/10.7666/d.y2129610
2. W. D. Nordhaus, The Economic Consequences of a War with Iraq, Yale University, (2002). https://doi.org/10.3386/w9361
3. W. Bailey, P. Chung, Exchange Rate Fluctuations, Political risk, and Stock Returns: Some Evidence from an Emerging Market. (1995). https://doi.org/10.2307/2331276
4. S. Sierra, Seljian, Economic interests in the domestic politics of war: evidence from U.S. decisions to go to war with Iraq in 1991 and 2003, (2010) UC San Diego Electronic Theses and Dissertations. https://escholarship.org/uc/item/0r72j7hp
5. G. Wayne; K. Jeffrey, Introduction to the Wave Principle, Book Chapter published 11 Sep 2015 in Visual Guide to: Elliott Wave Trading on pages 229–246. https://doi.org/10.1002/9781118479506.app1
6. D. Serwa, M. T. Bohl, Financial contagion vulnerability and resistance:A comparison of European stock markets (2005). https://doi.org/10.1016/j.ecosys.2005.05.003
7. C. Jochum, G.Kirchgässner M.Platek, "A long-run relationship between Eastern European stock markets? Cointegration and the 1997/98 crisis in emerging markets" (1995).https://doi.org/10.1007/BF02707335
8. B. Frey, M. Kutcher, History as Reflected in Capital Markets: The Case of World War II(2008). https://doi.org/10.2139/ssrn.203111
9. J. Gao, S.Zhu, N. O'Sullivan, M. Sherman, The Role of Economic Uncertainty in UK Stock Returns, (2019), Cork University Business School and Centre for Investment Research. https://doi.org/10.3390/jrfm12010005
10. W. Sen, Z. Guo, A study on the co-movement and influencing factors of stock markets between China and the other G20 members. International Journal of Finance & Economics, (2019). https://doi.org/10.1002/ijfe.1727
11. C. Fang, Chan, K. Wing, The Global Economic Crisis and Unemployment in China. Eurasian Geography and Economics, 50(5) (2009) 513–531.https://doi.org/10.2747/1539-7216.50.5.513
12. X. Wang, Wang, X. Zhong, J. Yao, The impact of US–China trade war on Chinese firms: Evidence from stock market reactions. Applied Economics Letters 28(7) (2020) 579–583. https://doi.org/10.1080/13504851.2020.1764477
13. P.F. Diamandis, International stock market linkages: Evidence from Latin America 20(1) (2009)0–30. https://doi.org/10.1016/j.gfj.2009.03.005
14. W.Baer. Import Substitution and Industrialization in Latin America: Experiences and Interpretations. Latin American Research Review, 7(1) (1972) 95–122. https://doi.org/10.2307/2502457
15. L. America, F. Torche, A. Florenciatorche, Economic Crisis and Inequality of Educational Opportunity in Latin America. Sociology of Education 83(2) (2010) 85–110. https://doi.org/10.1177/0038040710367935