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Geopolitical Tensions and their Impact on the International Economy: A Case Study of the Russian-Ukrainian Conflict

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ABSTRACT

The Russian-Ukrainian crisis is a tragedy for the Ukrainian people, but also for Europe and the whole world in general. We will all feel its consequences, although what we see cannot be compared to the suffering of innocent civilians. This study aims to assess the current situation and examine the economic impact of the war on the international economy. Since Russia is one of the world's largest gas and oil exporters, while Ukraine and Russia are also a large producer of goods and raw materials for everyday needs, it is clear that no financial market is independent of current movements and events. This article uses the trend method to monitor the movement of GDP at the global level, the measures of international trade policy under the auspices of the war in Ukraine, the migration of war refugees from Ukraine, and the movement of financial stress (FSI). Based on the results, we observe variability with an increasing trend, which indicates caution in global financial frameworks. However, it should be emphasized that the uncertainty surrounding the economic prospects is great because it is unknown how the war will continue.

ملخص

إنّ الأزمة الروسية-الأوكرانية مأساة للشعب الأوكراني، ولكن أيضًا لأوروبا والعالم بأسره بشكل عام. سنشعر جميعًا بعواقبها، على الرغم من أن ما نراه لا يمكن مقارنته بمعاناة المدنيين الأبرياء. تهدف هذه الدراسة إلى تقييم الوضع الحالي وفحص التأثير الاقتصادي للحرب على الاقتصاد الدولي. بما أن روسيا واحدة من أكبر مصدري الغاز والنفط في العالم، في حين أن أوكرانيا وروسيا أيضًا منتجين رئيسيين للسلع والمواد الخام الضرورية للاحتياجات اليومية، فمن الواضح أن أي سوق

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مالي ليس مستقلاً عن التحركات والأحداث الجارية. يستخدم هذا المقال طريقة الاتجاه لرصد حركة الناتج المحلي الإجمالي على المستوى العالمي، ومقاييس سياسة التجارة الدولية في ظل الحرب في أوكرانيا، وهجرة لاجئي الحرب من أوكرانيا، وحركة الضغط المالي (FSI). استنادًا إلى النتائج، نلاحظ تباينًا مع اتجاه متزايد، مما يشير إلى توخي الحذر في الأطر المالية العالمية. ومع ذلك، يجب التأكيد على أن حالة عدم اليقين التي تحيط بالآفاق الاقتصادية كبيرة لأنه من غير المعروف كيف ستستمر الحرب.

RÉSUMÉ

La crise russo-ukrainienne est une tragédie pour le peuple ukrainien, mais aussi pour l'Europe et le monde entier en général. Nous en subirons tous les conséquences, même si ce que nous voyons n'est pas comparable à la souffrance des civils innocents. Cette étude vise à évaluer la situation actuelle et à examiner l'impact économique de la guerre sur l'économie internationale. La Russie étant l'un des plus grands exportateurs de gaz et de pétrole au monde, tandis que l'Ukraine et la Russie sont également de grands producteurs de biens et de matières premières pour les besoins quotidiens, il est clair qu'aucun marché financier n'est indépendant des mouvements et des événements actuels. Cet article utilise la méthode des tendances pour suivre l'évolution du PIB au niveau mondial, les mesures de la politique commerciale internationale sous les auspices de la guerre en Ukraine, la migration des réfugiés de guerre en provenance d'Ukraine et l'évolution du stress financier (FSI). Selon les résultats, nous observons une variabilité avec une tendance à la hausse, ce qui indique une certaine prudence dans les cadres financiers mondiaux. Toutefois, il convient de souligner que l'incertitude entourant les perspectives économiques est grande car on ne sait pas comment la guerre va se poursuivre.

Keywords: Russian-Ukrainian Crisis, Consequences, International Economy, Perspectives, Financial Stress, The Growth Trend

JEL Classification: F01, F4, F5, F51

1. Introductory considerations

Back in 2021, Russia began to build up military forces near the eastern border with Ukraine. This act of Russia certainly caused concern in Ukraine, Europe, and the world, and all possible scenarios were considered. Russian President Vladimir Putin on February 21, 2022, according to the previously adopted decision of the Lower House of the Russian Parliament a week earlier, decided to recognize the areas of the Ukrainian administrative regions of Donetsk and Luhansk as independent and began to send the army to those areas massively.

The Russian invasion of Ukraine, which began on February 24, 2022, is still ongoing and has various consequences for Ukraine and society in the world. These consequences are visible in a large number of dead and wounded, the destruction of Ukrainian regions, and the refugee and humanitarian crisis. At the same time, the consequences of the conflict are felt in all spheres - health, security, and of course, the global economy.

The commencement of the Russian invasion of Ukraine can be traced back to 2014, marked by the Russian assault on Crimea, which subsequently resulted in a significant refugee crisis. According to data provided by the Internal Displacement Monitoring Centre (IDMC, 2022), over 8.4 million Ukrainians sought refuge outside their homeland, leading to the displacement of nearly one-third of the country's population. In parallel with the annexation of Crimea, supported by separatist factions aligning with Russia, the occupation extended to a portion of the Donbas region situated in the southeastern part of Ukraine.

The specificity of the new situation is complicated because Europe and the world have not recovered from the consequences of the COVID-19 pandemic. The Russian invasion of Ukraine caused numerous consequences, although the international community has given great support to this country and condemned the crimes that are taking place on its territory. But despite introducing various sanctions against Russia, which also affected its economy and development, the conflicts continue in full swing. Almost ten years ago, on March 27, 2014, at the 80th plenary session of the 68th session of the UN General Assembly, Resolution A/RES/68/262 was adopted to resolve the armed conflict and the Russian occupation. (The New York Times, 2014)

The global economy and society, in general, have been affected by the COVID-19 pandemic in the last two years before the conflict in Ukraine, and numerous lockdowns and restrictions have further shaken society and its growth. The world economy had not recovered when the Russians launched their invasion in February 2022, nor was it at pre-pandemic levels. Problems at the global level concerning the economy and price increases are accompanied by pressures and concerns for the safety of investors, but also consumers, which resulted in a lack of investment/purchases, and a decrease in global demand for imports not only in the affected regions of Ukraine but also at the world level.

In response to the invasion, European countries, members of the European Union, and other countries of the world (primarily America, Japan, etc.) launched numerous initiatives. They decided to sanction and punish Russian policies and prevent the worsening humanitarian, security, and economic crises.

Thus, immediately after learning about the Russian attacks, the Council of the European Union on February 23 adopted the first package of sanctions against Russia to pressure this country to end the conflict with Ukraine. These measures initially included targeted sanctions against members of the Russian parliament, restrictions on certain manufacturers, etc.

> *The agreed package includes targeted sanctions against 351 members of the Russian State Duma and 27 other individuals, restrictions on economic relations with areas of Donetsk and Lugansk regions that are not under government control, restrictions on Russia's access to capital and financial markets, and EU services.* (Council of the European Union, 2022a)

During the Council of the European Union convening on February 24, 2022, a resolution was passed, urging the Russian Federation to promptly cease all military operations in Ukraine. The Council emphasized the imperative for the withdrawal of military personnel and equipment from Ukrainian territory, underscoring the vital principles of respecting Ukraine's territorial integrity, sovereignty, and adherence to international law. Simultaneously, the Council called for an end to disinformation campaigns and cyberattacks targeting Ukraine.

Regrettably, the directives mentioned failed to elicit compliance, as President Putin persisted in deploying military forces to Ukraine. Consequently, in response to the escalating crisis, the international community found it necessary to institute additional sanctions. It is noteworthy that these sanctions, akin to the ongoing conflict, are poised to exert a profound impact on the global economy.

In March 2022, the fourth set of sanctions was introduced, which was the most severe until then and included: a ban on the import of certain metal products; a ban on new tariffs for the Russian energy sector, with limited exceptions for civilian nuclear power and transport of other energy sources to the EU; the ban on the export of luxury goods from the EU; as well as restrictions on EU agencies in assessing the credit rating of Russia and Russian companies and providing rating services to Russian clients. (Radiosarajevo, 2022)

This set of sanctions constitutes merely a singular aspect within a more extensive array of measures. The Council of the European Union, in conjunction with other nations, will continuously scrutinize the dynamic situation, imposing supplementary sanctions as deemed requisite. Particularly noteworthy is a paramount and intricate economic sanction on a global scale about the governance of gas and energy resources.

At the convened session of the Council of the European Union on June 23, 2022, Ukraine achieved the status of a candidate country for European Union membership. The Council reaffirmed its resolute dedication to furnishing steadfast assistance to Ukraine across diverse domains, including military, financial, humanitarian, and political dimensions. This support framework operates in synergy with coordinated endeavors to impose sanctions on Russia, thereby aiming to halt the persisting hostilities against Ukraine.

> *Efforts to enhance the enforcement of sanctions will persist. The European Council appeals to all nations, with a particular emphasis on candidate countries, to adhere to the sanctions imposed by the European Union (EU). Furthermore, EU leaders attribute responsibility to Russia for exacerbating the global food crisis and utilizing it as a weapon. They urge Russia to promptly cease targeting facilities related to food production in Ukraine and to lift the blockade on Black Sea ports, thereby facilitating the export of grain.* (Council of the European Union, 2022b)

Other countries also continue to consistently provide ongoing support and assistance to Ukraine. "The United States thus provided Ukraine with military aid worth 24 billion euros, 9 billion in humanitarian aid, and 10 billion in financial aid." (...) In addition to the USA, the British also sent large military aid to Ukraine." (Asipi, 2022) Beyond the contributions from the United States and the United Kingdom, countries such as France, Estonia, Poland, Canada, Norway, Sweden, and numerous others have similarly extended aid to Ukraine in various forms.

The primary focus of this paper is to investigate the Russian-Ukrainian conflict and its potential impact on the global economic system. The research questions of this study delve into the intricate dynamics of the conflict and its far-reaching implications. The chosen methodology for this exploration is trend analysis, with a specific emphasis on employing the semi-average technique across all four iterations of the application.

Through the systematic application of the semi-average technique, this research aims to meticulously scrutinize the evolving dynamics of phenomena influenced by persistent factors. Moreover, the method is strategically employed to adjust and forecast time series, offering valuable insights into the subject matter. This approach enables a comprehensive understanding of the ongoing developments in the Russian-Ukrainian conflict and their potential ramifications for the global economic landscape.

In the initial instance, global Gross Domestic Product (GDP) evolution is systematically monitored, regardless of conflict-related events, along with examining the counterfactual scenario in which no conflict occurred. The subsequent case involves the analysis of measures about international trade policy within the context of the Russian-Ukrainian conflict. The third case investigates the migratory patterns of refugees immediately preceding and concurrent with the initiation of aggression against Ukraine. In contrast, the fourth case observes the worldwide fluctuations in the Financial Stress Index (FSI).

The specific objective of this investigation is to employ the gathered data for the identification of high frequencies capable of detecting subsequent changes in the financial market and to provide timely alerts to the market during impending periods of stress.

The article initiates an examination of the worldwide economic crisis, commencing with an evaluative discourse on the conflict within the geographical confines of Ukraine and the consequential ramifications of global sanctions imposed upon Russia. Subsequently, an exploration ensues into the broader global repercussions stemming from the aforementioned conflict, focusing on the economic fortitude exhibited by Ukraine and its consequential influence on the global milieu. Ultimately, the narrative culminates in a meticulous scrutiny of data and an ensuing discourse, concluding with a comprehensive conclusion.

2. Literature review

The geopolitical turmoil arising from the conflict in Ukraine, coupled with international sanctions on Russia, has triggered a multifaceted crisis with far-reaching implications for the global economy. As the Council of the European Union collaborates with nations worldwide to enforce sanctions, Russia's integration into the global market undergoes variable degrees of isolation. This scenario unfolds against the backdrop of the lingering effects of the COVID-19 pandemic, exacerbating challenges in the world economy. With Russia's significant role in producing and exporting goods and energy products, the impact resonates through disrupted supply chains, escalating prices, and a discernible deceleration in global economic growth. This part of research delves into the intricate dynamics and repercussions of these developments, shedding light on the interconnectedness of economic systems on an international scale.

2.1. The Global Economic Crisis: Analyzing the Conflict in Ukraine and the Implications of International Sanctions on Russia

The Council of the European Union, in collaboration with the international community comprising individual nations, has consistently implemented sanctions since the onset of the conflict. These sanctions have variably isolated Russia from the global market. Concurrently, the repercussions of these measures reverberate profoundly throughout the world economy, which is grappling with the lingering effects of the COVID-19 pandemic. This impact is particularly pronounced due to Russia's significant role in the production and exportation of goods and energy products.

The cumulative effect of these developments has given rise to a multitude of disruptions and challenges, most notably manifesting in the global supply chains of goods. Observable consequences include shifts in prices, exemplified by the escalation of goods prices. These dynamics contribute to a discernible deceleration in global economic growth and prosperity. Importantly, this phenomenon extends beyond the conflict-ridden regions of Ukraine and other parts of Europe, casting its influence on a global scale.

Warnings also come from the Research Service of the US Congress (CRS) that additional sanctions could worsen the economic situation at the global level "resulting in different economic blocs, but also in schisms that could undermine international rights based on the economic order defined after the Second World War." (Congress Research Service [CRS], 2022a)

The reports of the International Monetary Fund from May 2022 are not at all optimistic. An analysis conducted within the framework of the International Monetary Fund (IMF) indicates that global economic growth will slow down from 6.1% in 2021 to 3.6% in 2022. (Al Jazeera, 2022a) According to Markus (2022), Russia's biggest economic partner was the European Union, and Europe itself is dependent on energy imports from Russia (especially gas). The author claims that not only war but also Western sanctions will have a major impact on world trade.

> *As the producer of 11% of the world's oil and 25% of the world's oil and natural gas reserves, Russia will continue to influence the energy market. Meanwhile, a growing boycott of Russian energy could create losses for companies like BP and Shell, raising prices and fueling global inflation. Sanctions are also accelerating structural shifts toward renewables and liquefied natural gas, especially in Europe.* (Markus, 2022: 11)

However, oil or gas prices are not the only problems, because Russia is the largest producer of precious metals, the third largest exporter of metals in the world, and the sale of fertilizers.

> *(...) whereby many developing countries in Africa, Latin America, and Asia rely on Russia for affordable harvests. Disruptions in these trade flows, combined with a decline in Ukrainian agricultural exports, mainly grains and vegetable*

> *oils, threaten global food markets. Separately, the restriction of Russian airspace (to the ban on Russian airlines by Western countries) for 38 countries—including the entire EU, Great Britain, and Canada—will increase costs for airlines, as they have to take other routes.* (Markus, 2022: 15)

All other industries also suffer major negative implications. Markus (2022) analyzes the sanctions, including the automobile industry, and observes that large companies are going through problems and disruptions, especially those that have their production facilities in Russia. "More seriously, the Russian government has threatened to nationalize assets left in the country by Western multinationals." At the same time, the revenues of global players in Russia are relatively low, since Russian consumers represent only a fraction of the global market. (Markus, 2022: 17)

Ellyatt (2022) states that the war in Ukraine causes large negative changes in total debt, distorting global growth potential and causing significant changes in exchange rates.

> *Global economic growth in 2023 will be at least 1 percentage point lower than projected, while global inflation could rise even more by around 2.5%. The price increases due to the conflict are increasing the debt burden, reducing the development budget of many countries already affected by the COVID-19 pandemic. These economic impacts reinforce the vicious cycle of indebtedness and low productivity.* (Ellyatt, 2022)

According to Redeker's (2022) analysis from March 2022, there are two ways in which countries will be affected by the war in Ukraine in the context of the global economy. "First, this will be reflected through direct dependence on the Russian market in the context of energy imports. The second segment will be reflected in the rising gas, oil, and coal prices in global energy markets due to the current conflict." (Redeker, 2022: 2)

We are witnessing these processes and phenomena today. Redeker (2022) believes that this unequal distribution of economic difficulties among the members of the European Union (but also the rest of Europe or the world) represents not only an economic problem but also a political one.

This phenomenon can be attributed to the inherent economic disparities and varying levels of societal prosperity among European nations. The imposition of sanctions and the broader conflict in Ukraine will not exert uniform effects across these countries. Consequently, their capacities to adapt to ongoing processes and transformations will differ significantly. The resultant divergence in outcomes can potentially accentuate existing disparities, thereby eroding the unity of Europe. Even the more economically advanced member states are not immune to encountering challenges amid such circumstances. Adapting to these new conditions will be contingent upon microelements and microeconomic factors, elucidating how individual countries navigate and adjust to the evolving situation. This intricate interplay of microeconomic dynamics will shape the diverse responses and impacts experienced by European nations in the face of the concurrent challenges posed by sanctions and the conflict in Ukraine. Therefore, the central and eastern parts of Europe will be particularly vulnerable parts of Europe. Redeker (2022) believes that this problem primarily involves "dependence on exports, reliance on energy imports from Russia, and exposure to a general increase in energy prices." (Redeker, 2022: 4) In essence, the challenges posed by sanctions and the conflict in Ukraine will have a nuanced and varied impact on European nations, with the potential to deepen existing economic disparities.

Germany and Italy are highly dependent on Russian gas, but equally, energy price growth varies between EU members and the world due to state intervention. Redeker (2022) believes that, under the imperative of preserving the political unity of the European Union, it will be necessary to "balance between the developed western and eastern parts in terms of helping not only Ukraine but also less advanced parts of Europe to preserve its unity." (Redeker, 2022: 5)

Bluszcz and Valente (2019) comprehensively analyzed Ukraine's Gross Domestic Product (GDP) after the Russian military invasion of Crimea in 2014. The primary objective of their study was to assess the extent to which the prevailing wartime conditions influenced the aggregate value of final goods and services produced within the country. The temporal scope of their investigation spanned from 2013 to 2017, revealing a substantial decrease in Ukraine's GDP by 15.1%. (Bluszcz & Valente, 2019)

This downturn in Ukraine's GDP engendered a ripple effect, contributing to a state of instability not only within Europe but with ramifications reverberating globally. In addition to examining the economic impact on GDP, the researchers conducted an in-depth analysis of how the military invasion influenced the profitability of Russian and Ukrainian stocks from November 21, 2013, to September 29, 2014. Their empirical findings disclosed a discernible deceleration and reduction in stock returns. Furthermore, the post-war period witnessed a more nuanced and intricate transformation in economic dynamics, suggesting a complex shift in the aftermath of the conflict.

Balbaa, Eshov & Ismailova (2022) state that since the beginning of the war in Ukraine, most Western countries have suddenly imposed economic sanctions against Russia that target the main parts of key sectors that are responsible for Russia's economic development, but which directly leave consequences for the global economy. The authors observe them through four represented categories: the banking and financial sector, energy, the military, and the economy. (Balbaa, Eshov & Ismailova 2022: 6)

Sanctions related to the banking and financial sector included banning certain Russian banks from using SWIFT. Hotten (2022) states that SWIFT is in fact "a global financial artery that enables the smooth and rapid transfer of money across borders. Banks now [during the war in Ukraine, op. a.] must "deal with each with other" directly, resulting in delays and additional costs." (Hotten, 2022) So, the economic sanctions levied by a majority of Western nations upon Russia, with a specific focus on pivotal sectors encompassing banking, finance, energy, military, and the overarching economy, have notably impeded the trajectory of Russia's economic development. The proscription of select Russian banks from accessing SWIFT, a pivotal global financial conduit, has precipitated direct interbank transactions, engendering delays, and augmented fiscal encumbrances, thereby exerting profound repercussions on both the Russian economy and the global economic landscape.

In response to the war, the US is also preventing Russian banks and the Russian Central Bank from accessing dollar reserves. "A ban on transactions with the Central Bank of Russia and the Fund will significantly hinder their ability to do so and prevent their access to assets worth hundreds of billions of dollars." (Powell, 2022)

Balbaa, Eshov, and Ismailova (2022) state that the European Union has banned "the listing of shares of Russian state entities on EU trading markets and blocked Russian deposits of more than €100,000 in EU banks in Russian accounts with central depository papers and securities, while Switzerland and Japan froze the funds of some Russian individuals deposited in Swiss and Japanese banks, as well as Great Britain." (Balbaa, Eshov & Ismailova, 2022: 7)

In May 2022, the European Union considered procedures for financing the reconstruction of Ukraine with money representing Russian foreign exchange reserves.

> *Josep Borrell said that EU members should consider the option of financing the reconstruction of Ukraine with "frozen" Russian foreign exchange reserves. Borrell said that the option of using Russian money in the reconstruction of Ukraine is very real, and he compared this move to the practice that the United States of America used in Afghanistan.* (KLIX, 2022)

The next category that Balbaa, Eshov & Ismailova (2022) problematizes is the energy sector. Germany has suspended the approval of the Nord Stream 2 gas pipeline project for the distribution of energy in Europe. (Balbaa, Eshov & Ismailova, 2022) In this sense and the European context, Russia is the first oil producer, and the second in the world. Forecasts were such that European oil traders, that is, oil companies, would have difficulties in distributing oil and problems with procuring energy from Russia. The suspension of the North Stream 2 gas pipeline project, which is a key oil distribution project, caused Europe, along with sanctions, concern about Russian gas because the construction of the 11 billion euro gas pipeline was intended to double "Russian gas deliveries from Russia to Germany." (Vijesti.me, 2019)

At the same time, the European Union and the USA banned the sale, supply, transfer, and processing of oil coming from Russia, while Great Britain announced that it would gradually stop using Russian oil by the end of 2022. This was done to exclude Russia and pressure it to stop the war, and according to Russian President Vladimir Putin's decision that Russia's gas and oil will be paid exclusively in rubles, the Russian government has ordered to stop receiving payments in dollars or euros for the energy sources mentioned.

> *These measures refer to the so-called "enemy states" from the Russian blacklist, which includes: all EU members, USA, Canada, Great Britain, Albania, Andorra, Australia, Great Britain, Iceland, Liechtenstein, Micronesia, Monaco, New Zealand, Norway, South Korea, San Marino, North Macedonia, Singapore, Taiwan, Ukraine, Montenegro, Switzerland, and Japan. This announcement by Moscow immediately strengthened the ruble, and the decision of the West to freeze Russian funds abroad also contributed to this, which strengthened the ruble against the dollar by 5.5 percent. The Government of Russia and the Central Bank have until the end of March to determine all the necessary modalities for the transition from payment to rubles. On the other hand, the decision that the ruble is the only currency to pay for Russian gas and oil (made on March 23) caused a drop in indices on European stock markets and Wall Street.* (Serbian Chamber of Commerce, 2022)

So, these events confirm the complex interplay of geopolitical tensions, economic measures, and responses between Russia and Western nations. The actions taken by both sides have immediate consequences on energy markets, currency values, and international relations, with potential long-term implications for global trade and economic stability.

Before Russia invaded Ukraine, energy prices rose due to several factors, including the COVID-19 pandemic, lack of energy supplies, and increasing tensions between Russia and Ukraine. Before the invasion, oil prices were relatively stable, between $80 and $95 per barrel. However, after the conflict in Ukraine, oil prices rose to over $100 a barrel, marking the highest price in 14 years, according to previous analysis.

When it comes to direct energy dependence on Russia, the problems are mainly concentrated in the central and eastern parts of Europe, Italy, and Germany. However, the global nature and limited resources of energy markets have implications for the overall economy and markets. Oil and natural gas prices have risen sharply, "and according to the European Central Bank (ECB), energy price inflation will become one of the main economic challenges arising from the war. Therefore, the key question is to what extent EU members differ in their exposure to rising energy prices." (Redeker, 2022)

The next category presented by Balbaa, Eshov & Ismailova (2022) is the military sector, where sanctions were introduced to weaken the Russian military forces. Namely, countries like New Zealand have banned the export of goods to Russia or are directly aimed at weakening the Russian military forces. On the other hand, the USA prohibits the source of war technology, lasers, sensors, and telecommunication tools in Russia. This limits her ability to advance on the ground and in the air. "Foreign-made microelectronics are critical to Russia's advanced fighter jets and ships and advanced munitions." (Al Jazeera, 2022b)

The cessation of European Union airspace accessibility to all Russian aircraft, coupled with the prohibition of port access for ships from Russia and Belarus, exerts a consequential impact on economic dynamics and conditions. Concurrently, sanctions have been instituted against Russia, manifesting as the suspension of activities undertaken by media enterprises "perceived to disseminate war propaganda." (Council of the European Union, 2022a)

Kammer et al. (2022) state that Russia and Ukraine are the main producers of goods and raw materials for food. War events and disruptions in the supply chain have led to a spike in global prices, especially oil and natural gas. As a result, the costs of necessities of life, especially food, have skyrocketed. "(...) and wheat, for which Ukraine and Russia account for 30 percent of world exports, reached a record." (Kammer et al., 2022)

Simultaneously, the escalation in pricing within the supply chain engenders an augmentation in indebtedness and associated burdens, thereby constraining the potential for growth and prosperity in the impacted regions. The insufficiency of sustenance and essential food commodities additionally precipitates social instability, as evidenced by a surge in social unrest among the populace in recent times.

It is noteworthy that Russia and Ukraine collectively contribute approximately one-third of the global wheat exports. Moreover, "the Middle East and North African nations heavily rely on the aforementioned region for over fifty percent of their grain provisions", as documented by the International Fund for Agricultural Development. (IFAD, 2022)

> *Eighty-five percent of Egypt's wheat imports come from the Red Sea region alone. Rising prices due to a lack of exports*

> *threaten to worsen the problem of hunger. Lebanon imports 80 percent of its wheat from Russia and Ukraine, and an additional problem is the destruction of the main grain silo in the country, caused by an explosion in the port of Beirut in 2020. For these reasons, Lebanon can store wheat for about a month. In the Sahel, in countries such as Niger, Chad, Burkina Faso, and Mali, up to fifty percent of the population lives in extreme poverty, whose situation has been exacerbated by the Russian-Ukrainian conflict combined with trade barriers, climate issues, and the impact of COVID-19, creating additional food insecurity in this region.* (IFAD, 2022)

Furthermore, perturbations in the worldwide supply chains of agricultural commodities, along with disruptions in the availability of fertilizers and gas, engender enduring adverse repercussions for small-scale producers. This is primarily attributed to their inherent incapacity to adapt to fluctuations in fuel prices and general cost escalations. The pronounced escalation in fuel prices has resulted in substantial increments in electricity and transportation expenses, significantly jeopardizing the economic standing of small-scale producers and placing them in an exceedingly disadvantageous position.

World markets also present a very specific and complex problem. Their current focus is on war and war events, while investors and potential investors are worried about rapid inflation that is negatively affecting global growth. The International Monetary Fund predicts that the inflation rate in the US "will reach 7.7% this year and 5.3% in the Eurozone. Concerns about rising prices are forcing investors to sell bonds, driving up yields; The yield on the benchmark 10-year government bond reached 2.94%, a level not seen since late 2018." (Ellyatt, 2022)

Rising food prices and problems in food distribution and supply can result in numerous deaths and social and political unrest. Ellyatt (2022) says that six granaries that together supply approximately 60 to 70% of global agricultural products have just been affected by the events. "The Ukraine-Russia region is responsible for approximately 30% of global wheat exports and 65% of sunflower exports, in a context where these markets are increasingly tight and interconnected – so a small disruption in supply creates a huge price impact." (Ellyatt, 2022)

> *Immediately after the invasion, financial conditions were tightened for emerging markets and developing countries. So far, that repricing has been mostly orderly. However, several risks of financial instability remain, raising the prospect of a sharp tightening of global financial conditions, as well as capital outflows. The depth of the impact on the global economy of course depends on how long the war lasts, as well as the extent of the destruction and disruption it causes.* (Ellyatt, 2022)

Ellyatt's study demonstrates that military strikes can precipitate inflation, sector-specific disruptions, and financial instability within global markets. Consequently, it is imperative to assess the potential economic repercussions thoroughly before engaging in military actions.

Kammer et al. (2022) believe that countries with direct trade, tourism, and financial ties to Russia and Ukraine feel additional pressure. "Economies that rely on oil imports will have larger fiscal and trade deficits and higher inflationary pressures, although some exporters such as those from the Middle East and Africa may benefit from higher prices." (Kammer et al., 2022)

Adnan Mazari (2022) tells Al Jazeera that different countries and regions of the world perceive war events and their consequences differently, but globally speaking, the war contributed to the rate of inflation growth with a significant increase in prices.

> *This prompted strong interventions by major central banks around the world, such as the US Federal Reserve Bank and the European Central Bank. These institutions have new roles, which puts them in a very difficult position. All this was accompanied by great pressure on central banks to raise interest rates, to face the rising inflation rate. At the same time, central bank officials should ensure that high interest rates do not cause a decline in development and slow down economic activity.* (Mazari, 2022)

Consumers exhibit an observable trend of increased expenditure on a reduced spectrum of commodities, exacerbated by ongoing conflicts that contribute to heightened prices within the oil, gas, and food sectors.

Consequently, developing nations are compelled to bear elevated costs for energy imports, resulting in augmented local fuel and food prices, coupled with a comprehensive escalation in commodity imports, notwithstanding static income levels. This phenomenon precipitates inflationary pressures, influencing both the general cost of living and, on a global scale, contributing to an overarching state of inflation.

In response to the exigencies of the crisis impacting the Ukrainian labor market and analogous challenges faced by developing nations, the International Labor Organization proffers a suite of imperative measures. These recommendations encompass the implementation of:

> - *Encouraging the initiatives of employers and workers to provide humanitarian aid and ensure the continuation of work, where possible;*
> - *Individual and joint efforts of social partners can contribute positively to cohesion and encourage inclusive economic, social, and political development;*
> - *Provide targeted employment support in relatively safe areas of Ukraine, including building on the ongoing government-sponsored relocation program for workers and businesses;*
> - *Local Employment Partnerships (LEPs) supported by the ILO can help create employment opportunities;*
> - *Support the social protection system in Ukraine to ensure that it continues to pay benefits, including newly established cash transfers, to (former and new) beneficiaries;*
> - *Prepare for a post-conflict reconstruction strategy that encourages the creation of decent and productive jobs through employment-intensive investments.* (International Labor Organization [ILO], 2022)

The ILO further recommends that in many high-income countries, which have recently witnessed signs of a stronger labor market recovery, the consequences of the Ukrainian crisis could worsen labor market conditions and reverse some of the gains made. "The situation is particularly difficult in low- and middle-income countries, many of which have not been able to recover from the impact of the COVID-19 crisis fully." (International Labor Organization [ILO], 2022)

In conclusion, the current situation arising from the conflict in Ukraine and the global sanctions imposed on Russia has led to a multi-faceted economic cycle, which has had significant implications for the international economy. The ongoing COVID-19 pandemic has only exacerbated the issue, causing supply chain disruptions, price volatility, and an apparent economic slowdown. The repercussions of this situation go beyond the energy and geopolitical markets and extend to global food markets, resulting in inflationary trends and complex dynamics within individual economies. For this reason, nations must prioritize international cooperation and work together to implement adaptive strategies to address the interconnected economic consequences of global conflicts and sanctions.

2.2. The Global Consequences of Conflict: Ukraine's Economic Resilience and its Impact on the World

When considering Ukraine's position in the global economy, the devastation wrought by the war has exacted a substantial toll. Ukraine requires significant financial support and assistance to sustain its economy. According to the United States Congressional Research Service [CRS] (2022a), the war has led to the closure of 50% of Ukrainian companies, with an additional 50% compelled to operate below capacity. The United Nations Development Programme [UNDP] estimates, as reported by the United States Congressional Research Service (2022a), that should the conflict intensify and persist, "up to 90 percent of Ukraine's population could face poverty." (The United States Congressional Research Service [CRS], 2022b)

The World Bank Group is promptly initiating measures to assist the residents of Ukraine. According to the Congressional Research Service (CRS, 2022b), before the invasion, central banks were anticipated to implement monetary policy tightening to mitigate inflation. However, it is noted that "a rise in interest rates at this time could further exacerbate rising production and production costs." (Congressional Research Service [CRS], 2022b)

The economic effects of the crisis in Ukraine and its consequences are felt around the world. Along with Russia and Ukraine, Belarus, Kyrgyzstan, Moldova, and Tajikistan are also expected to fall into recession, while growth projections for all economies have been reduced due to "weakerthan-expected growth in the eurozone and commodity, trade and financial shocks." (World Bank, 2022a)

As the crisis unfolds, a surge in uncertainty, coupled with inflationary pressures and escalating prices of energy and raw materials, presents formidable challenges that hinder the developmental trajectory of the world economy. These multifaceted hurdles demand concerted efforts and strategic interventions to mitigate the far-reaching consequences and foster sustainable economic progress on a global scale.

The profound economic impact resulting from the conflict in Ukraine is evident through extensive business closures and the imposition of operational constraints. Projections outlined by the United Nations Development Programme (UNDP) and the Congressional Research Service (CRS, 2022b) highlight the imminent threat of widespread poverty, underscoring the urgent need for substantial financial support. While recognizing the proactive measures implemented by the World Bank Group, careful attention is warranted due to the cautioned delicate equilibrium in monetary policy. (CRS, 2022b) Consequently, the far-reaching international economic repercussions extend beyond Ukraine's borders, casting an impact on a multitude of nations. The challenges posed, including heightened uncertainty, inflation, and the surge in resource prices, stand as formidable impediments to global economic development, as highlighted by the insights provided by the World Bank (2022a). Therefore, addressing these challenges requires joint and concerted efforts at the international level to address the complexity and promote sustainable economic resilience across diverse economies.

3. Research methodology

The central methodological framework of our approach involves systematically observing the global economic ramifications stemming from the Russian-Ukrainian conflict. This objective is attained through the application of the trend method, specifically utilizing the semi-average in four distinct versions of its application. Functioning as a dynamic average, the trend encapsulates the evolving mean value by computing the average state of the phenomenon during each observed period. The trajectory delineates the temporal movement of the phenomenon, embodying a sequence of averages intrinsic to the observed phenomenon. The original data manifests fluctuations around the trend line, exhibiting either regular (seasonal and cyclical fluctuations) or irregular (random or residual fluctuations).

Drawing insights from empirical observations, the trend emerges as particularly efficacious for dynamic analyses conducted over a one-year temporal span. Furthermore, the rational employment of a trend is substantiated when predictions concerning the occurrence of the observed phenomenon are contingent upon it. In the execution of trend analysis, there are no prescriptive guidelines dictating the precise number of data points to be considered; rather, an adequate volume of data is imperative for gaining a comprehensive understanding of the temporal dynamics and configuration of the phenomenon's movement.

In the initial scenario, the trajectory of global Gross Domestic Product (GDP) is observed independently of conflict-related events. Subsequently, an inquiry is made into the hypothetical scenario of GDP on an international scale in the absence of conflict. The dataset for this investigation encompasses the pertinent GDP figures and states spanning from 2012 to 2021, as carefully documented in the sources referenced within this article.

In the second scenario, scrutiny is directed towards the measures associated with international trade policy amid the context of the conflict in Ukraine. The dataset employed in this analysis encompasses the preceding seven months, coinciding with the activation of conflict hotspots.

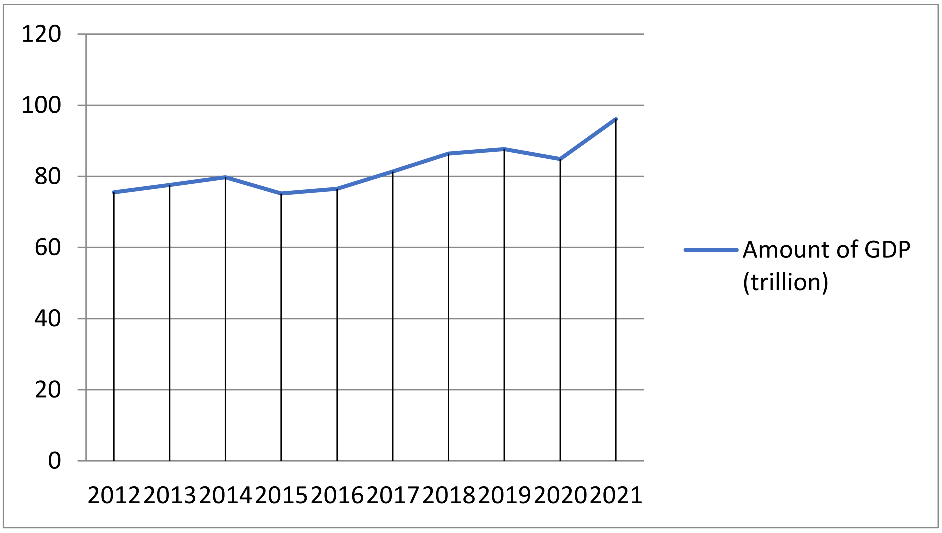
The third scenario involves an investigation into the dynamics of war-related refugee movements both before the onset of aggression against Ukraine and during the initial stages of the conflict.

Lastly, the fourth scenario entails the monitoring of the global-level trajectory of the Financial Stress Index (FSI).

4. Data analysis and discussion

The first component of the research follows the movement of GDP at the global level for the period from 2012 to the end of 2021, and then for the next three years (2022, 2023, and 2024) in the circumstances that there was no escalation of the conflict in Ukraine.

Figure 1: Amount of GDP (trillion)



Source: World Bank, n. d.

Table 1: Available data on GDP for the period 2012-2021 as a function of trend

YEARS	Y	x
2012	75,49	0
2013	77,61	1
2014	79,71	2
2015	75,18	3
2016	76,47	4
2017	81,4	5
2018	86,41	6
2019	87,65	7
2020	84,91	8
2021	96,1	9

The average value of the first half of the data is between 2012 and 2013 and is 76.89 dollars (US), while the average value of the second half is between 2018 and 2019, that is, 2020 and 2021, and is 87.29 dollars (US).

Based on the semi-average trend line, the following values can be determined:

$$76{,}89 = a + b$$

$$87{,}29 = a + 5b$$

By solving the given system of equations (a system of two equations with two unknowns), we get the following values a=74,29 and b=2,6.

Based on the above, the trend line has the following form of the equation:

$$y_t = 74{,}29 + 2{,}6 \cdot x$$

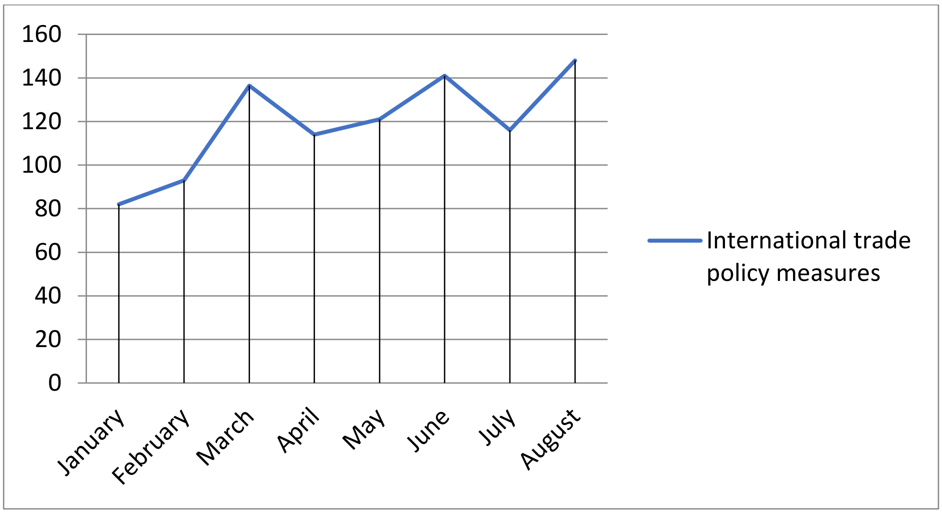
Table 2: Predicted values of GDP growth for the period 2022-2024

YEARS	**y**	**X**
2022	100,29	10
2023	102,89	11
2024	105,49	12

Looking at Table 2, we see that the new numbers are linear and there is a noticeable growth in global GDP over the next three years. In addition, for 2022, the value of GDP is 100.29 trillion, which is an increase of 4.72% compared to the previous year of observation. Table 2 shows further GDP growth, which is higher by 2.53% for 2023 and 2.47% for 2024.

The second component of the research follows measures of international trade policy at the world level for the period January-July 2022, and then in the context of the Russian-Ukrainian conflict for four months until the end of the current year (September, October, November, and December).

Figure 2: International trade policy measures



Source: World Bank, 2022b

Table 3: Available values of trade policy measures as a function of the trend

Month(s)	**Y**	**x**
January	82	0
February	93	1
March	136,5	2
April	114	3
May	121	4
June	141	5
July	116	6
August	148	7

The average value of the first half of the data is between February and March 2022 and is $106.4 (US), while the average value of the second half is between May and June, that is, July and August 2022, and is $131.5 (US).

Based on the semi-average trend line, the following values can be determined:

$$106{,}4 = a + b$$

$$131{,}5 = a + 4b$$

By solving the given system of equations, we get the following values a=$98,03 (US) and b=$8,37 (US). Based on the above, the trend line has the following equation form:

$$y\_t = 98{,}03 + 8{,}37 \cdot x$$

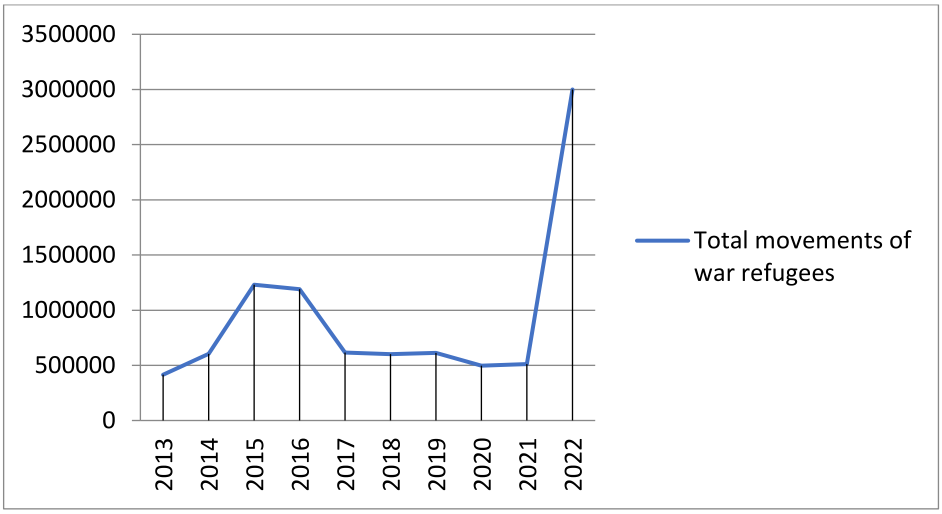
Table 4: Predicted growth values of trade policy measures for the next four months

Month(s)	**Y**	**X**
September	164,99	8
October	173,36	9
November	181,73	10
December	190,1	11

Table 4 provides a predictive analysis of the trajectory of trade policy measures, exhibiting a discernible linear trend, as illustrated by the trend line. This realistic forecast is substantiated by the conspicuous inflationary trends observed globally. In the absence of proactive, concerted efforts by individual economies and collaborative initiatives on a global scale, the imperative emerges regarding the strategies and mechanisms to curtail the escalating inflationary pressures.

The third research component of the study tracks the migration patterns of war refugees on a global scale, encompassing periods preceding the crises in Ukraine and subsequently during the unfolding events of the Russian-Ukrainian conflict.

Figure 3: Total movements of war refugees



Source: OECD, n. d.

Table 5: Available values of the total movement of war refugees as a function of the trend

YEARS	y	x
2013	415.000	0
2014	605.000	1
2015	1.230.000	2
2016	1.190.000	3
2017	615.000	4
2018	602.000	5
2019	614.000	6
2020	498.000	7
2021	510.000	8
2022	3.000.000	9

The average value of the first half of the data is between 2014 and 2015 and is $811,000 (US), while the average value of the second half is between 2021 and 2022 and is $1,044,820 (US).

Based on the semi-average trend line, the following values can be determined:

$$811.000 = a + b$$

$$1.044.820 = a + 5b$$

By solving the given system of equations (a system of two equations with two unknowns), we obtain the following values a=752.545 and b=58.455.

Based on the above, the trend line has the following equation form:

$$y\_t = 752.545 + 58.455 \cdot x$$

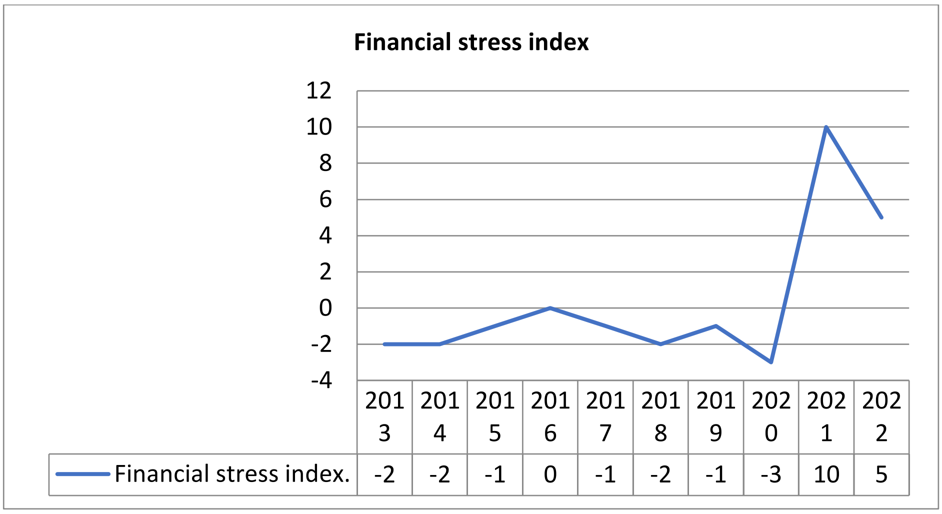
Table 6: Forecasted values of the movement of war refugees for the period 2023-2025

YEARS	y	x
2023	1.337.095	10
2024	1.395.559	11
2025	1.454.005	12

The projected displacement values of war refugees show a linear increase, evident from Figure 3 and Table 6.

The fourth component of the research follows the movement of the financial stress index (FSI) at the global level.

Figure 4: Financial stress index (FSI)



Source: Rojas-Suarez & Fiorito, 2022

Table 7: Available values of the financial stress index as a function of the trend

YEARS		y	x
2013		-2	0
2014		-2	1
2015		-1	2
2016		0	3
2017		-1	4
2018		-2	5
2019		-1	6
2020		-3	7
2021		10	8
2022		5	9

The average value of the first half of the data is between 2015 and 2016, that is, 2016 and 2017, and is -$1.2 (US), while the average value of the second half is between 2021 and 2022 and is $1.8 (US).

Based on the semi-average trend line, the following values can be determined:

$$-1{,}2 = a + b$$

$$1{,}8 = a + 5b$$

By solving the given system of equations, we get the following values a= -$1.95 (US) and b=$0,75 (US)

Based on the above, the trend line has the following equation form:

$$y\_t = -1{,}95 + 0{,}75 \cdot x$$

Table 8: Predicted values of the movement of the financial stress index for the next three years

YEARS	y	x
2023	5,55 ≈ 6	10
2024	6,3 ≈ 6	11
2025	7,05 ≈ 7	12

As widely acknowledged, financial markets are intricately linked to global movements and events. This study aimed to forecast future trends by leveraging established financial stress index indicators. The incorporation of high-frequency data enables the identification of specific fluctuations in financial markets, offering timely warnings to the market regarding potential periods of stress. Building on our well-established understanding of the consequences arising from the coronavirus pandemic in 2021, we recognize a moderate decline in 2022 but with uncertain future trends. Additionally, we have identified fluctuations that indicate an upward trend.

5. Conclusion

The protracted and intense conflict between Russia and Ukraine has engendered profound and extensive ramifications, permeating both local and global spheres. This geopolitical upheaval has disrupted the anticipated post-pandemic economic resurgence, instigating discernible repercussions across diverse domains, particularly within international trade policy measures. Concurrently, the inflationary trajectories observed in numerous global economies have compounded these effects, thereby impinging upon the stability of the overarching world economic order.

Of paramount concern is the discernment of the trajectory associated with the movement of war refugees, a dimension that carries implications for the foreseeable future. Forecasts indicate a disconcerting linear increment of 4.02% in the growth of war refugees until 2025, contingent upon the persistent continuation of the conflict. This projection underscores the exigency for comprehensive strategies and interventions to ameliorate the ensuing humanitarian crisis and mitigate potential geopolitical ramifications.

Further scrutiny of market dynamics, specifically encapsulated by the financial stress index, unveils a discernible degree of variability. This volatility is notably pronounced when scrutinizing the comprehensive temporal spectrum from 2013 to 2021, as analyzed in this study. Even the forecasted values for the forthcoming triennium do not instill optimism, and the prevailing sentiment within global financial frameworks is one of caution, highlighting the complex and intricate challenges precipitated by the Russo-Ukrainian conflict.

In synthesis, the economic reverberations of the Russo-Ukrainian conflict transcend regional boundaries, exerting a profound influence on international trade policies, inflationary trends, and the movement of war refugees. The forecasted trajectory, fraught with uncertainties, mandates a circumspect approach to navigating the global financial frameworks, emphasizing the exigency of diplomatic resolutions to foster economic stability on a global scale.

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