How the Russia-Ukraine Conflict Alter the Global Economy

Lichen Ma(✉)

The Affiliated High School of Peking University, Beijing, China
flemington1225@gmail.com

Abstract. In February 2022, the Russia-Ukraine war, which has drawn significant attention from all sides of the world, officially started. Some people think the war is a "personal feud" between Russia and Ukraine over Donetsk and Luhansk regions, but behind it is a great power game with the United States and Russia at the core. This excellent power game is closely related to the process of economic globalization. This paper will demonstrate the impact of the Russia-Ukraine war on today's world from three aspects: the food problem caused by the war, the shortage of crude oil, and the sanctions against Russia.

Keywords: Russia-Ukraine war · Global economy · Developing countries

1 Introduction

On February 24, 2022, Ukraine announced the severance of diplomatic ties with Russia, and the conflict between Russia and Ukraine officially broke out. Until now, the war is still further escalating over time. It seems to be a war between two countries, but in fact, it has unknowingly affected the global economy.

Both Russia and Ukraine play essential roles in the world economy. Russia is the world's largest crude oil exporter [1], contributing 18% of world wheat exports, while Ukraine accounts for around 40% of world seed oil exports, 13% of corn exports [2]. Thus, it is unsurprising that the invasion pushed Russia into recession when the World Bank estimated that Ukraine's economy shrank by 45% in 2022 [3]. However, the economic consequences of the invasion could be much broader because of ripple effects that alter the global economy in the short and long run. Therefore, this paper aims to analyze the impact of the invasion on macroeconomic variables and the global economic pattern.

2 Burned Farmland and Inflated Food Prices

Ukraine is the fourth-largest exporter of corn and wheat. Russia and Ukraine account for 27% of world wheat exports and 53% of world wheat exports [4]. Due to the damage to Ukrainian crops caused by the war and attacks, FAO estimates that at least 20% of Ukraine's winter crops may not be harvested or planted, and there may be long-term

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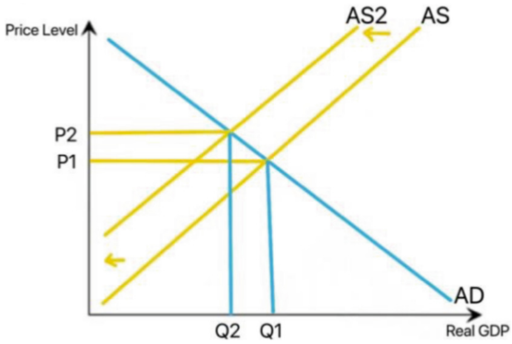

Fig. 1. Supply-Demand Model (edited by the author)

damage to Ukraine's soil [5]. On the transport side, Russia's blockade of Ukrainian seaports and attacks on civilian cargo ships have cut off supply chains, so food can't be exported, further exacerbating the impact of agriculture product shortages [6]. The world food price rose 24% after the Russia-Ukraine war [7]. The data show that in at least 25 African countries, wheat imports from Ukraine and Russia accounted for a third of the wheat imports [8].

Sanctions against Ukraine and Russia and the destruction of farmland have reduced agricultural production and increased food prices, exacerbating inflation in countries dependent on food exports from Ukraine and Russia, especially for low-income households, because of inelastic demand for food. Indeed, following the invasion, world wheat prices increased by 19.7% in March, severely affecting low-income countries [9]. For example, Sri Lanka's recent bankruptcy was partly due to high food and energy prices caused by the invasion [10]. As a result, Ukraine's attack transformed the global economy by reducing households' ability to buy food and contributing to high inflation.

For countries with small grain imports from Ukraine and Russia, because grain market prices are interrelated, all grain products will increase in price due to raw material shortage [11].

Ukraine's agriculture product supply had decreased, the supply fell, and the price rose. The world food price rose 24% after the Russia-Ukraine war [7]. Russia and Ukraine are the primary producers of wheat exported via the Bosphorus to the Mediterranean and North African countries [12]. Thus, Ukraine's agriculture product are mainly exports to developing countries (Fig. 1).

3 Disaster Caused by Crude Oil and Energy

Besides being a prominent grain exporter, Russia also is the largest exporter of petroleum products in the global market and the second largest exporter of crude oil after Saudi Arabia. Before the sanctions, Russian crude oil is mainly exported to developed countries, about 60% of Russian crude oil exports to European OECD member countries [13].

With the outbreak of the conflict between Russia and Ukraine, after Covid-19, most European countries began to purchase raw materials to make lager production to restore their economies, demand increasd. However, because Russia could not export, there is a global crude oil shortage [14]. Adam·Smith rectifies the market is not just a government action. The “invisible hand” of the market has been making endless self-adjustment, the shortage of raw materials caused by the war does lead to higher price.

As with the invasion of Iraq in 1990, the US sanctions on Iraq and Kuwait produced a short-term littoral push for inflation. In the long run, however, Saudi Arabia’s rising crude oil production has offset the deep cuts. The war in Ukraine creates the same short-term confusion for the global economy. However, the US GDP recovered from 22,740 in 2021Q2 to 24002 in 2021Q4 [15], amid the recovery trend of the COVID-19 pandemic, indicating the demand for crude oil in the global market will rise. However, it will not increase the size of the embargo as it did in the last Iraq war. Therefore, if the oil embargo caused by this war continues, global production and transportation costs will remain high, leading to a decline in production. As productivity falls, it is a harbinger of recession and stagflation.

In the long term, the changes in the price of crude oil may lead to a situation where the cost of renewable energy is lower than that of hydrocarbons. In addition, renewable energy development meets the climate-neutral target set by the EU - an economy with “net zero greenhouse gas emissions” [16]. Therefore, the war has played a role in developing renewable energy, mainly because of the price factor. From 1960 to 1970, coal was replaced by crude oil, and in France, the share of coal in homes fell from 68 percent between 1962 and 1973 to 26 percent in Fig. 2.

The reason for this reform is mainly prices for consumers and the prospect of developing an internal combustion engine as an application of a factor for demanders. They would choose a kind of crude oil to bring more utility for the number of fixed. By contrast, the prices of oil supply shocks are similar to the cost of coal in the last century. Although renewable energy is the exile factor, and there are still some success stories. Cyprus is the most energy import-dependent country in the EU, with a RES installation rate of 13.8 percent by 2018. Cyprus as a pioneer in the application of renewable energy, will stimulate the energy of entrepreneurs and the government’s investment confidence in RES. Therefore, if renewable energy development is mature for home appliances, replacing traditional energy with new energy will considerably impact the conventional energy market. International trade, on the other hand, is trade between countries with comparative advantages and primary production with lower opportunity costs. In this case, two factors explain why Russia has a comparative advantage in trade with the EU.

The first factor is price. Russia, as the third largest energy exporter and a country specializing in fuel extraction, has reduced production.

The opportunity cost. This ability to produce goods or services at a lower opportunity cost is comparative advantage, an economic theory first developed by the 19th-century British economist David Ricardo. As evidenced by the relative advantage of trade, oil and gas prices are relatively low, and households have more disposable income.

The second factor is the absence of external costs. Russia has a natural geographical advantage in trade with the EU because the Druzhba pipeline is one of the largest World network of crude oil pipelines. The total length of the pipeline system, including all branches, is about 5,500 km [17] is dedicated to Trade with EU pipelines built on business will release less pollution. However, the war prevented Russia and Events in

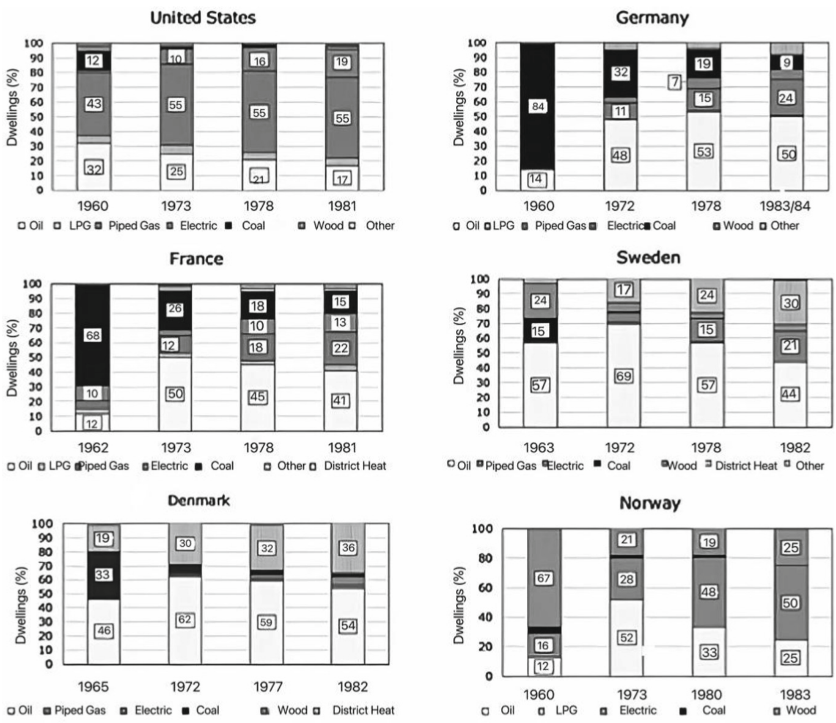

Fig. 2. Energy type usage (Energy & Environment Alliance, 2022)

Ukraine have disrupted the efficiency of global trade and brought volatility to energy markets.

Whether it's agricultural product or crude oil, Russia and Ukraine cannot export, imports countries to guarantee a profit, the price of raw materials increased, which lead to cost of production increased, AS curve shift to left (Fig. 3), which caused cost-push inflation and negative economics growth. During the high inflation period, the cost of living increases, but wage remains unchanged, purchasing power decreased. For developing countries, Sri Lanka is an example, it has bankrupt because of rising raw material prices. And for developed countries, the inflation rate of US has reach the highest of 9.1% in last 40 years, while inflation in the European Union surged to 9.6% at same time [18].

Review in the 19th century, 70–80s, the United States experienced both crude crisis and agriculture product crisis at the same time [19], monetary policy supply overlay lacked independence, and faced the inflation. The policy that government use to correct stagflation include tax cuts, deregulation, and anti-inflationary policy. The goal of US economic policy has shifted from addressing effective demand insufficiency to disinflation and supply restructuring [20].

After the Russia-Ukraine war, Western countries took advantage of their financial benefits to expel Russia from the SWIFT system [21]. They froze Russia's foreign exchange reserves, as well as some of the assets of Russians, which directly caused the

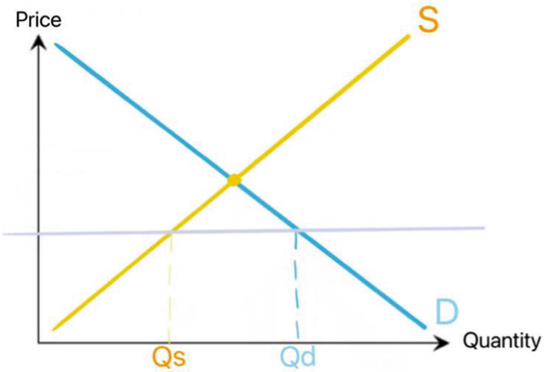

Fig. 3. AS-AD Model (edited by the author)

exchange rate of the ruble against the US dollar to fall by 30%, to 119 pesos per US dollar as of February 28 [22]. The Russian Central Bank, therefore, raised interest rates to 20%. To balance the falling ruble, it temporarily closed the Moscow stock exchange and required all Russian companies to sell 80 percent of their foreign reserves to buy domestic currency, in order to increase the demand for the ruble, so that the value of the ruble will rise, to alleviate the devaluation of the currency.

In the face of that same inflation from food and oil shortages, perhaps we can learn from the 1970s experience [23]. But unlike Keynesian economic theory. However, it only changes the world economy in the short term because the economy can automatically return to the long-term equilibrium.

But disruptions in the crude oil supply chain do change global trade relations. India intends to continue buying discounted oil from Russia [24], and no country in Africa or Latin America wants to impose sanctions on Russia [25]. From the perspective of game theory, the conflict between Russia and Ukraine has made the game of countries in the world more complicated and confusing, and the space for win together international cooperation is narrower than before, which has harmed the trend of economic globalization [26].

4 Sanctions Against Russia

It's not just restrictions on exports, because of the sanctions against Russia, many international retail and wholesale companies announced the suspension or termination of their operations in Russia, with several transportation companies announcing they would suspend any new container shipments to and from Russia [27], and entertainment companies limiting access for Russian users [28].

As the business in Russia was suspended and the investment in the company was also suspended, the company's sales profit declined, and many international prime ministers suffered heavy losses due to divestment.

Capital firms have seen their profits soar as sanctions cut off supply chains for raw materials such as oil and gas in Russia and Ukraine [29] and the enormous profits made by commodity trading oligarchs due to rising food prices [30]. This will lead to a decline in consumer confidence, high-priced resources replace the original cheap resources, and consumers are not willing to consume, resulting in a decrease in consumption and GDP, leading to a global economic recession.

According to the Keynesian effective demand theory, when economic growth is expected to slow down, investment risks will increase, and returns will decline, micro players will adopt more conservative policies, which increases the difficulty of the government to implement policies and regulate the macro economy effectively. On the other hand, the political pressure formed by pessimistic expectations will weaken the stability and sustainability of the new economic policy, which is not conducive to the investment decisions of micro subjects. The changes in the international political pattern caused by the Russia-Ukraine conflict have had a huge negative impact on the global economic chain, and the stagflation risks in the world's major economies have increased, which are highlighted in two aspects (Fig. 4).

In terms of inflation, since the COVID-19 outbreak, the continuous implementations of quantitative easing monetary policies in the United States and Europe have led to Serious Inflation. For Example, The CPI of the United States Rose to 8.5% year-on-year in March 2022, hitting a 40-year high record since January 1982.

Some countries followed QE, which further adding to global inflationary pressures. At the same time, the rising prices of food, energy and other commodities caused by the Russia-Ukraine conflict have led to the pressure of imported inflation in major economies and a huge burden on people's living standards.

In terms of economic growth, the policies of high welfares and high consumption implemented by Western Europe, the United States and other developed countries for a long time have brought great debt pressure to national finance. At the same time, the collide of COVID-19 and the Russia-Ukraine conflict has further reduced effective demand, and the restructuring of the global industrial chain has shifted the supply curve to the left, which has led to insufficient economic momentum and slow economic growth. These two factors make major economies face a more severe risk of economic stagnation.

In addition to their impact on key macroeconomic variables, changes in the global economy may also brew systemic changes in the future. First, global trade relations have changed as the invasion has prompted countries to accelerate the rebuilding of energy supply chains. Some countries are importing less oil from Russia, while others are importing more. For example, the EU has agreed to ban 90 percent of its oil imports from Russia by 2023 [31], which means that, given continued high energy demand, the EU will have to either produce its energy or source supplies from other countries. On the other hand, India's oil imports from Russia have tripled since the invasion due to low Russian oil prices [32]. As a result, global oil trade relations are likely to change. In addition, reduced oil exports to most countries worldwide are also expected to accelerate green energy adoption as they seek to build a more resilient and sustainable energy supply chain [33]. Moreover, due to currency restrictions, this invasion devalued currencies such as the US dollar, changing the status of several national currencies [34]. Finally, all seven EU countries plan to invest more in defense, and others may follow suit to change the global economic landscape by increasing global defense investment.

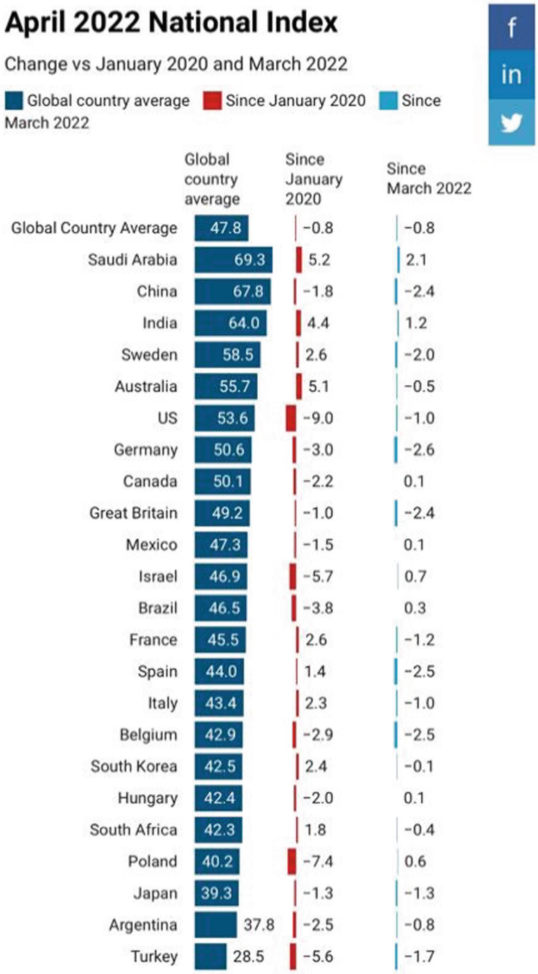

Fig. 4. Consumer Confidence Index of world (Ipsos 2022)

5 Conclusion

The war restricts the export of Russia and Ukraine, which are big exporters of raw materials, and the shortage of raw materials leads to global cost-push inflation. Due to economic depression, consumer confidence decreases, and people are unwilling to consume, leading to global stagflation.

According to economic emergence theory, only changing the pessimistic expectations of micro individuals can produce good macroeconomic results. To boost the economic confidence of micro subjects, it is urgent to ease the conflict between Russia and Ukraine and stabilize the international economic environment.

At the same time, whoever starts an incident should end it, which requires exchanges and negotiations between Russia and Ukraine, the United States and the European Union in all aspects, and more international organizations such as the United Nations to play a more active role in the conflict. Only by boosting confidence with peace, increasing the economy with confidence, and making economic globalization more efficient can we effectively push the world economy to achieve the "Pareto optimum."

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