

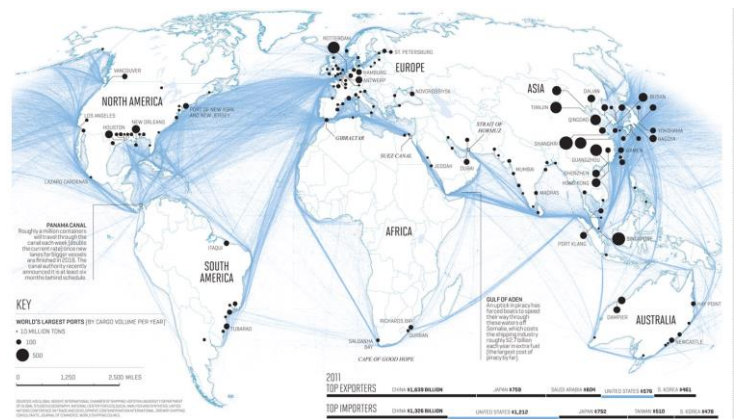
FORUM:	Economic and Social Council
ISSUE:	Measures to Enhance Supply Chain Resilience to Stabilize Global Market
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POSITION:	President of Economic and Social Council

Introduction

The global economy has witnessed unprecedented supply chain disruptions in the past decade, primarily caused by supply shocks such as the COVID-19 pandemic, the US-China trade war, and the Ukraine-Russian war. These events have exposed vulnerabilities in global supply chains, affecting the stability of the international markets. Moreover, it is significant to note

many governments and businesses are not prepared for disruptions in supply chains. According to a survey conducted by the global accounting company, EY, only 2% of the companies globally were fully ready for the pandemic, showing that the supply chain resilience globally is not resilient.

This lack of resilience has led to severe economic and social consequences, including widespread inflation, increased market volatility, and rising income inequalities. The economy is interconnected through global supply chains. If a major producer of a certain goods faces disruption, it may affect the supply of goods to another region. Due to globalization and the world becoming more interconnected, enhancing the global supply chain is crucial for stabilizing the global market and ensuring that markets can overcome future disruptions. Therefore, this chair report will explore the current risks caused by these issues, international actions, and possible solutions to strengthen the supply chains, thus stabilizing global markets.



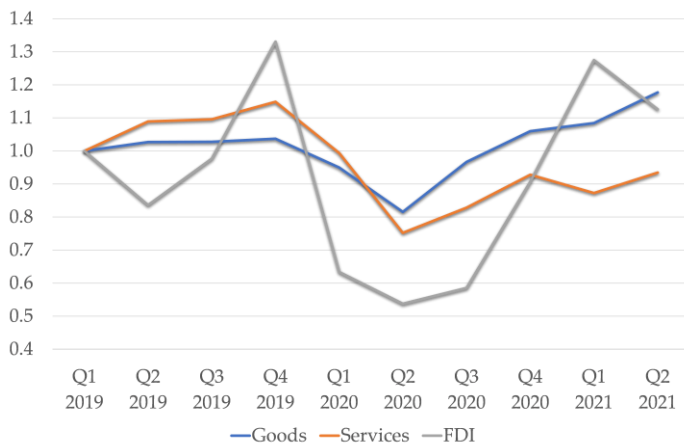
Global supply chain networks

Background

COVID-19 Pandemic effect on Supply Chains



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Global trade dropping during COVID pandemic

One of the biggest supply shocks in history occurred after the COVID-19 outbreak which lasted from 2019 to 2021. This pandemic has been the largest global disruption across trade, finance, businesses, and societies, significantly impacting the stability of the global market. Numerous governments during the pandemic had set border closures and lockdowns which intended to curb the spread of the virus, resulting in significant supply chain disruptions

globally. The disruptions in the manufacturing and production sector were severe due to the shutdown of factories, particularly in key manufacturing hubs such as China. Moreover, the world faced logistics and transportation challenges due to the lockdowns. There was reduced availability for freight services, hence leading to common shipping delays and skyrocketing prices for goods and services. In the first quarter of 2020, 16 countries in the Organization for Economic Cooperation and Development (OECD) faced inflation four times higher than the level of two years prior. This spike in inflation led to higher prices for products and a decline in living standards for many households.

Geopolitical Tension

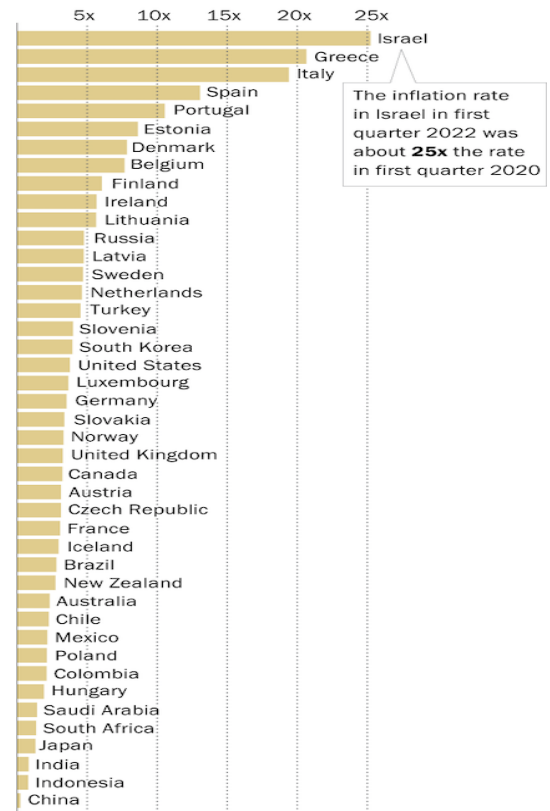
Various geopolitical tensions also affect the stability of the global supply chain. Recent cases include the Russian-Ukraine war that started in 2022. Since Russia is one of the greatest exporters of crude oil, the outbreak of the war has stimulated the oil price to increase drastically by 56.3%. Various countries worldwide, especially those in Europe that relied heavily on Russia's natural resources have experienced increased costs of production, transportation, and heating, causing adverse effects to both industries and households. Moreover, the trade war between China and the United States (US) which began in 2018 has severely disrupted the global supply chain. Due to the two largest economies raising tariffs, technological sectors such as automotive and electronic devices negatively impacted these industries. Therefore, there could have been multiple supply shocks and factors disrupting the supply chain in the past decade that led to the instability of the global market.

Problems Raised

Cost-push inflation



Due to vulnerable supply chain management, it has raised various economic and social problems. Supply shocks can be immensely harmful to the global market in terms of market volatility. Previous supply shocks such as the pandemic and geopolitical tensions have led to the disruption in the supply chain, leading to higher prices of goods and services. This ultimately influences the cost of production to increase, hence resulting in high prices. Cost-push inflation occurs frequently when there is a supply chain shock in the market, resulting in the general price level of the country to rise. Especially during COVID-19, inflation rate for countries increased rapidly. In 2022, US inflation quadrupled prior to the pandemic, and Israel's price level increased 25 times compared to the first quarter of 2020. Therefore, cost-push inflation has made it harder to purchase necessities, severely impacting low-income households.



Inflation rate of OEDC countries in 2022

Global Spillover Effect

Vulnerable supply chain management may lead to other severe consequences, such as the global spillover effect. Due to the interconnected nature of the economy, if the supply shock is not managed effectively, it can spread to other countries. The Russian-Ukraine war is a prime example of how localized conflicts can result in significant disruptions in the supply of key commodities. The increase in oil and natural gas price had a ripple effect across various sectors, such as transportation, agriculture, and manufacturing sectors that require these goods. This supply chain disruption can negatively affect the economic output, which may lead to an increase in unemployment and lower Gross National Income (GNI). Hence, this highlights the need of coordinated efforts across countries and sectors.

Negative Social Impacts

Many businesses would face higher costs of production due to a lack of resilience in the supply chain. For example, the agriculture sector and manufacturing sector that require raw materials or manufactured goods across the brooders will be severely influenced. The higher costs of production will create more lay offed workers, resulting in high unemployment. Also, if workers are exposed to long-term unemployment, they will face significant income losses. For low income-households who are vulnerable

to price changes, the disruption in the supply of necessities such as food or energy could be especially detrimental to their standards of living, even widening the issue of income inequality.

International Actions

United Nations Global Supply Chain Forum

The United Nations plays a significant role in enhancing the resilience of global supply chains. The UN Trade and Development (UNCTAD), and the Government of Barbados hosted the inaugural United Nations Global Supply Chain Forum in May 2024.

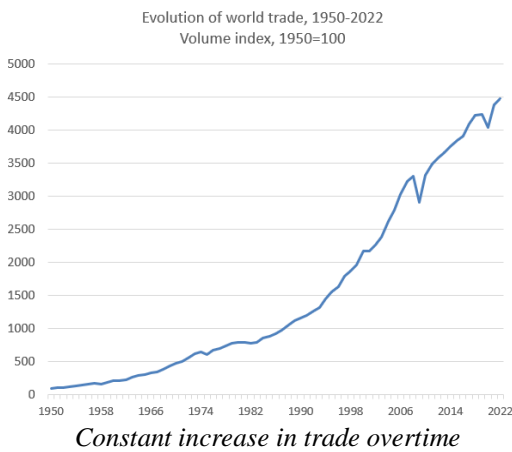
Approximately 1000 participants from over the globe have engaged in the meeting to address the escalating disruptions in the global supply chains. Efforts to incentivize low/zero-carbon fuels, establish a framework for new fuels, developing port readiness assessment tools were highlighted as an essential step towards the global climate targets and enhancing socio-economic resilience. Furthermore, UNCTAD provided guidelines for developing digital technologies to strengthen the digitalization of the maritime sector, supporting the identification and address of supply chain issues quickly. The guidelines shared through this forum are expected to be implemented by countries across the world.



UN Global Supply Chain Forum held in May 2024

ISO 28000 Standard

The ISO 28000 Standard is an international standard formed by the International Organization of Standardization (ISO). It specifies the requirements for establishing, implementing, maintaining, and improving the security of the supply chain. These frameworks are not only for organizations in the supply chain but for all organizations regardless of their size and industry. By following the security management system, organizations can address potential risks in the supply chain, including theft, terrorism, fraud, or other disruptions that could impact the supply chain. Moreover, there are risk assessments organizations can fill in to identify the potential vulnerabilities within their supply chains. This will help organizations to develop appropriate mitigation strategies, enhancing the resilience of supply chains.



Trading Blocs (Regional Comprehensive Economic Partnership, European Union Free Trade Agreement, MERCOSUR)

In November 2020, 15 countries signed the Regional Comprehensive Economic Partnership (RCEP) to improve supply chain resilience by reducing trade barriers and facilitating easier movements of resources and goods across borders. Moreover, the European Union Free Trade

Agreement and MERCOSUR aim to foster connectivity between countries. Tariff reduction and elimination enabled more sufficient movement of goods across countries, lowering the risk of supply chain disruption, hence stabilizing the global market. Moreover, the Free Trade Agreement allowed countries to diversify their supply chains, thus making the supply chain more resilient to local disruptions such as natural disasters, political instability, etc.

Key Players

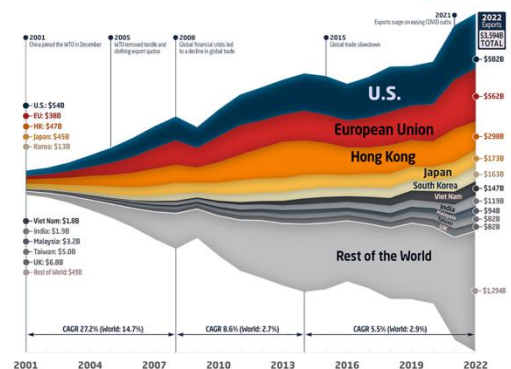
China

China is the world’s largest manufacturing hub due to its extensive manufacturing capabilities. Since China is the largest exporter in the world, meaning that disruption to China’s supply chain can have ripple effects worldwide. For example, the COVID-19 pandemic led to significant global supply chain shocks, especially due to China’s lockdown.

CHINA EXPORTS in the 21st CENTURY

Top 10 Merchandise Exports Markets

China's merchandise exports increased from \$266B to \$3,594B with a compound annual growth rate (CAGR) of 13.2% (compared to 6.6% for global exports) in the 21st Century. However, China's merchandise export growth rate has slowed significantly to 5.2% (CAGR) in the period of 2009-2019.



China's export statistics

World Trade Organization (WTO)

The World Trade Organization is the only global international organization that oversees the rules governing global trade. The main function of this organization is ensuring the smooth flow of trade as predictably and freely as possible. Specifically, the WTO plays a key role of enhancing connectivity within global supply chains by setting rules. Moreover, it provides the necessary framework and tools for WTO member states to navigate the resolution of global trade issues during a crisis. Hence, the WTO plays a significant role in improving the resilience of global supply chains and stabilizing global markets.



Institute for Supply Management (ISM)

The Institute for Supply Management is a professional organization that provides education, standards, and insights that help organizations enhance their supply chain practices. The ISM offers various educational programs that cover key areas of supply management, such as risk management, logistics, and supply chain strategy. The ISM also provides globally recognized certification programs, for instance, the Certified Professional in Supply Management (CPSM). Furthermore, the ISM conducts research on different aspects of supply chain management to help organizations understand emerging trends, leading to enhanced resilience of supply chains.

Possible Solutions

Technological improvement AI and analytics

Digital technologies will be one of the solutions to enhance supply chain resilience. For instance, innovations such as blockchain-enabled traceability mechanisms and advanced customs automation systems can effectively optimize trade facilitation processes, increasing transparency, and further mitigate operational risks. Moreover, following the trend of increased usage of Artificial Intelligence (AI), AI-driven predictive analytics can monitor the transportation of goods in real time, while AI algorithms can analyze numerous amounts of data to optimize shipping routes. Additionally, AI-driven automation in ports can reduce human error, therefore technological improvements are essential for enhancing supply chain resilience.

Diverse Manufacturing Ecosystem

The COVID-19 pandemic and Russia-Ukraine war has highlighted the importance of supply chain diversification. Therefore, a diverse manufacturing system will lower the risk of supply chain disruptions adversely affecting the economies. A diverse ecosystem will support mitigate these risks by ensuring alternative productions sources to other regions of the world. There are variety of diversification tactics, including multisource, nearshoring, and multiple shipping carriers. Hence, the increased flexibility of supply chains will result in supply chain resilience.

Inventory Planning and Forecasting

Planning and execution are the two main pillars of supply chain management. Not only do governments have to put effort into supply chain management, but individual firms should do so as well. However, many firms and businesses, especially infant firms and medium and small sized enterprises do not have capability of conducting efficient supply chain management. Hence, it is crucial that



governments can provide economic indicators and demand forecasts for firms to make more accurate forecasts. Moreover, establishment of centralized data hubs that can access real-time information on supply chains will be essential. This will allow improvement in forecasting and streamline coordination between stakeholders. Especially for the firms, they can make data-driven decisions and respond swiftly to disruptions.

Collaboration between Member States

Lastly, one other possible solution is to promote collaboration between member states. For instance, the UN Trade and Development could hold different challenges to inspire innovative solutions for making global supply chains more stable. Moreover, there can be joint activities in trade promotion, trade facilitation cooperation, supply chain-themed exhibitions. There can be joint emergency operation centers to coordinate their responses to supply chain disruptions, research and development collaboration, technology transfer to create a more integrated, efficient supply chain network.



Photo of a conference in UN

Glossary

Supply Chain

Supply chain refers to all the raw materials and parts that are made into a product and distributed up the chain for manufacture and sale.

Supply Chain Resilience

Supply chain resilience refers to the ability to respond quickly and effectively adapt to change and recover from disruptions or unexpected events within its supply chain network.

Supply Shock

Supply shock is an unexpected event that suddenly effects the supply of product or commodity.

Tariffs

Tariffs are taxes imposed by one country on goods and services imported from another country.

Global Market

Global market is where goods, services, labor are exchanged throughout the entire world.

Market Volatility



Market Volatility is an investment term that describes when market experiences periods of unpredictable price changes.

Real GDP

Real GDP refers to an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.

Inflation

Inflation is the increase in the general price level in an economy over a certain period.

Sources

- “DDG Ellard: WTO Is Key in Enhancing Connectivity within Global Supply Chains.” *WTO*, www.wto.org/english/news_e/news24_e/ddgae_11jul24_e.htm. Accessed 15 Aug. 2024.
- DeSilver, Drew. “In the U.S. and around the World, Inflation Is High and Getting Higher.” *Pew Research Center*, 15 June 2022, www.pewresearch.org/short-reads/2022/06/15/in-the-u-s-and-around-the-world-inflation-is-high-and-getting-higher/. Accessed 15 Aug. 2024.
- Dhir, Rajeev. “Institute for Supply Management (ISM): What It Is, How It Works.” *Investopedia*, www.investopedia.com/terms/i/institute-for-supply-management.asp#:~:text=The%20term%20Institute%20for%20Supply,supply%20management%20and%20purchasing%20professions. Accessed 15 Aug. 2024.
- EY Americas Supply Chain Transformation and Global Supply Chain RPA leader|authorurl:https://www.ey.com/en_gl/people/sean-harapko. “How Covid-19 Impacted Supply Chains and What Comes Next.” *EY, MIT OpenCourseWare*, www.ey.com/en_gl/insights/supply-chain/how-covid-19-impacted-supply-chains-and-what-comes-next#:~:text=EY%20research%20shows%20that%20the,some%20winners%2C%20notably%20life%20sciences. Accessed 15 Aug. 2024.
- “Issue Brief: Supply Chain Resilience.” *The White House*, The United States Government, 30 Nov. 2023, www.whitehouse.gov/cea/written-materials/2023/11/30/issue-brief-supply-chain-resilience/. Accessed 15 Aug. 2024.
- Limited, Infosys. “6 Strategies for a More Resilient Supply Chain: Infosys BPM.” *Infosys*, www.infosysbpm.com/blogs/supply-chain/6-strategies-for-a-more-resilient-supply-chain.html. Accessed 15 Aug. 2024.
- Moosavi, Javid, et al. “Supply Chain Disruption during the COVID-19 Pandemic: Recognizing Potential Disruption Management Strategies.” *International Journal of Disaster Risk Reduction : IJDRR*, U.S. National Library of Medicine, 1 June 2024, www.ncbi.nlm.nih.gov/pmc/articles/PMC9027543/. Accessed 15 Aug. 2024.
- Pecb. “ISO 28000 Supply Chain Security Management System - Training Courses.” *PECB*, pecb.com/en/education-and-certification-for-individuals/iso-28000#:~:text=What%20is%20ISO%2028000%3F,security%20of%20the%20supply%20chain. Accessed 15 Aug. 2024.
- “UN Global Supply Chain Forum Calls for Resilience Amid World Trade Disruptions.” *UNCTAD*, 28 May 2024, unctad.org/news/un-global-supply-chain-forum-calls-resilience-amid-world-trade-disruptions. Accessed 15 Aug. 2024.