

ANALYSIS OF IMPORTS AND EXPORTS IN INDIA: Pre and Post COVID Periods

Lopamudra Naik

Email: muskan.smita.naik@gmail.com

Student, Masters in Business Administration (MBA)

KIIT School of Management (KSOM), KIIT Bhubaneswar, India

Abstract

This paper examines the impact of COVID pandemic on India's imports and exports. By conducting a comparative analysis of pre and post COVID data, the research aims to identify changes in trend patterns and provides a comprehensive view of trade dynamics over these years (2016-2023). The analysis, using a paired t-test, identifies changes in imports and exports between the two periods. The research explores if there are statistically significant differences in trade volumes and identify potential influencing factors such as policy changes, global economic fluctuations. The research revealed significant disruptions in imports and exports during the pandemic with notable declines followed by gradual recovery. The understanding of the impact of pandemic on India's imports and exports is crucial for policymakers and businesses. The findings highlight the broader discourse on trade resilience and adaptability, while also underscoring the need for policy interventions to enhance trade competitiveness.

Keywords: India, Imports, Exports, COVID, Economic Resilience, Trade Policy

Introduction

The COVID-19 pandemic, a global health crisis that unfolded in 2020, had a profound and far-reaching impact on economies worldwide, including India. The global economy has undergone disruptions in supply chains, reduced economic activities leading to significant transformations in global trade patterns. India, being a major player in the global economy, has previously relied heavily on international trade to drive growth and development. Exports and imports play a crucial role in providing access to essential goods and services, fostering economic and political linkages with other countries and generating employment opportunities. Exports and imports play a vital role in India's economic growth, contributing to foreign exchange earnings and supporting sustainable development. However, fluctuations can significantly impact a country's economic development. India has historically maintained a diverse trade portfolio, exporting goods such as textiles, pharmaceuticals, information technology services and agricultural products while importing crude oil, electronics, machinery and gold. Before the pandemic, India was on a steady growth trajectory with exports reaching new markets and imports fulfilling the demands of a rapidly growing middle class and industrial sector. However, the trade balance often skewed towards a deficit due to India's high dependency on imported energy and capital goods. Understanding the shifts in

patterns between pre and post COVID-19 is of vital importance for policymakers, businesses and economists to craft responsive strategies that might help mitigate any future disruptions and capitalize on the emerging opportunities.

Literature Review

A comprehensive review provides valuable insights into these points. The study shows that despite initial declines due to the pandemic, bilateral trade has recovered and surpassed pre-pandemic levels, demonstrating the resilience the Indo-US trade relationship (Shanmugam 2022). The paper discusses the stagnation of India's exports and imports during COVID-19, examining trends in the industrial sector, economic conditions, and foreign trade. The study suggests that India should improve logistics stockpile oil when prices are low, and focus on boosting industrial production to enhance exports. It also highlights the impact of Covid-19 on inflation and the need for policy makers to adapt strategies to improve economic conditions (Kesavan 2020). The paper provides a comprehensive guide for setting up an export-import business in India, covering international trade procedures, documentation, and regulations. It offers practical insights and theoretical knowledge on international shipping, payment methods, and trade practices, making it suitable for both beginners and experienced traders (Jain 2015). The study analyses millet trade performance and

competitiveness, using data from 2013 to 2021. It identifies Ukraine, India, and Russia as major exporters, and Indonesia, Belgium and Germany as key importers, with Indian millet notably going to the UAE, Nepal and Saudi Arabia. The findings suggest boosting India's millet exports by diversifying markets and reducing reliance on a few countries (Madhu 2024). The study examines the long-term relationship between exports and imports in India and Iran from 1970 to 2010, highlighting persistent current account deficits (Ramakrishna 2013). The study shows that India's petroleum exports grew significantly from 1990 to 2019, becoming one of the leading exporters globally despite lacking crude oil and refining technology, due to favourable government policies. However, growth instability in these exports calls for targeted policy interventions (Singh 2023). The research paper analyses the financial performance of five Indian pharmaceutical companies before and after COVID-19. The study finds that the pandemic had a generally positive impact on the most financial parameters for these companies (K 2023). The government aims to make India a global manufacturing hub through initiatives like "Make in India" and "One District One Product" (ODOP), supported by policies such as PLI schemes, GST, and corporate tax reductions. The paper analyses quarterly and yearly data of the manufacturing sector from 2012-13 to 2023-24, examining growth rates, CAGR

and trends. It explores the performance of the sector in both pre and post pandemic periods, identifying fluctuations and patterns in growth rates (Kumar 2014). The study examines the impact of euro and dollar exchange rates on Algeria's foreign trade, especially exports and imports. The exchange rate fluctuations between these currencies have little effect due to inflexibility of Algerian imports and the specific period analysed (Soufiane 2024). The paper explores the impact of the COVID-19 pandemic on the import and export activities of Advanced Air Traffic Systems (M) Sdn Bhd, focusing on the disruption caused by flight schedule limitations. It suggests that adjusting import and export workflows helped the company navigate challenges during the pandemic (Kassim 2024). The study examines the impact of the COVID-19 pandemic on Indonesian cocoa exports using seemingly unrelated regression analysis, revealing a negative effect on exports to the United States and India but not to the Netherlands. Despite the pandemic, cocoa demand remained stable in these markets. It suggests that educational programs and improved agricultural practices could enhance the quality and production of cocoa in Indonesia (Antriyandarti 2023). The study explores how information and communication technologies (ICT) drive the development of export-import activities in EU countries (Norik 2023).

Pre - Covid Period

Before COVID-19 pandemic, global trade was characterized by steady growth in both exports and imports. According to the World Trade Organization, in the third quarter of 2019, the world merchandise trade volumes increased 0.5 percent. The key sectors such as machinery, electronics and automobiles were significant contributors to international trade. For example, the machinery sector showed substantial growth, driven by technological advancements and increased industrial output. To provide some international perspective on large Indian company performance, the overall value of India's exports rose by 22.5% from US\$263.9 billion in 2015 to \$323.5 billion during 2019. From 2018 to 2019, international sales of India's exported goods declined by – 0.2%. The global supply chain was robust and well-integrated with minimal disruptions. Just-in-time manufacturing which relies on the timely delivery of components and materials, was widely adopted across industries. For example, the automotive industry relied heavily on intricate supply chains stretching from raw materials to finished vehicles, with major hubs in Germany, Japan and the United States. The India's supply chain faced challenges due to the country's reliance on imported components and raw materials which made it vulnerable to global supply chain disruptions. The factors such as infrastructure bottlenecks, logistics

inefficiencies and trade barriers could sometimes hinder the smooth flow of goods.

India continued to remain the fastest growing major economy in the world in 2018-19, despite a slight moderation in its GDP growth from 2.7% in 2017-18 to 6.8% in 2018-19. The average growth rate was not only higher than China during 2014-15 but also higher than that of other top major economies as well. The Indian economy grew at 6.8 % in 2018-19, thereby experiencing some moderation mainly due to 'Agricultural and allied', 'Trade, hotel, transport, storage, communication and services related to broadcasting and 'Public administration and defense' sectors. The manufacturing sector was a significant driver of global exports. The manufacturing sector in India was affected due to the slowdown in the auto sector as well where production growth, apart from commercial vehicles, all other categories faced decline in 2018-2019 as compared to 2017-18. Despite the moderation of manufacturing growth within 2018-19 overall growth was higher than 2017-18 due to high growth of 12.1% in first quarter of 2018-19. The energy consumption has more than doubled since 2000, propelled upwards by a growing population. Near- universal household access to electricity was achieved in 2019, which means that over 900 million citizens have received electrical connection in less than two decades.

The trade policies were influenced by various international agreements and regional trade blocs. The World Trade Organization played a central role in regulating global trade, promoting fair competition and reducing tariffs. The period between 2016 and 2019 witnesses a significant shift in India's trade policies, characterized by a gradual move towards greater liberalization and integration into the global economy. A key development during that time was the implementation of the Goods and Service Tax (GST) in July 2017, which unified the country's fragmented indirect tax system and aimed to streamline trade procedures. Furthermore, India actively pursued bilateral and regional trade agreements to enhance market access and reduce the Comprehensive Economic Cooperation Agreement (CECA) with South Korea, the Free Trade Agreement (FTA) with Australia and the Regional Comprehensive Economic Partnership (RCEP), a mega-regional trade deal involving 15 countries in Asia-Pacific. These agreements provided Indian exporters with preferential market access to boost exports.

Post - Covid Period

The COVID-19 pandemic drastically reshaped global trade patterns, impacting exports and imports across various sectors. However, the market started recovering by deploying advanced import – export trade strategies. With the global economy in flux, the export and import dynamics have

witnessed a considerable shift in India. Exports have shown remarkable resilience with a significant upturn in the year 2021-22. The merchandise exports registered a growth of 43.8%, an encouraging sign of recovery and momentum. In the import case, India's economic revival has led to a surge in domestic demand which has resulted in increased import activity. Import and export companies in India contributes 33.33% to the country's GDP in 2022 and 35.60% in 2023. India took steps to reduce its dependence on critical imports, encourage domestic manufacturing and strengthen its supply chain infrastructure. The post- pandemic period witnesses a rise in exports across several key sectors in India. The pharmaceutical industry continued its impressive trajectory, with exports of essential medicines and vaccines achieving significant growth. This growth can be attributed to India's strong manufacturing capabilities and its position as a leading supplier of generic drugs. The Information Technology (IT) services sector also emerged as a strong driver of exports. The increased demand for remote work solutions and digital transformation services due to the pandemic played a crucial role in this sector's success. This highlights India's talent pool and expertise in the IT domain. While the engineering goods sector faced challenges due to the supply chain disruptions, it demonstrated resilience and is gradually regaining momentum. The focus on value-added

products within this sector suggests a strategic shift towards higher-quality exports that improve India's competitiveness in the global market. India's agricultural exports, particularly rice, spices and sugar experiences a surge in demand. This reflects the country's growing prominence in global food markets and its potential to be reliable supplier of essential food items. Despite prioritizing trade liberalization, India adopted self-reliance initiatives such as "Atmanirbhar Bharat" program postered domestic manufacturing in critical sectors to address supply chain vulnerabilities, while Production- linked Incentive (PLI) schemes attracted investments in key industries. Simultaneously, India continued to negotiate trade agreements to access foreign markets and promote exports. This two- pronged strategy aimed to enhance India's trade competitiveness in the post - pandemic era. The COVID-19 pandemic presented significant challenges to India's trade sector. In response, the government implemented a range of measures to support exporters and mitigate the negative impacts of the crisis. These measures included:

- **Emergency Credit Lines:** The government provided emergency credit lines to businesses affected by the pandemic to help them tide over financial difficulties.
- **Export Promotion Capital Goods Scheme (EPCG):** This scheme was

extended and revised to provide incentives for the import of capital goods for export production.

- **Rebate of Duties and Taxes on Exported Products (RoDTEP):** This scheme was introduced to reimburse exporters for the indirect taxes paid on exported duties.

Additionally, India continued to pursue trade liberalization and diversification. Though the pandemic posed significant challenges, India's trade sector demonstrated resilience and adaptability and the country continued to make progress in its trade policy objectives.

Methodology Study Objectives

- To analyse the overall trends and changes in value of imports and exports in India before and after the onset of the covid-19 pandemic which includes identifying major shifts and key commodities affected.
- To assess how different sectors were impacted by the covid pandemic in respect to the import and export activities.
- To examine the changes in India's trade policies and regulations implemented in response to the pandemic.
- To analyse the effects of global supply chain disruptions on India's imports and exports.

- To study how Indian exporters and importers adapted to the challenges posed by the Covid-19 pandemic.
- To analyse how changes in imports and exports during the pandemic affected India's trade balance and overall economic growth.

Scope of The Study

- **Pre-Covid Period:** The study will analyse imports and exports in India for a period of four years leading to the pandemic (2016-2019). This period serves as a baseline to understand different patterns, volumes and values before Covid-19 pandemic.
- **Post-Covid Period:** The study will cover the period from the onset of Covid-19 in early 2020 to the recent data available i.e., 2023. This includes phases of the pandemic to capture the varied imports.
- The study analysis includes both sectors which were heavily affected by the pandemic and those which showed resilience or growth during the period.

Rationale of The Study:

- **Understanding the Economic Impact:** The Covid-19 pandemic caused one of the most significant economic disruptions globally and has severely affected the trade flow across all countries, including India.

- **Identifying Specific Sector Impacts:** The pandemic has affected many different sectors of the Indian economy. For example: the pharmaceutical sector may have increased exports due to demand for medicines and vaccines but the other sectors such as automobiles, textiles faced sharp declines.

- **Evaluating the Policy Effectiveness:** In response to the pandemic, the Indian government implemented several trade related policies and measures to protect domestic industries such as providing export incentives, restricting certain imports and many others.

- **Analysing the Supply Chain Resilience:** Analysing how the supply chain disruptions impacted trade, the study can identify the weakness, suggesting some strategies to enhance supply chain resilience ensuring that India is better prepared for any further disruptions.

- **Shifts in Global Trade Dynamics and Partnerships:** The pandemic accelerated the shifts in global trade dynamics, including a re-evaluation of trade partnerships and dependencies. The study helps in understanding the shifts and new opportunities and risks.

- **Supporting the Atmanirbhar Bharat (Self-Reliant India) Initiative:** The pandemic provided a realization to the importance of self-realization, leading to the Indian government's push for this

initiative. The study provides valuable insights into areas where India needs to strengthen domestic capabilities and reduce reliance on external sources

- **Identifying Opportunities for Growth and Diversification:** Post-pandemic India has observed opportunities to diversify its trade portfolio, explore new markets and increase the exports in sectors with competitive advantage. The study will identify such opportunities to help businesses and government to strategically plan for the future growth.

Data Collection Procedures:

Secondary Sources: The data used in the study is obtained from different government data-bases available online.

Tools Used: MS Excel and SPSS

Data Analysis Procedures:

- **t-test:** The study will use exports and imports data to provide a comparative analysis in two different periods i.e., pre and post Covid. The analysis is done by using paired t-test method to show the whether there is any significant changes in India's imports and exports before and after Covid-19 pandemic thus, providing valuable insights to the businesses.
- **Graphical Representation:** The study uses graphical representation of the exports and imports annual % growth in terms of years.
- **Forecasting Analysis:** The study forecasts the future trend in annual % growth of India's imports and exports, adding valuable insights to researchers and businesses to make informed decisions.

Results:

Presentation of Results:

- **t-Test:**
 - **Exports:**

Before Covid		After Covid	
Year	Exports(\$ in billions)	Year	Exports(\$ in billions)
2016	439.64	2020	499.73
2017	498.26	2021	677.77
2018	538.64	2022	778.02
2019	529.25	2023	777.14

t-Test: Paired Two Sample for Means		
	Before Covid	After Covid
	Exports(\$ in billions)	Exports(\$ in billions)
Mean	501.4454089	683.1637217
Variance	1995.214877	17168.76087
Observations	4	4
Pearson Correlation	0.996338186	
Hypothesized Mean Difference	0	
df	3	
t Stat	-4.196262669	
P(T<=t) one-tail	0.012345104	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.024690207	
t Critical two-tail	3.182446305	

➤ Imports:

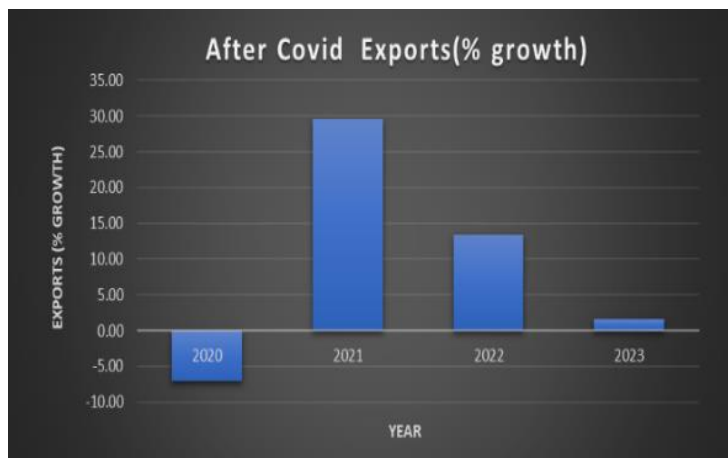
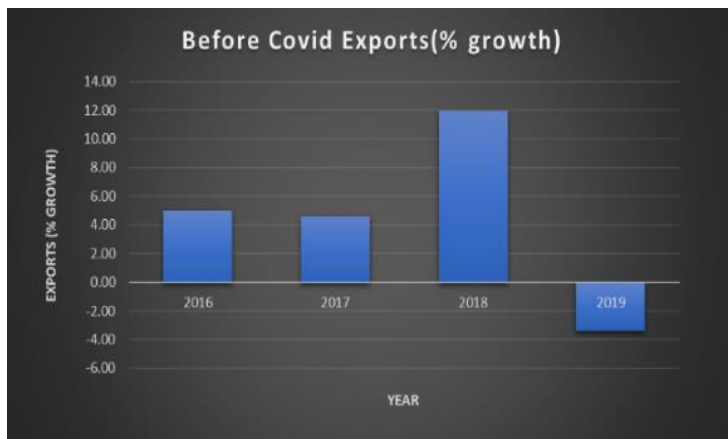
Before Covid		After Covid	
Year	Imports(Rs. In billion)	Year	Imports(Rs. In billion)
2016	480.17	2020	510.24
2017	582.02	2021	760.90
2018	640.30	2022	897.55
2019	602.32	2023	850.64

t-Test: Paired Two Sample for Means		
	Before Covid	After Covid
	Imports(Rs. In billion)	Imports(Rs. In billion)
Mean	576.2007328	754.8350178
Variance	4682.233698	29802.63884
Observations	4	4
Pearson Correlation	0.992529074	
Hypothesized Mean Difference	0	
df	3	
t Stat	-3.40090467	
P(T<=t) one-tail	0.021216551	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.042433102	
t Critical two-tail	3.182446305	

• Graphical Representation:

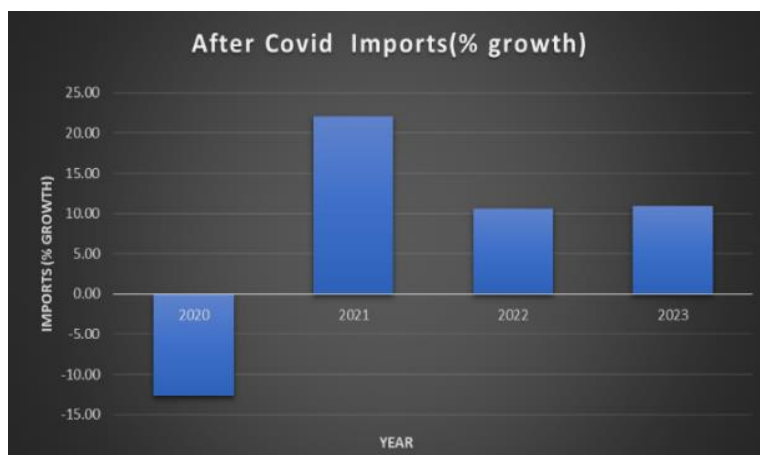
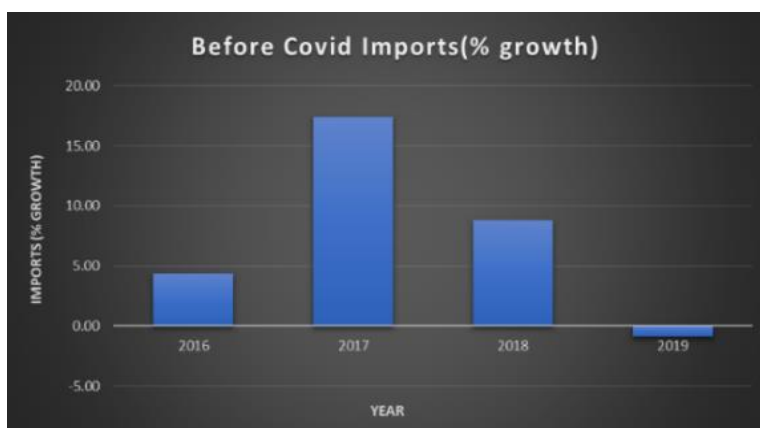
➤ Exports:

Before Covid		After Covid	
Year	Exports(% growth)	Year	Exports(% growth)
2016	4.98	2020	-6.96
2017	4.56	2021	29.60
2018	11.93	2022	13.40
2019	-3.38	2023	1.52



➤ **Imports:**

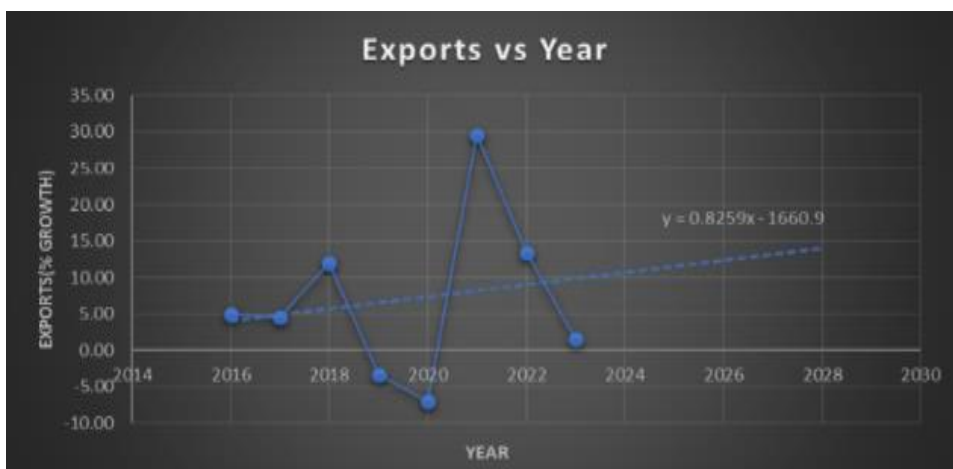
Before Covid		After Covid	
Year	Imports(% growth)	Year	Imports(% growth)
2016	4.38	2020	-12.62
2017	17.42	2021	22.09
2018	8.82	2022	10.59
2019	-0.84	2023	10.91



- **Forecasting Analysis:**

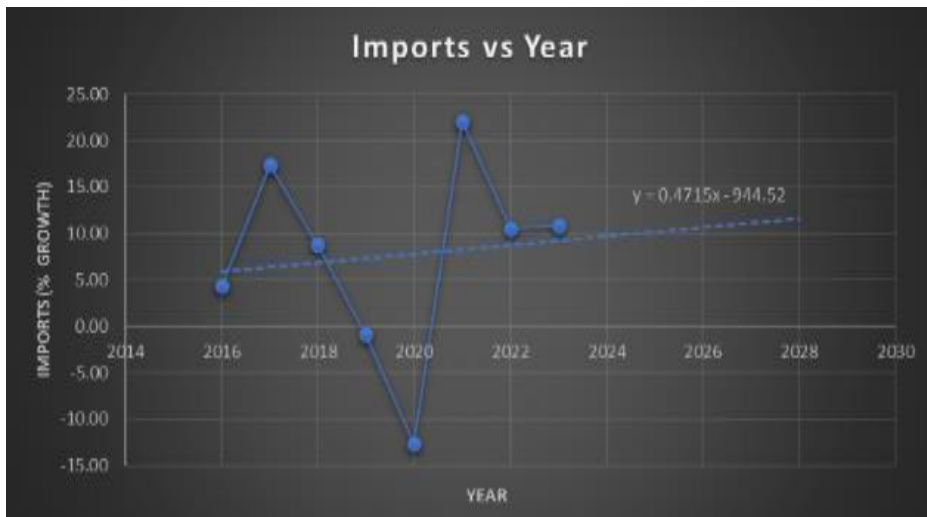
Exports:

Forecast	
Year	Exports(% growth)
2024	10.72
2025	11.55
2026	12.37
2027	13.20
2028	14.03



Imports:

Forecast	
Year	Imports(% growth)
2024	9.80
2025	10.27
2026	10.74
2027	11.21
2028	11.68



INTERPRETATION OF RESULTS:

• t-Test:

Exports:

Null Hypothesis (H0): There is no difference between exports before and after COVID.

Alternative Hypothesis (H1): There is difference in exports before and after COVID.

From the above results, since the t-statistic value is greater than the t critical value, it can be concluded that there is a statistically significant difference between exports before and after COVID, not accepting the null hypothesis.

Imports:

- **Graphical Representation:** Before the pandemic, export growth fluctuated

Null Hypothesis (H0): There is no difference between imports before and after COVID.

Alternative Hypothesis (H1): There is difference in imports before and after COVID.

From the above results, since the t-statistic value is greater than the t critical value, it can be concluded that there is a statistically significant difference between imports before and after COVID, not accepting the null hypothesis.

with moderate increase in 2016 and 2017 seeing a significant spike in 2018

and a decline in 2019. Afterwards it is seen that exports initially declined in 2020 with a significant surge in 2021, and then experienced a decreasing growth rate in 2022 and 2023.

Before the pandemic, import growth shows a significant increase in 2017 followed by a sharp decline in 2019. After a significant decline in 2020, it shows that a sharp recovery in import growth in 2021 with relatively stable in subsequent years.

- **Forecasting Analysis:** The export graph shows the growth of exports over time with a general upward trend and fluctuation in specific years. The import graph shows a general upward trend in import growth over time with fluctuations in specific years.

SUMMARY OF THE FINDINGS:

The study shows that the mean exports has increased in the post pandemic period suggesting rise in exports and it is concluded that there is a statistically significant difference in exports between pre and post COVID period. The study shows that average imports have increased significantly after COVID compared to before and indicates that there is a statistically significant difference in imports between the two periods. The analysis reveals that both exports and imports experienced significant fluctuations before and after the pandemic. While exports saw a surge in 2018, they

declined initially after it, then rebounded significantly in 2021. Imports, on the other hand, showed a sharp increase in 2017, followed by a decline in 2019 and then they experienced a sharp recovery in 2021 and maintained relatively stable growth thereafter. The study shows that both export and import graphs show a general upward trend over time, with fluctuations in specific years.

IMPLICATIONS:

The study offers essential insights for policymakers to develop strategies which will enhance trade resilience, adjust trade policies, and reduce dependencies thereby mitigating future risks due to the effects of COVID-19 pandemic and reveals supply chain vulnerabilities due to over-reliance on specific countries. The study provides understanding on the varied impacts of pandemic on different sectors which will help in reducing risks and enhancing growth in these sectors. The changes in import and export volumes are crucial for managing India's trade balance, foreign reserves and economic stability. The study also highlights the increased role of technologies in sustaining trade during the pandemic.

CONCLUSION:

The COVID-19 pandemic has dramatically transformed global trade extremely affecting India's export and import sectors. The study explored significant changes in India's exports and

imports before and after the pandemic, uncovering both vulnerabilities and strengths. In the pre-COVID-19 phase, India's trade was characterized by consistent growth focusing on diverse exports and strategic imports. However, the disruptions caused by the pandemic revealed key dependencies and necessitated a re-evaluation of existing trade strategies. Some sectors, such as pharmaceuticals and information technology were able to adjust and even prospered due to changing global needs such as the need for medicines and vaccines and the government's initiative to make India a cashless economy with the 'Digital India' concept coming into the picture, while other sectors such as textiles and automotive components faced difficulties. The Indian government responded to the challenges posed by the pandemic by implementing several measures aimed at reviving the trade business in the country. Stimulus packages were introduced to support key sectors, and efforts were made to ease bottlenecks in logistics and ensure the smooth functioning of supply chains. In response, the Indian government launched initiatives like 'Atmanirbhar Bharat' to decrease reliance on imports and encourage domestic production, signaling a shift towards greater economic self-sufficiency. This policy encouraged a shift towards local sourcing of materials and led to an increased focus on reducing imports of non-essential goods. The government also

provided incentives to boost exports and ensure that Indian goods gained competitive access to the global market. India also pursued diversification of its export markets and products, focusing on expanding trade ties with regions like Africa and Latin America, reducing over-reliance on traditional markets such as United States and Europe. Additionally, several free trade agreements and bilateral discussions were pursued to create a more favourable environment for Indian goods globally.

Looking into the future, India must leverage the lessons learned during this difficult period to develop a more sustainable and diverse trade strategies. Not only reinforcing the key sectors but also investing in innovations and emerging areas like digital technologies and renewable energy that can fuel future growth. Furthermore, enhancing regional trade partnerships and integrating more deeply into global value chains will be vital for minimizing future risks and boosting India's global competitiveness. The impact of COVID-19 on India's exports and imports emphasizes the necessity of flexibility, diversification and strategic policy-making to manage global uncertainties. The recovery phase was gradual and uneven with some sectors experiencing stronger rebounds than others. As India continues to navigate post-pandemic stage, it is important to address the remaining challenges and continue to adapt to new economic conditions and

taking advantage of new opportunities, India can strengthen its trade position and ensure lasting economic resilience. To ensure sustainable growth in trade, India needs to focus on enhancing its manufacturing capabilities, improving the quality of exports, and ensuring that its trade policies align with best global practices. The study contributes to the understanding of these shifts, providing valuable insights into future of international trade and lays the foundation for further studies aimed at optimizing India's trade strategies in the post-pandemic world.

LIMITATIONS OF THE STUDY:

The data availability might be not be there for especially smaller or less traded items or regions which might potentially affect the accuracy of the analysis. The COVID-19 pandemic has introduced significant uncertainty into the global trade patterns, requiring adjustments to the forecasting models. Since, COVID-19 pandemic is relatively a recent event, the study's time frame might be too short to capture the full long-term impacts on imports and exports.

REFERENCES

Antriandarti, Ernoiz. 2023. "Effects of the COVID-19 Pandemic on Indonesian Cocoa Exports to the United States, the Netherlands and India."

Jain, Vijesh. 2015. "Establishing Exports and Imports Business in India."

K, Senthil Kumar M. 2023. "AN ANALYSIS OF PRE AND POST COVID 2019 -FINANCIAL PERFORMANCE OF SELECTED PHARMACEUTICAL COMPANIES IN INDIA-A COMPARATIVE."

Kassim, Rahimah. 2024. "Pandemic COVID-19: Impact Towards Import and Export Activities."

Kesavan, Dhinakaran and. 2020. "Exports and Imports Stagnation in India During Covid-19-A Review."

Kumar, Brijesh. 2014. "An Analysis of Manufacturing Sector Performance: During Pre and Post-Pandemic COVID-19 in India."

Madhu, Narayan, Rosalin. 2024. "A Comprehensive Analysis of Export Performance and Trade Competitiveness of Millets from India."

Norik, Larisa. 2023. "The Development of Export-Import Activity on the Basis of Information and Communication Technologies."

Ramakrishna, Gollagari. 2013. "The Long run relationship between Exports and Imports ; The Experience of India and Iran."

Shanmugam, Saravanan. 2022. "Statistical Analysis Of India's Trade With USA During Pre AND Post COVID-19."

Singh, Kulwinder. 2023. "Petroleum Export Performance in India:

Analysis of Growth and Structural Dynamics."

Soufiane, AHMIMA Khaled KHEDIR. 2024. "External Value of the Currency and Its Impact on Exports and Imports."

.....