



Research perspective

## India's Merchandise Exports During COVID-19 Pandemic: A Study of Comparative Analysis

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### Abstract

This paper aims to analyze the trends and patterns of India's merchandise exports with selected countries to assess the impact of COVID-19 on India's merchandise exports. It has examined the effects of COVID-19 on India's merchandise export trade by using monthly data from 2019 to 2021 of India's top five export destinations: the United States of America, the United Arab Emirates, China, Bangladesh, and the Netherlands. To conduct this study, secondary data on merchandise export has been obtained from the UNCOMTRADE Database and COVID-19 data from "Our World in Data." This analysis shows that the pandemic significantly affected India's merchandise exports, which experienced a sharp decline in the early months of the crisis. The study identifies several factors contributing to the fall in exports, such as disruptions in global supply chains, declining demand in critical countries, and logistical hurdles. However, a surge in demand for pharmaceutical products and other essentials helped exports recover in the following months.

**Keywords:** Merchandise Exports, India, Covid-19, Pandemic, Supply Chain disruptions



[Decent work and economic growth](#)

### Introduction

Research shows that exports can drive GDP growth, according to studies that used cross-sectional and time series data (Balassa, 1978; Feder, 1983). These studies suggest that emerging countries with solid export development experience faster national income growth rates. Exports allow countries to overcome the challenges associated with the limited size of domestic markets, which often hampers productivity and development. However, relying heavily on exports can also make countries more

**Article History:** Received: 17 Feb 2024. Revised: 22 Feb 2024. Accepted: 27 Feb 2024. Published: 01 Mar 2024

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**Citation:** Verma, Aman & Hemlata Manglani. 2024. India's Merchandise Exports During COVID-19 Pandemic: A Study of Comparative Analysis. *Journal of South Asian Exchanges* 1.1 < <https://saexchanges.com/v1n1/v1n110.pdf> >

susceptible to external shocks and subject them to terms of trade shocks that can adversely affect macroeconomic goals and economic development.

The COVID-19 pandemic has significantly affected the world economy, causing disruptions in economic operations in many countries worldwide. The disruptions have affected trade, supply chains, and demand, leading to significant changes (Ando & Hayakawa, 2022; Hayakawa & Mukunoki, 2021). The literature on pandemics and global trade reveals that pandemics can seriously harm trade in various ways. Disruptions in global supply chains, reduced demand in essential regions, and logistical difficulties are some of the reasons for this. On the supply side, the pandemic caused a sharp decline in the production and export of goods and services. Exports fell in industries and regions where remote work was impossible (Hayakawa & Mukunoki, 2021). On the demand side, the pandemic led to a decrease in aggregate demand for most countries. People's reduced income led to a reduction in demand for products. Importing countries' low demand negatively impacted the exports of developing nations.

Previous studies indicate that because of their inadequate trade infrastructure and scarce resources, poorer countries may experience significant adverse effects on trade from the pandemic. India is no exception since the pandemic has significantly impacted its goods trade (Ramakumar & Kanitkar, 2021). Despite this, India has demonstrated resilience in its merchandise exports throughout the COVID-19 pandemic, with an expected rise in export revenues (Himanshu Khushwaha & Syed Mohd. Shahzeb, 2022). Significantly contributing to these exports, the pharmaceutical industry has recognized trade prospects, especially in producing pharmaceuticals and medical supplies (Ahmed et al., 2020). However, this global epidemic has also severely affected the food supply system, experiencing first disruptions before it completely recovered (Lowe et al., 2020). This disruption has been a significant concern for Indian policymakers since these exports drive economic growth. Hence, it is crucial to understand the impact of COVID-19 on India's merchandise exports and the measures taken by the government to mitigate the decline in exports.

The study investigated the trends and patterns in India's merchandise exports during the pandemic and the gradual adjustments made to those exports in reaction to the outbreak. Additionally, it acknowledges the main elements that affected export performance throughout the crisis. Additionally, an analysis has been carried out on the export trends and patterns of India's top 5 HS 2-digit commodities.

### **Review of Literature**

In their analysis of the global response to the COVID-19 pandemic, Khanna et al. (2020) emphasized the significance of various containment measures and how they affect the virus's ability to propagate. Ahmed et al. (2020) covered trading prospects for India's pharmaceutical industry and the difficulty of satisfying the demand for necessary medications and medical supplies during the pandemic. They stressed the importance of enhancing productivity to meet the growing global demands. Pujawan & Bah (2022) discussed evolving priorities in industries such as safety, digitalization, and localization,

particularly emphasizing the significance of vaccine production and distribution. They also stressed the importance of digitalization and localized supply chains to mitigate disruptions.

Dohale et al. (2023) focused on the Indian apparel industry, prioritizing and ranking supply chain risks during the COVID-19 disruption. They identified demand uncertainty and pandemic disruption as the most critical risks and proposed flexibility and mitigation strategies.

Murugeswari (2020) discussed the adverse effects of the extended lockdown on various industries in India, such as petroleum and fertilizers, leading to concerns about a recession and disruptions in the supply chain. K. Mandal et al. (2020) shed light on the swift actions taken by the Indian government to contain the spread of COVID-19. They also highlighted the economic impact, including a significant drop in GDP and the challenges faced by vulnerable groups. Barik & Tripathy (2022) highlighted the disproportionate impact of the pandemic on small businesses compared to larger ones due to their limited resources to adapt to societal changes. Some studies (Gecit, 2021) noted a substantial increase in e-commerce activity during the pandemic, reflecting changing consumer behaviors and preferences.

According to statements from various sources, Prabha et al. (2022) presented controversial findings suggesting that COVID-19 might have originated from a laboratory in Wuhan, China.

### **Data and Methodology**

This paper is based on the analysis of secondary data. Monthly data on India's merchandise exports from 2019 to 2021 has been extracted from the UNCOMTRADE database. This data shows the situation of India's merchandise exports during the pre-pandemic period, the first wave period, and the second wave period of the pandemic. Most nations experienced the peak of the first wave of the pandemic in April 2020 while facing the second wave in the first quarter of 2021. The top five destinations for India's substantial merchandise exports are the United States of America, the United Arab Emirates, China, Bangladesh, and the Netherlands. Covid-19 data on India (new cases and new deaths) for selected periods from 2020 to 2021 has been taken from 'Our World in Data'.

The study uses various tools such as descriptive statistics, monthly export indices, monthly percentage change in exports, and top export products and destinations to analyze India's exports of goods during the pandemic.

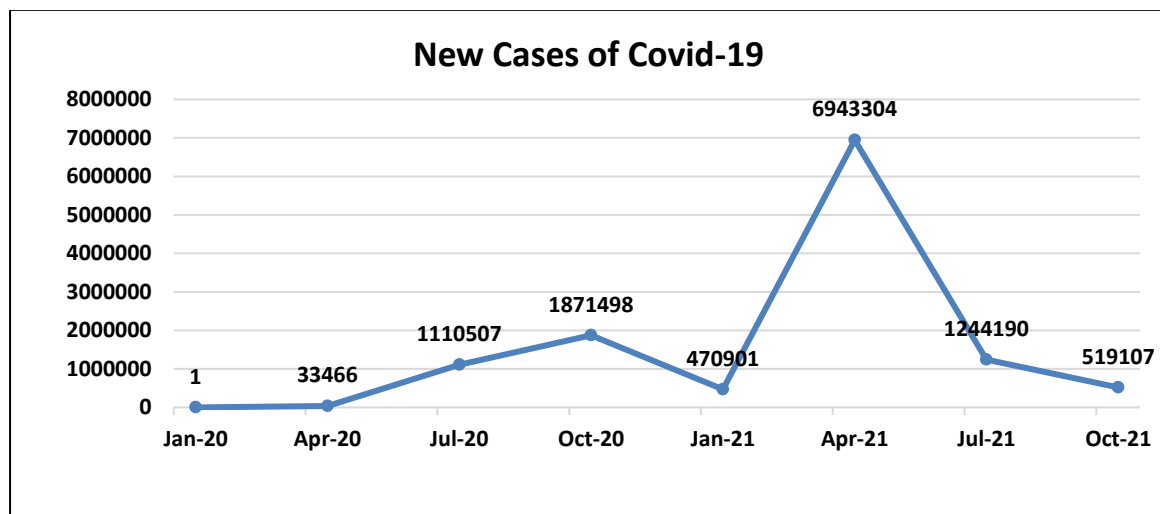
### **Covid-19 Pandemic**

The World Health Organization (WHO) declared COVID-19 a global public health emergency on January 30, 2020, and upgraded it to a pandemic on March 11, 2020 (World Health Organization, 2024). As a result, many countries implemented restrictions on local and international travel to slow the spread of the virus, and some even enforced national lockdowns. In the second quarter of 2020, they witnessed severe restrictions, which marked the first wave of the pandemic. However, most

countries started easing these restrictions after the first wave. Although the second wave affected developed countries, the lessons learned during the first wave helped people to better cope with the pandemic and continue their social and economic activities.

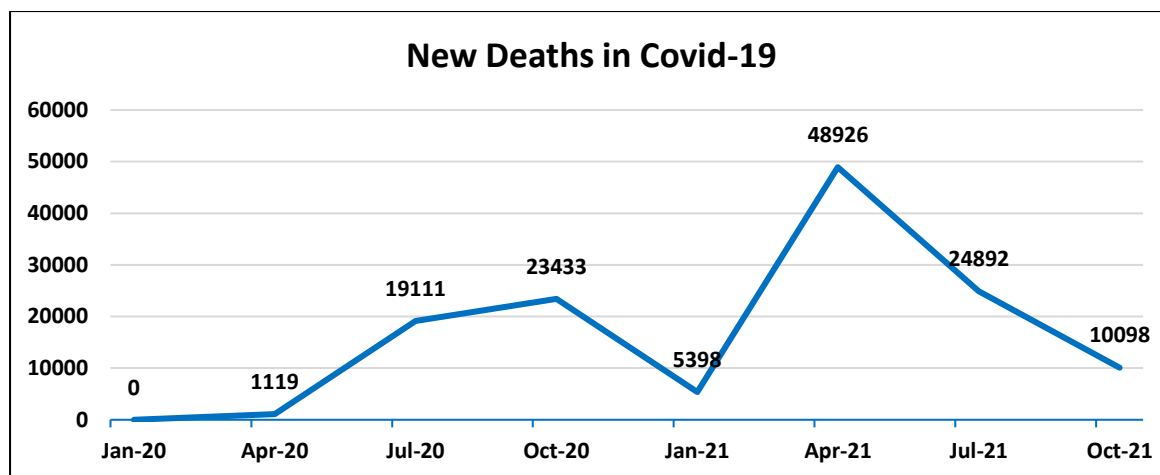
### COVID-19: New Cases and New Deaths

This section shows the trends of new cases and new deaths because of COVID-19 during the pandemic. COVID-19 new cases and deaths show the spread of the pandemic and its seriousness. The data has been analyzed for January, April, July, and October from 2020 to 2021, which is considered a pandemic period.



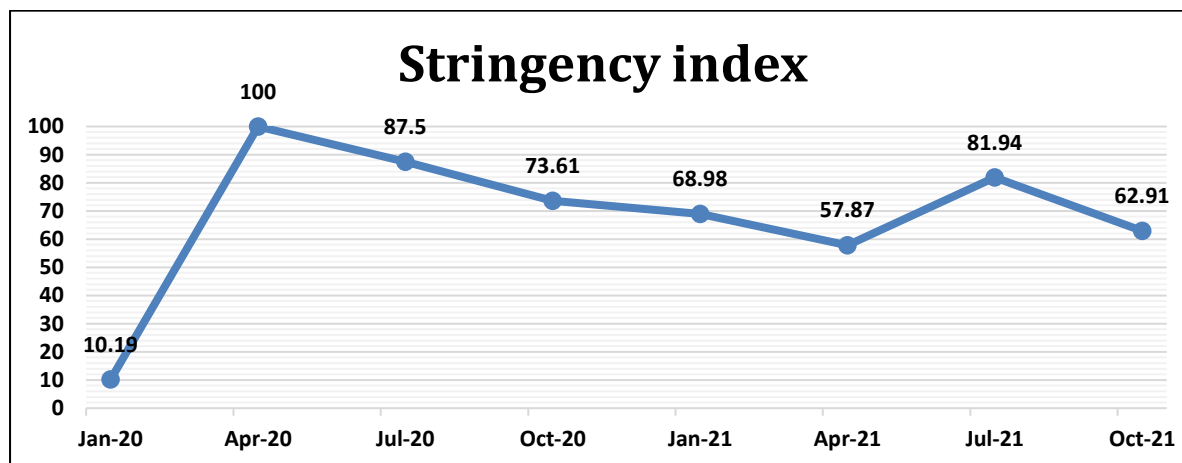
**Figure 1: New Cases of Covid-19 pandemic in India**

The first COVID-19 case in India was reported in January 2020 in Kerala (Andrews et al., 2020). This was the only case that had been reported in January 2020. The number of new Covid-19 cases in India increased drastically in April 2020, accompanied by the highest number of deaths. India observed 33466 new cases and 1119 new deaths in April 2020. This period was considered the first wave of the Covid-19 pandemic in India. The new cases continued to increase, with 1110507 new cases in July 2020, followed by 1871498 new cases in October 2020. Similar to new cases, new death numbers also increased in July 2020, with 19111 recent deaths, and this number further increased to 23433 in October 2020.



**Figure 2: New Cases of Covid-19 pandemic in India**

In January 2021, the number of new COVID-19 cases and deaths declined, but a drastic increase occurred in April, the second wave of the pandemic. India experienced a downward trend in new cases, and deaths accounted for COVID-19 post-April 2021. The inquiry included thoroughly examining the stringency index, which measures the extent of restrictions put in place. An increased value indicates that more regulations are being enforced. Interestingly, the stringency index reached its maximum with the start of the first pandemic wave in April 2020 and continued to rise over 85.5 from May to September 2020. By October 2020, a measured value of 73.61 signaled a purposeful relaxation of restrictions, driven by the knowledge gained from the first wave. This change made it easier for social and commercial activity to continue.



**Figure 3: Stringency Index**

After that, there was a noticeable decrease in the stringency index until April 2021. However, an increase in new cases and deaths caused the index to rise again in May 2021 and beyond, peaking in June and July 2021 at 81.94. The noteworthy trend is the data after July 2021, which indicates a purposeful easing of restrictive measures, as evidenced by a notably reduced stringency index.

**India’s Merchandise Exports with the Selected Countries**

India's merchandise exports deteriorated due to the COVID-19 pandemic and travel restrictions. Based on the data, India's merchandise exports to the world in January 2019 totaled \$26,000 million. However, in January 2020, a downturn peaked in April 2020 at \$10,300 million. Notably, the export industry saw a significant rebound, with Indian exports reaching \$35,700 million in October 2021—a sum that exceeded the \$26,000 million pre-pandemic level in January 2019. With exports going \$30,700 million in April 2021—a significant increase from the low of \$10,300 million in April 2020—this positive trend persisted.

**Table 1: Merchandise export values from India to the World (in \$ Millions)**

| Year | Period | Total Export |
|------|--------|--------------|
| 2019 | Jan-19 | 26000.0      |
|      | Apr-19 | 26000.0      |
|      | Jul-19 | 26000.0      |
|      | Oct-19 | 26400.0      |
| 2020 | Jan-20 | 25800.0      |
|      | Apr-20 | 10300.0      |
|      | Jul-20 | 23500.0      |
|      | Oct-20 | 24900.0      |
| 2021 | Jan-21 | 27500.0      |
|      | Apr-21 | 30700.0      |
|      | Jul-21 | 35500.0      |
|      | Oct-21 | 35700.0      |

**Source: Author's calculation based on UNCOMTRADE data**

A similar pattern can be seen in India's exports to the USA, UAE, China, Bangladesh, and the Netherlands. India's exports to these nations likewise experienced a decline in April 2020, followed by a more gradual rebound that peaked in December 2021. During the second wave of the pandemic, India's exports of goods (in absolute terms) remained unaffected by the pandemic. According to data, India's goods exports increased with nations chosen for this study except for the UAE.

In [Table 2](#), we have presented the monthly values of India's merchandise exports, using January 2019 as the baseline index to discern export trends better. Notably, April 2020 witnessed a significant downturn in India's commodity exports, reaching their lowest points in the USA, UAE, China, Bangladesh, and the Netherlands. The overall merchandise exports from India in April 2020 saw a substantial 60% decline from their pre-pandemic level in January 2019, as can be confirmed by [Table 3](#). Specifically, exports to the USA dropped by 67%, to the UAE by 74%, to China by 7%, to Bangladesh by 75%, and to the Netherlands by 54%. However, a noteworthy recovery took shape in July 2020, with India's exports experiencing a sharp rebound that surpassed the pre-pandemic level, forming a 'V' pattern. Notably, by March 2021, exports to China surged 117% and to Bangladesh 100%, compared to the pre-epidemic level in January. The

highest export growth was observed in December 2021, particularly with Bangladesh, registering an impressive 172% increase.

**Table 2: India's merchandise export to selected countries relative to exports in January 2019**

|                            |               | <b>USA</b> | <b>UAE</b> | <b>China</b> | <b>Bangladesh</b> | <b>Netherlands</b> |
|----------------------------|---------------|------------|------------|--------------|-------------------|--------------------|
| <b>Pre-Pandemic Period</b> | <b>Jan-19</b> | 1.00       | 1.00       | 1.00         | 1.00              | 1.00               |
|                            | <b>Feb-19</b> | 0.93       | 1.00       | 1.07         | 1.09              | 1.31               |
|                            | <b>Mar-19</b> | 1.10       | 1.15       | 1.38         | 1.44              | 1.42               |
|                            | <b>Apr-19</b> | 0.92       | 0.98       | 1.18         | 1.15              | 0.93               |
|                            | <b>May-19</b> | 1.10       | 1.47       | 1.28         | 1.05              | 1.96               |
|                            | <b>Jun-19</b> | 0.95       | 0.87       | 0.97         | 0.84              | 1.15               |
|                            | <b>Jul-19</b> | 1.00       | 1.01       | 1.16         | 0.90              | 1.23               |
|                            | <b>Aug-19</b> | 1.01       | 0.94       | 1.24         | 0.91              | 1.22               |
|                            | <b>Sep-19</b> | 0.98       | 0.95       | 1.14         | 1.15              | 1.03               |
|                            | <b>Oct-19</b> | 1.03       | 1.00       | 1.21         | 1.15              | 1.08               |
|                            | <b>Nov-19</b> | 0.96       | 0.99       | 1.33         | 1.12              | 0.75               |
|                            | <b>Dec-19</b> | 1.04       | 1.00       | 1.20         | 1.21              | 1.16               |
| <b>First Wave Period</b>   | <b>Jan-20</b> | 0.99       | 0.89       | 1.24         | 1.11              | 1.02               |
|                            | <b>Feb-20</b> | 1.04       | 1.22       | 0.92         | 1.26              | 1.20               |
|                            | <b>Mar-20</b> | 0.83       | 0.69       | 0.88         | 1.03              | 0.86               |
|                            | <b>Apr-20</b> | 0.33       | 0.26       | 0.93         | 0.25              | 0.46               |
|                            | <b>May-20</b> | 0.64       | 0.51       | 1.89         | 0.51              | 0.57               |
|                            | <b>Jun-20</b> | 0.85       | 0.42       | 1.72         | 0.89              | 0.62               |
|                            | <b>Jul-20</b> | 0.98       | 0.47       | 1.43         | 1.22              | 0.75               |
|                            | <b>Aug-20</b> | 0.94       | 0.49       | 1.38         | 1.18              | 0.89               |
|                            | <b>Sep-20</b> | 1.16       | 0.67       | 1.35         | 1.27              | 1.27               |
|                            | <b>Oct-20</b> | 1.08       | 0.62       | 1.22         | 1.26              | 0.67               |
|                            | <b>Nov-20</b> | 1.01       | 0.62       | 1.25         | 1.16              | 0.89               |
|                            | <b>Dec-20</b> | 1.09       | 0.70       | 1.33         | 1.38              | 0.82               |
| <b>Second Wave Period</b>  | <b>Jan-21</b> | 1.10       | 0.65       | 1.28         | 1.50              | 0.94               |
|                            | <b>Feb-21</b> | 1.07       | 0.69       | 1.41         | 1.50              | 1.26               |
|                            | <b>Mar-21</b> | 1.26       | 0.90       | 2.17         | 2.01              | 1.21               |
|                            | <b>Apr-21</b> | 1.20       | 0.75       | 1.88         | 1.80              | 1.06               |
|                            | <b>May-21</b> | 1.21       | 0.95       | 1.77         | 1.55              | 0.99               |
|                            | <b>Jun-21</b> | 1.27       | 0.97       | 1.89         | 1.69              | 0.98               |
|                            | <b>Jul-21</b> | 1.50       | 1.00       | 1.75         | 1.57              | 1.59               |
|                            | <b>Aug-21</b> | 1.43       | 0.86       | 1.39         | 1.79              | 1.23               |
|                            | <b>Sep-21</b> | 1.41       | 0.88       | 1.37         | 1.85              | 1.74               |
|                            | <b>Oct-21</b> | 1.61       | 1.02       | 1.48         | 1.96              | 1.60               |
|                            | <b>Nov-21</b> | 1.26       | 0.88       | 1.26         | 2.29              | 1.88               |
|                            | <b>Dec-21</b> | 1.52       | 1.08       | 1.25         | 2.72              | 1.92               |

Source: Author's calculation based on UNCOMTRADE data

**Table 3: Change in India's merchandise export to selected countries relative to exports in January 2019**

Source: Author's calculation based on UNCOMTRADE data

|                           |               | USA    | UAE    | China  | Bangladesh | Netherlands |
|---------------------------|---------------|--------|--------|--------|------------|-------------|
| <b>First Wave Period</b>  | <b>Jan-20</b> | -1.33  | -11.30 | 23.77  | 11.37      | 1.92        |
|                           | <b>Feb-20</b> | 4.21   | 22.18  | -8.20  | 26.07      | 19.65       |
|                           | <b>Mar-20</b> | -16.63 | -30.96 | -12.30 | 3.00       | -14.22      |
|                           | <b>Apr-20</b> | -67.41 | -74.39 | -6.56  | -75.36     | -53.51      |
|                           | <b>May-20</b> | -35.70 | -48.95 | 88.52  | -48.97     | -43.13      |
|                           | <b>Jun-20</b> | -15.30 | -58.49 | 72.13  | -11.06     | -38.18      |
|                           | <b>Jul-20</b> | -2.00  | -53.14 | 42.62  | 21.64      | -24.60      |
|                           | <b>Aug-20</b> | -5.54  | -51.46 | 37.70  | 17.85      | -10.86      |
|                           | <b>Sep-20</b> | 15.74  | -33.47 | 35.25  | 27.33      | 27.32       |
|                           | <b>Oct-20</b> | 7.98   | -37.66 | 22.13  | 25.59      | -33.23      |
|                           | <b>Nov-20</b> | 1.11   | -38.49 | 24.59  | 16.11      | -11.34      |
|                           | <b>Dec-20</b> | 8.65   | -30.13 | 32.79  | 37.91      | -18.37      |
| <b>Second Wave Period</b> | <b>Jan-21</b> | 10.20  | -34.73 | 27.87  | 50.39      | -6.23       |
|                           | <b>Feb-21</b> | 6.65   | -30.54 | 40.98  | 50.08      | 25.72       |
|                           | <b>Mar-21</b> | 25.94  | -10.46 | 117.21 | 100.63     | 21.25       |
|                           | <b>Apr-21</b> | 20.40  | -25.10 | 87.70  | 80.09      | 6.39        |
|                           | <b>May-21</b> | 20.84  | -4.60  | 77.05  | 54.50      | -1.28       |
|                           | <b>Jun-21</b> | 26.83  | -3.35  | 88.52  | 69.04      | -2.40       |
|                           | <b>Jul-21</b> | 50.33  | 0.42   | 75.41  | 56.71      | 59.27       |
|                           | <b>Aug-21</b> | 42.57  | -14.23 | 39.34  | 78.52      | 23.32       |
|                           | <b>Sep-21</b> | 40.58  | -11.72 | 36.89  | 84.83      | 74.12       |
|                           | <b>Oct-21</b> | 61.42  | 1.67   | 48.36  | 95.89      | 59.58       |
|                           | <b>Nov-21</b> | 26.39  | -11.72 | 26.23  | 129.07     | 88.50       |
|                           | <b>Dec-21</b> | 51.88  | 8.37   | 24.59  | 171.72     | 91.69       |

### Composition of Trade

We have used the monthly changes in the export values of India's top five commodities as an index for the first month of 2019 to provide a more accurate representation of exports.

During the first lockdown period in April 2020, India's exports of the top 5 commodities saw a significant decline. The exports of Natural or cultured pearls, precious or semi-precious metals, metals clad with precious metal & Articles thereof; imitation jewelry; coins went down to almost 1 percent of what India exported before the pandemic. The export value for the products of chemical & allied industries fell by 25 percent, Mineral products by 53 percent, and Machinery & Mechanical appliances, and Electrical equipment by 78 percent. The export of textiles & textile articles also decreased by 88 percent due to the unavailability of labor in lockdown. However, all these commodities have shown a positive growth in exports in April 2021.



**Table 4: India's merchandise export of top 5 commodities relative to exports in January 2019**

| <b>India's Export values of top Five Commodities</b> |                    |  |                                  |   |  |  |
|--|--------------------|--|----------------------------------|---|--|--|
|  |                    | <b>Product<br/>s of<br/>chemica<br/>l &amp;<br/>allied<br/>industri<br/>es</b> | <b>Mineral<br/>produc<br/>ts</b> | <b>Machinery<br/>&amp;<br/>Mechanica<br/>l<br/>appliances<br/>; Electrical<br/>Equipment<br/>s; parts<br/>thereof</b> | <b>Textile<br/>s &amp;<br/>textile<br/>article<br/>s</b> | <b>Natural or<br/>cultured<br/>pearls,<br/>precious or<br/>semi-<br/>precious<br/>metals,<br/>metals clad<br/>with<br/>precious<br/>metal &amp;<br/>Articles<br/>therof;<br/>imitation<br/>jewellery;co<br/>in</b> |
| <b>Pre-Pandemic<br/>Period</b>                       | <b>Jan<br/>-19</b> | 1.00   | 1.00                             | 1.00  | 1.00   | 1.00   |
|  | <b>Apr<br/>-19</b> | 1.03   | 1.17                             | 0.97  | 0.89   | 0.95   |
|  | <b>Jul-<br/>19</b> | 1.06   | 1.18                             | 1.09  | 0.87   | 0.93   |
|  | <b>Oct<br/>-19</b> | 1.02   | 1.15                             | 1.13  | 0.80   | 1.23   |
| <b>First Lockdown<br/>Period</b>                     | <b>Jan<br/>-20</b> | 1.04   | 1.04                             | 1.08  | 1.00   | 0.96   |
|  | <b>Apr<br/>-20</b> | 0.75   | 0.47                             | 0.22  | 0.12   | 0.01   |
|  | <b>Jul-<br/>20</b> | 1.11   | 0.65                             | 1.07  | 0.79   | 0.48   |
|  | <b>Oct<br/>-20</b> | 1.10   | 0.63                             | 1.08  | 0.88   | 0.99   |
| <b>Second<br/>Lockdown<br/>Period</b>                | <b>Jan<br/>-21</b> | 1.15   | 0.83                             | 1.24  | 0.97   | 0.97   |
|  | <b>Apr<br/>-21</b> | 1.11   | 1.28                             | 1.18  | 1.02   | 1.15   |
|  | <b>Jul-<br/>21</b> | 1.30   | 1.83                             | 1.32  | 1.11   | 1.18   |

|  |               |      |      |      |      |      |
|--|---------------|------|------|------|------|------|
|  | <b>Oct-21</b> | 1.32 | 1.60 | 1.44 | 1.06 | 1.43 |
|--|---------------|------|------|------|------|------|

Source: Author’s calculation based on UNCOMTRADE data

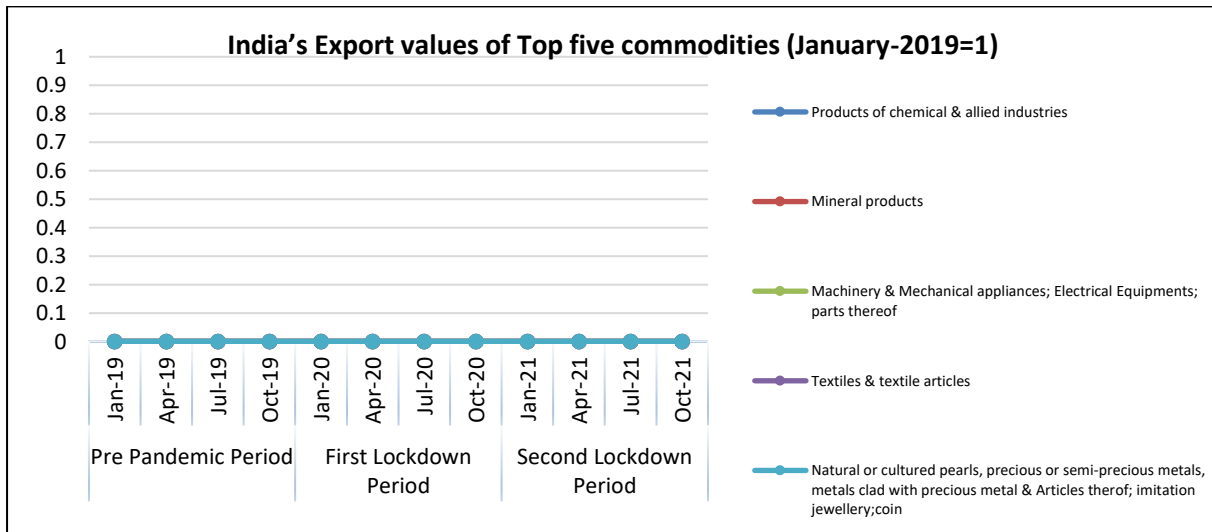


Figure 4: India’s Export values of Top five commodities (January-2019=1)

### Conclusion

Through an analysis of monthly data for HS 2-digit commodities from 2019 to 2021, a study has revealed the trends and patterns of India's merchandise exports to its five major export destinations. The study has concluded that the pandemic significantly impacted India's merchandise exports, resulting in a sharp decline during the first wave. However, a subsequent surge in demand for pharmaceutical products and other essential goods helped the exports recover in the following months. This diversity in export markets and products was pivotal in mitigating the pandemic's adverse effects on India's merchandise exports, resulting in a more negligible impact during the second wave.

According to the study, the United States, China, and the United Arab Emirates have remained India's top export destinations during the pandemic. The study also found that this trend has remained unchanged. Additionally, the study discovered that India's top exports, which include engineering items, gems, jewelry, and pharmaceuticals, have continued to be the country's top exports during the pandemic.

India's exports to the USA, the UAE, China, Bangladesh, and the Netherlands have significantly increased, thanks to the quick expansion of various goods such as products of chemical and allied industries, mineral products, machinery and mechanical appliances, electrical equipment, textiles and textile articles, natural or cultured pearls, precious or semi-precious metals, metals clad with precious metal, and articles like imitation jewelry and coin. The mix of these products exported to these countries has contributed to the rise in India's exports of goods.

## Policy Suggestions

India needs to identify potential opportunities for increased trade. India must focus on innovation and R&D to improve export standards, ensuring adequate investment. Free Trade Agreements with developed nations can help tap into larger market shares. Prioritizing automation can enhance seaport efficiency and streamline shipment processes. Embracing advanced technology will give businesses a competitive edge and improve operational and supply chain efficiency.

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