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# The Impact of Covid-19 on International Trade: Evidence from Developing South Asian Region

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**ABSTRACT**

This world is a global village and no country may be able to meet its all needs from its resources. International trade is used as a tool to fulfil the needs of the global population. Export is considered as the backbone of a country's economy, while import is needed to fulfil demand at the country level. However, international trade is subject to favourable conditions at a global level. Covid-19 is considered a big challenge for international trade. This paper examines theimpact of Covid-19 on international trade i.e., imports and exports of India and Pakistan.India and Pakistan are import oriented countries. We tend to find either imports or exports of India and Pakistan are affected during Covid-19. To analyze the impact of covid-19 on international trade of India and Pakistan monthly trade data for the period before Covid-19 during Covid-19 (2018 to 2020) collected from World Bank (WITS - UNSD Comtrade site) is compared through dummy variable. It has been noted through empirical analysis that Covid-19 affected the international trade of India and Pakistan during Covid-19. However, it is pertinent to mention here that the impact of Covid-19 is not so harsh on India and Pakistan's economy being import oriented. Exports of India and Pakistan decreased to some extent but on the other hands imports of both countries fell drastically, during Covid-19, which improved the balance of trade of both countries during Covid-19.

**KEYWORDS:**Covid-19, Export, Import, International trade, India, Pakistan.

## I. INTRODUCTION

The new virus, which is a worldwide danger (Wang, 2020) caused by a novel coronavirus initially discovered in December 2019 at a seafood market in Wuhan, Hubei Province, China (Nishiura, 2020), is by far the biggest epidemic of atypical pneumonia since the 2003 SARS pandemic. The new virus, which causes fever, shivers, sneeze, skin rash, sores, difficulty breathing, muscle pain, vomiting, nausea, and diarrhoea, was named "Severe Acute Respiratory Syndrome Corona Virus" (SARS-CoV2) or "novel Coronavirus" (2019-nCoV) by the World Health Organization on February 11, 2020, as coronavirus disease –19 and was officially considered as pandemic (WHO, 2020).

Although the coronavirus (COVID-19) issue is addressed through a series of untiring efforts and regulations, economies are facing a deficiency of resources (Salik, K.M., 2020). The pandemic has an impact on the global economy and poses a risk to economic development at a global level but had a severe impact in low- and middle-income nations such as Pakistan (UNDP, 2020; Robinson, et al., 2019). Pakistan's economy is in a severe downturn in the world.

The effects of COVID 19 on Pakistan's economy could result in a sharp drop in GDP growth (Chohan, U.W., 2020), a skewed current and fiscal balance, supply chain disruption, and increased unemployment (Salik, K.M., 2020).

## II. LITERATURE REVIEW

Different studies were conducted to capture the impact of Covid-19 on economic development. A remarkable study approachesthe subject of macroeconomics of epidemics, in which the authors expose a complexmacroeconomic model and simulate certain scenarios of the impact of pandemic(Eichenbaum et al., 2020). Whereas,

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Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

other papers study the impact of coronaviruspandemic on thewhole economy (Correia et al., 2020; Kohlscheen et al., 2020; IMF, 2020; Barro et al., 2020; McKibbin and Fernando, 2020; Jordà etal., 2020;UNCTAD, 2020; OECD, 2020; Saez andZucman,2020).The economy in a global context faced different up and downs in past. There's also the greatest slump since Second World War. According to Chinn et al., (2020), the Output of the 27 nations of the European Union has dropped sharply by 11.9 per cent. This decreasing trend in the GDP of the nations is also linked with the currency they are using. In the very first quarter of 2020, however, the nations that utilise the Euro as its currency saw theiroutputshrink by 12.1 per cent. The impact of Covid-19 was not only limited to poor nations but, Germany, as the largest economy of Europe, has also experienced a 10% drop in GDP in this period of crisis. The pace of increase in unemployment is also frightening.The French GDP has dropped by 13.8 per cent. Similarly, Italy's GDP shrank by 12.4 per cent, while Spain's shrank by 18.4 per cent. This period was more critical for those who entered the business during the crisis period. In this bleak and scary environment, European start-ups have also struggled. According to Brown et al., (2020), about 49 per cent of start-up enterprises have obtainedgovernment-backed loans from banks. Those loans were not needed for their business if there was no pandemics. The corona pandemic's consequences have been severe. Pandemics not only restricted business activities but the business community started layoff. The hiring process has been halted in 43% of European start-ups. According to Arundale and Mason (2020), a poll found that 40% of start-up firms expect their income to shrink by 25% in 2020.

Different aspects of the economy are focused especially in a crisis. Hence, Jebran & Chen (2021) have examined the influence of corporate governancepolicies that can assist companies in survivingthe COVID-19 problem. They suggested corporate governance practices be followed to minimize the impact of a crisis. In addition to the previous study, Khatib & Nour (2021) has examined how COVID-19 affects corporate governancecharacteristics and organizational performance.They found that board numbers don't matter in the uncertain time ofthe presentsituation, but board composition appears to be markedly boosting firm performancein the crises periodcompared to the prior year, in which it has an inverse correlationwith firms' performance in both indicators.

This virus brings challenges to the performance of the establishments. Thesechallengesare from the internal and external environment. Under such a situation,there is no set design for any company, whichensure that the companies willcontinue to perform well in future during this crisis period (Jebran & Chen, 2021). Similarly, Butterick & Charlwood (2021) have found that if any externalelement affectsany of the functions of HRM then it would affect all the functions of the organization. Jebran & Chen 2021 have determined that there is a positive relationship betweenthe family ownershipand performance of the corporation during the crisis of COVID-19.One of the most important mechanisms that are very effective during the Crisis ofCOVID-19 is the presence of a riskmanagement committee in the corporation(Jebran & Chen 2021).

**Impact of Covid-19 on Import and Export of India:**

S. Gupta (2020) examined the trend in India's international trade using three parameters:changes in value, direction, and composition of foreign trade. According to the report, exports as a proportion of GDP were just 5.8% in 1990-1991 but climbed to 19.2% in 2016-17. Interms of commodity composition, the researcher discovered that, in addition to conventionalproducts, non-traditional items such as chemical and engineering goods had a greater rate ofexport. India's main export markets were emerging and OECD nations in the region. S. Agarwal et al. (2020) investigated the economic impact of Covid-19 in India. The study also looked at 18 impediments that had an impact on the country. According to the report, Covid-19 has resulted in the closure of numerous enterprises due to increased manufacturing costs, a shortage of labour, and the timely receipt of superior alternative products from other nations.Maliszewska, et al. (2020) researched the impact of a pandemic epidemic on globalGDP and trade. According to the report, employment has decreased by 3%, trade expenseshave increased by 25%, and the tourist, hotel, and leisure industry has experienced a significantfall. Global GDP fell to 3.9 per cent, with emerging nations' average GDP reaching 4 per cent,with some developing countries' GDP falling to 6.5 per cent. Parth, K. (2020) investigated the impact of COVID-19 on several Indian industries in his report. According to the report, the aviation and tourism industries are the most dangerously affected.Furthermore, negative effects have been observed in significant GDP-generating industries such as textiles,

International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

automobiles, and small and medium-sized businesses. Because India has a strong position in this area, the food and agriculture industry is the least affected. According to the survey, the insurance industry has had strong growth, with life insurance up 18% and general insurance up 13%. Virmani, A., and Bhasin, K. (2020) aimed to investigate the impact of Covid-19 on the Indian economy's growth. The study found that, except for food, beverage, and pharmaceutical products, demand and supply of goods and services decreased as a result of the government's lockdown measures. The survey also found that owing to Covid-19, air transportation, hotels and restaurants, and malls and stores (retailers) are the most susceptible sectors. However, according to the analyst, the Indian economy would begin to revive in the second half of 2020-2021.

**Impact of Covid-19 on Import and Export of Pakistan:**

Pakistan's imports are now subject to a 2:1 tariff limitation ratio (Ministry of Commerce, Pakistan, 2019), with oil accounting for 25% of the country's overall import bill (Hassan, S.A.; Zaman, K, 2012). Individual businesses that rely on hardware imports, metals such as iron and steel, and other foreign commodities will almost surely collapse since no one wants to do business in the current climate (Chohan, U.W, 2020). Imports fell 16.9% from July–April 2018–2019 to USD 36,091 million in July–April 2019–2020 (Ministry of Planning Development & Special Initiatives, Pakistan. 2019). Due to a scarcity of accessible resources, Pakistan is expected to suffer a drop in imports, which would have an impact on its GDP.

Exports are an important part of every country's economy. The global trade deficit has shrunk by 4.6 per cent. China's export shrunk by 9.8%, Hong Kong SAR, Singapore by 8.5%, Cambodia faced export reduction by 7.4%, Russian Federation also face export reduction by 7.3%, Lao PDR faced a 7.3% reduction in export, Thailand bear loss due to 6.8% reduction in export, similarly, the Philippines also had less export by 6.8% are among the economies that have had more than mediocre worldwide commercial losses to the European area (6.4 per cent).Europe, Canada, and the United States, on the other hand, are expected to lose 4.5 per cent of their population (Maliszewska et al., 2020; Zhang, et al., 2020).

Textiles account for 55% of Pakistan's exports when compared to other export items i.e; fish, wheat, rice, mineral fuels and sports (MOC, Pakistan. 2019).When a pandemic strikes, exports are certainly hurt (Chohan, U.W., 2020), and a 2.4 per cent drop equals a loss of $19,650 million from the period of July 2019 to April2020, compared to the last fiscal year (MPD&SI, Pakistan. 2019).

**The Empirical Questions**

This study aims to investigate the following researchquestions.Does theCovid-19 impact the international trade of India and Pakistan?

- Did import of India and Pakistan is affected during Covid-19?
- Did the export of India and Pakistan is affected during Covid-19?

## III. METHODOLOGY

The main aim of the research is to check whether imports and exports of India and Pakistan are significantly changing during Covid-19 and another period. After reviewing the literature thoroughly, the hypothesis developed. To test the hypothesis empirically, the monthly data of imports and exports of India and Pakistan from January-2018 to October-2020 has been collected. The Covid-19 was started in December-2019 and five waves have emerged in both countries. Therefore, the period of Covid-19 is from December-2019 to October-2020. The period of Covid-19 was covered by using a dummy variable with 1 if time is from December-2019 to October-2020 and 0 otherwise.

$$\text{Covid}-19 = \begin{cases} x = 1, & \text{if time December, 2019} \\ & \leq \text{months} \leq \text{October, 2020} \\ x = 0, & \text{Otherwise} \end{cases}$$

The data has been collected from World Bank (WITS - UNSD Comtrade site). Afterwards, the returns of the imports and exports have been obtained to make the stationary of the data at the level I(0). The returns have been obtained by using the following formula

$$\text{Import returns} = \log\left(\frac{\text{Imports}_t}{\text{Imports}_{t-1}}\right)$$

$$\text{Export returns} = \log\left(\frac{\text{Exports}_t}{\text{Exports}_{t-1}}\right)$$

The import and exports returns have been obtained by using the above techniques in which t represents the imports and exports of the current month and t-1 means imports and exports of the previous month.

Afterwards, the following regression equations have been used to make the comparison of imports and exports during Covid-19 time of other periods.

$$\text{Import returns}_t = \beta_0 + \beta_1 \text{Covid}-19_t + \varepsilon_t$$

International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

$$\text{Export returns}_t = \beta_{01} + \beta_2 \text{Covid} - 19_t + \mu_t$$

## IV. RESULTS AND INTERPRETATION

### 4.1 Descriptive Statistics

**Descriptive Statistics**

| | Pakistan | | India | |
|---|---|---|---|---|
| | **EXPORT** | **IMPORT** | **EXPORT** | **IMPORT** |
| **Mean** | 1,920,000,000 | 4,320,000,000 | 24,700,000,000 | 36,400,000,000 |
| **Median** | 1,960,000,000 | 4,290,000,000 | 25,900,000,000 | 40,300,000,000 |
| **Maximum** | 2,250,000,000 | 5,790,000,000 | 32,600,000,000 | 45,400,000,000 |
| **Minimum** | 959,000,000 | 2,850,000,000 | 10,200,000,00 | 17,100,000,000 |
| **Std. Dev.** | 248,000,000 | 713,000,000 | 4,850,000,000 | 879,000,000 |

The above-presented table is showing the results for descriptive statistics. The average exports of Pakistan during the study period is Rs.1,920,000,000/- with an average variation of Rs.248,000,000/-. The maximum and minimum exports of Pakistan during the period of study is Rs.2,250,000,000/- and Rs.959,000,000/- respectively. The results are also depicting that the average imports of Pakistan are Rs.4,320,000,000/- and the standard deviation is Rs.713,000,000/-. The maximum and minimum imports of Pakistan during the period of research is found Rs.5,790,000,000/- and Rs.2,850,000,000/- respectively.

The above-presented table is showing the results for descriptive statistics. The average exports of India during the study period is Rs.24,700,000,000/- with an average variation of Rs.4,850,000,000/-. The maximum and minimum exports of India during the period of study is Rs.32,600,000,000/- and Rs.10,200,000,000/- respectively. The results are also depicting that the average imports of India are Rs.36,400,000,000/- and the standard deviation is Rs.879,000,000/-. The maximum and minimum imports of India during the period of research is found Rs.45,400,000,000/- and Rs.17,100,000,000/- respectively.

### 4.2 Correlation Analysis

**Correlation Analysis**

| | Pakistan | | India | |
|---|---|---|---|---|
| | **IMPORT** | **EXPORT** | **IMPORT** | **EXPORT** |
| **IMPORT** | 1.000 | 0.532 | 1.000 | 0.876 |
| **EXPORT** | 0.532 | 1.000 | 0.876 | 1.000 |

The above-presented table is showing the relationship between imports and exports of Pakistan and India. The coefficient of correlation is found 0.532 and 0.876 respectively, which shows there is a positive relationship between imports and exports.

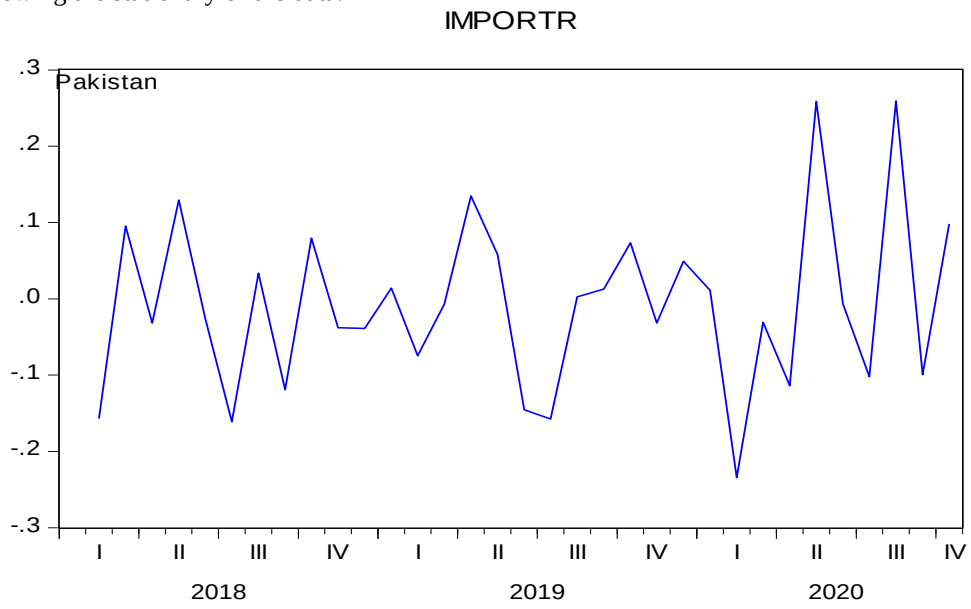
### 4.3 Stationary of the data (Unit Root Test)

| **ADF Test for Stationary of data** | | | |
|---|---|---|---|
| **Country** | **Variables** | **ADF significance at Level** | **Status** |
| **Pakistan** | **Imports Returns** | P-value less than 0.05 | Stationary at level |
| | **Exports Returns** | P-value less than 0.05 | Stationary at level |
| **India** | **Imports Returns** | P-value less than 0.05 | Stationary at level |

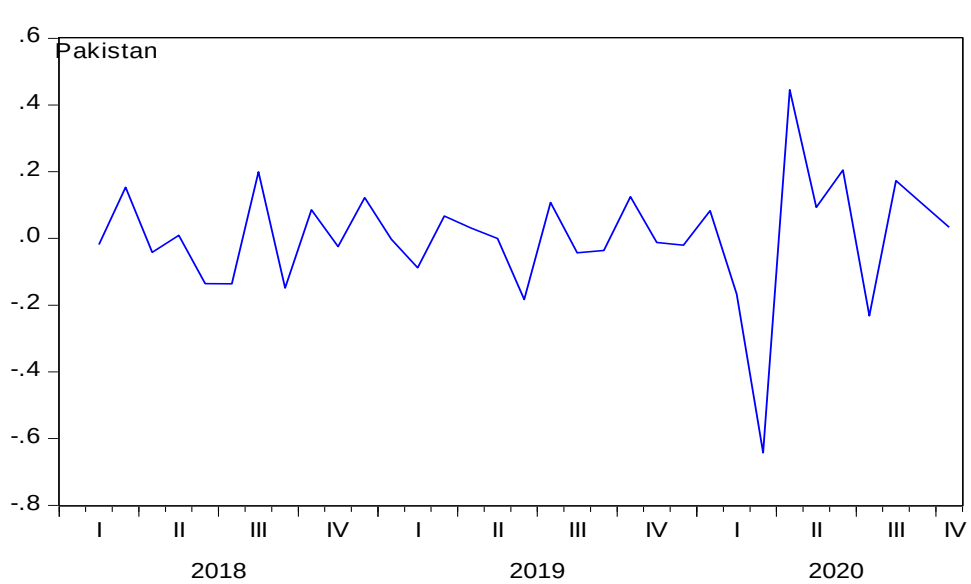
International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

| | | | |
|---|---|---|---|
| | **Exports Returns** | P-value less than 0.05 | Stationary at level |

The above results of the ADF test are showing that imports and exports returns are stationary at level I(0) and these can be used for regression analysis. The graphical presentations of the imports and exports returns are also showing the stationary of the data.

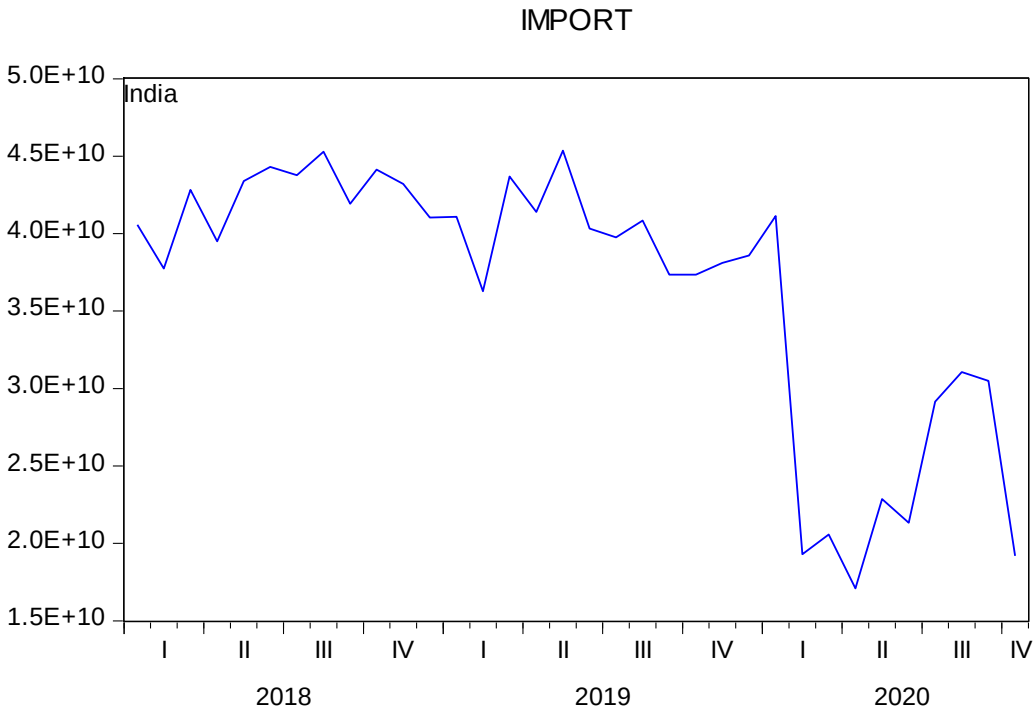



Graph: Import trend by Pakistan

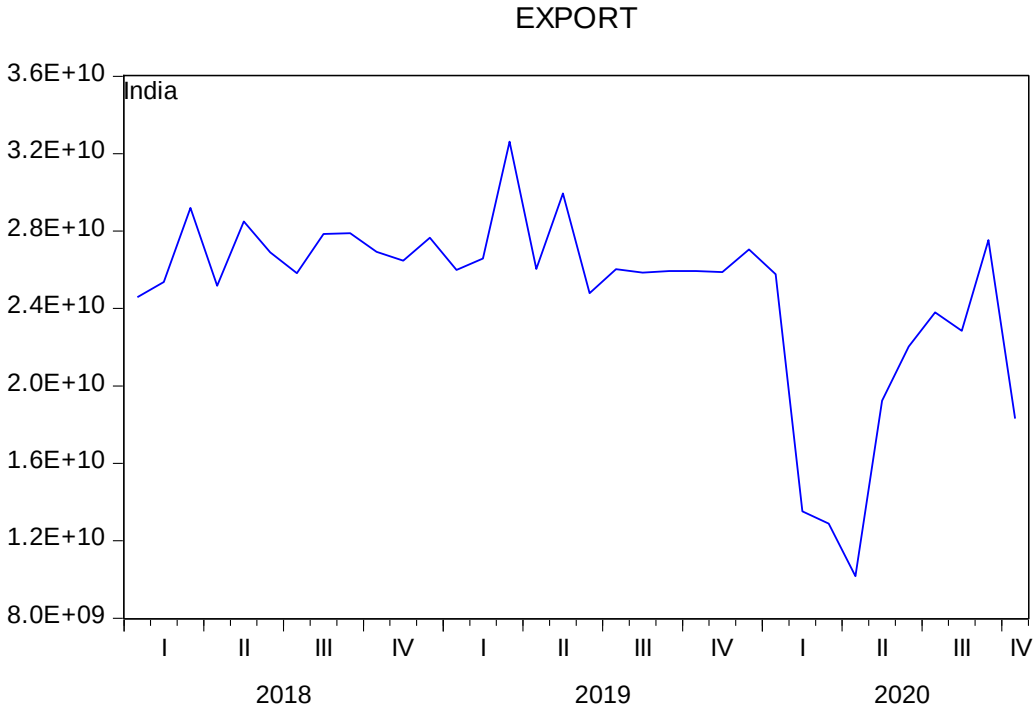



Graph: Export trend by Pakistan

International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252




Graph: Import trend by India




Graph: Export trend by India

**4.4 Regression Analysis**

| Dependent Variable: EXPORT (Pakistan) | | | |
|---|---|---|---|
| **Variable** | **Coefficient** | **t-Statistic** | **Prob.** |
| **C** | 1,970,000,000 | 39.66 | 0 |

International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

| | | | |
|---|---|---|---|
| **COVID_19** | -166,000,000 | -1.9 | 0.066 |
| **R-square** | 0.1016 | | |
| **Adj R-square** | 0.0735 | | |

**Dependent Variable: IMPORT (Pakistan)**

| **Variable** | **Coefficient** | **t-Statistic** | **Prob.** |
|---|---|---|---|
| **C** | 4,620,000,000 | 38.46 | 0 |
| **COVID_19** | -909,000,000 | -4.31 | 0.0001 |
| **R-square** | 0.3668 | | |
| **Adj R-square** | 0.3470 | | |

The results of regression analysis are placed in the above table. In the case of exports, the results are depicting that the explanatory power of the model is 10.16% as the value of the R-square is 0.1016. The coefficient of Covid-19 is negative and significant at a 10% level of significance as the co-efficient is -166,000,000 with a P-value=0.066. These results indicate that during Covid-19 the exports of Pakistan remained less as compared to other periods.

In the case of imports, the results are showing that the explanatory power of the model is 36.68% with a value of R-square 0.3668. Furthermore, the results are indicating that during the Covid-19 the imports of Pakistan are less as compared to other periods. The co-efficient of Covid-19 is -909,000,000 with p-value less than 0.05.

**Dependent Variable: EXPORT (India)**

| **Variable** | **Coefficient** | **t-Statistic** | **Prob.** |
|---|---|---|---|
| **C** | 27,000,000,000 | 32.08 | 0 |
| **COVID_19** | -6,200,000,000 | -4.45 | 0.000 |
| **R-square** | 0.3898 | | |
| **Adj R-square** | 0.3701 | | |

**Dependent Variable: IMPORT (India)**

| **Variable** | **Coefficient** | **t-Statistic** | **Prob.** |
|---|---|---|---|
| **C** | 41,600,000,000 | 34.84 | 0 |
| **COVID_19** | -14,200,000,000 | -7.17 | 0.000 |
| **R-square** | 0.6239 | | |
| **Adj R-square** | 0.6118 | | |

The results of regression analysis are placed in the above table. In the case of exports, the results are depicting that the explanatory power of the model is 37.01% as the value of the R-square is 0.3701. The coefficient of Covid-19 is negative and significant at a 5% level of significance as the co-efficient is -6,200,000,000 with P-value=0.000. These results indicate that during Covid-19 the exports of India remained less as compared to another period.

In the case of imports, the results are showing that the explanatory power of the model is 61.18% with a value of R-square 0.6118. Furthermore, the results are indicating that during the Covid-19 the imports of India are less as compared to other periods. The co-efficient of Covid-19 is -14,200,000,000 with p-value less than 0.05.

Therefore, the results are demonstrating that the hypothesis of the study that imports and exports of India are significantly changed during Covid-19 and other periods are accepted.

International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 3 Mar 2022, pp: 446-454 www.ijaem.net ISSN: 2395-5252

## V. CONCLUSION

The main purpose of the study is to compare the imports and exports of India and Pakistan during the period of Covid-19 with another period. After reviewing the literature thoroughly, the hypothesis developed. Monthly data of imports and exports of India and Pakistan from January-2018 to October-2020 has been taken into account. The period of Covid-19 was captured by using a dummy variable with 1 if time is from December-2019 to October-2020 and 0 otherwise. After analysing the data, the results are showing that imports and exports of India and Pakistan during the period of Covid-19 are less as compared to other periods. The results are supported by the study (Chohan, U.W., 2020).

### 5.1 Implications of the study

The results of the study are useful for policymakers as they may use the results to formulate policies to improve the exports during pandemics like Covid-19. Moreover, if such type of situation exists in future, then imports and exports may decrease due to which in forecasting the risk of such type of pandemic may also take into account. Moreover, the study is another step to add to the existing body of knowledge.

### 5.2 Limitations and future direction of the study

The study is conducted in the scenario of India and Pakistan. The study just compared the imports and exports of India and Pakistan during the period of Covid-19 with other periods and the impact of different factors on imports and exports has been studied. In future, the study is useful for researchers to do more research by adding factors in the model too e.g., Industrial production, inflation etc. The same study may be conducted in the context of other emerging and developed countries.

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