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COVID-19 and Pakistan's Trade

Muhammad Amir Khan

Assistant Professor,
Department of Economics,
COMSATS Universtiy Islamabad, Pakistan

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COVID-19, more commonly known as the coronavirus was first detected in Wuhan, China in December 2019. It has since then plagued the entire world affecting over 42 million people and has resulted in a whopping death count of approximately 1.1 million.¹ Major countries that have borne the brunt of the impact like the USA, India, Brazil, Spain, Italy, France, Germany, and the UK account for about two-thirds of the global death toll. The United States alone has reported more than 8.8 million cases and 230,000 deaths. These countries contribute towards around 45% of global trade and around 65% of manufacturing value addition (Nakhoda, 2020). Hence the World Trade Organization's (WTO) predictions of a trade plunge of 18.5 percent in 2020² come as no surprise given the continued suffering of economies across the globe.

The outbreak of COVID-19 has disrupted the economies around the globe. The evolution of Coronavirus and its economic implications are greatly indeterminate, making it difficult for policymakers to express a suitable economic policy response (McKabbin and Fernando, 2020). With the virus showing no signs of relenting, a prolonged COVID-19 pandemic will have serious economic implications for a developing country like Pakistan. The Pakistani government approved a Rs. 1,200 billion relief package in March to deal with the growing coronavirus crisis. The relief



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m.aamir.khan@comsats.edu.pk

1. As per Oct, 25th 2020 , <https://www.worldometers.info/coronavirus/>

2. https://www.wto.org/english/news_e/pres20_e/pr858_e.htm

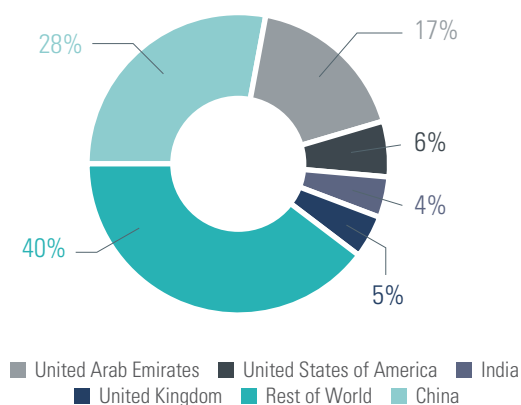
package contains Rs. 100 billion emergency fund that was set up to deal with the impact of the pandemic. Around 20.2 million low-income people were provided Rs 12,000 monthly for four months and additional Rs.200 billion has been allocated for daily wage earners and laborers due to lockdown. The government also abolished a 2 percent tax on the import of pulses and dry milk, Rs 50 billion was set aside for the procurement of medical supplies, a substantial Rs 280 billion was assigned for procurement of wheat to stock it for use in the future. However, despite of these measures, the impact of COVID-19 is beyond mortality and morbidity. Economies dependent heavily on remittances or on export revenue from those sectors which will be effected more in case of control actions like restrictions on transportation and limited labor mobility are exposed to a sharp decline in external revenue (ESCAP,2020).

Against this backdrop, this short policy brief discusses the impact of COVID-19 on Pakistan's trade and remittances. This brief also examines the economic implications of a potential second wave of corona on Pakistan's economy. This is done using a supply shock in the case of control actions like restrictions on transportation, less labor mobility, and closure of workplaces on Pakistan's economy using a Computable General Equilibrium (CGE) framework. This updated CGE model is calibrated with the latest Social Accounting Matrix of Pakistan.

Impact of COVID-19 on Pakistan Trade

Pakistan's economy is already at the brink of collapse having incurred a colossal external debt of approximately \$113 billion. Pakistan can face catastrophic consequences if the looming new trade crisis hits its shores, since about 50% of Pakistan's exports are shipped to countries most affected by COVID-19 (Figure 1). To fully comprehend the lethality of this new threat it is important to understand the sensitive situation the country was in before COVID-19. Given the gargantuan debt Pakistan owes to various countries and organizations and the nearly depleted state of its foreign reserves, the country has been in dire need of regular cash influxes for a prolonged period. When the current government of Pakistan came into power in 2018, one of its primary objectives was to lower the current account deficit by decreasing imports through applying contractionary pressures such as tariff hikes and to increase exports.

Figure 1.
Major Trading Partners of Pakistan

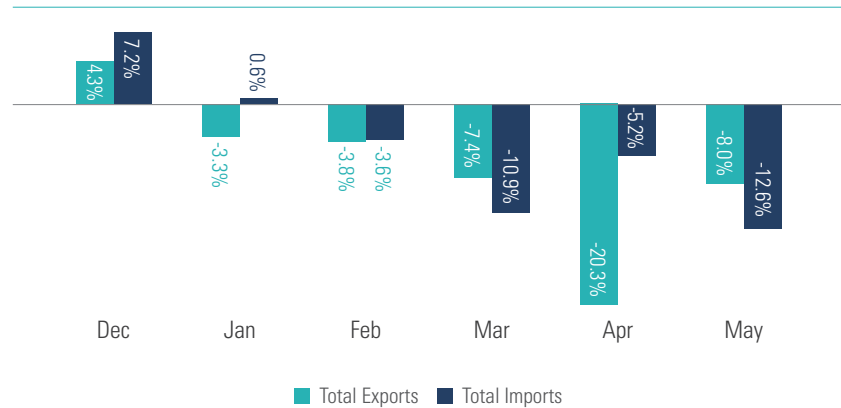


Source: Author's calculation based on ESCAP (2020).

When the pandemic first hit China in December 2019, Pakistan's textile industry experienced an increase in export demand. Some of this was primarily attributed to the Pakistan-China Free Trade Agreement (FTA)-Phase II, which became operational from December 2019. This renegotiated FTA means now Pakistan will have similar access to the Chinese market as China has accorded to its competitors especially ASEAN countries. By January 2020, Pakistan's textile sector was working at full capacity in part due to the absence of government taxes but mainly because of the increase in orders from the world's textile buyers. Traffic in the textile sector was being diverted to Pakistan from China due to China's ongoing fight against COVID-19. Demand reached such heights that many Pakistani exporters began turning down new offers. It is worth noticing that many countries restrict their trade with China and redirect to Pakistan as an alternative but Pakistan seems unable to grasp this opportunity due to high dependence on China for the provision of raw material, intermediate and capital goods to boost the production and hence exports. China however made a speedy recovery and was soon back on its feet. Pakistan's demand for imports also dropped significantly due to lower levels of consumption and the shutdown of industries using imported raw materials for production. Figure- II illustrates the percentage change in Pakistan's imports and exports during the first six months of the Pandemic. Exports and Imports declined in the very first month of COVID-19 and the magnitude of decline continues to

increase by each passing month till May 2020. Exports drop by a minimum of 3.3 percent in January and a maximum of 20.3 percent in April. Whereas, Imports in Pakistan are less affected by COVID-19 as compared to exports. Imports lowered by merely 0.6 percent in January and declined by a maximum of 12.6 percent in May. In 2018, Pakistan exported around \$1 billion worth of medical products to its trading partners while imports were around \$980 million, thus a trade surplus in medical products (Nakhoda,2020. Almost 80 percent of Pakistani exports in medical products were comprised of just two products, indentured ethyl alcohol, and medical and surgical instruments (Hyder et.al, 2020).

Figure 2.
Percentage Change in Pakistan's Import and Exports (Post COVID)



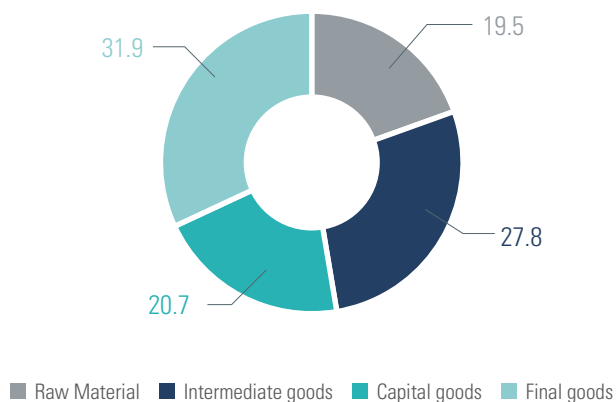
Source: Author's calculation based on Exports and Imports Data from State Bank of Pakistan.

COVID-19 is causing major disruptions in local and global food supply chains. The pandemic has been associated with direct and indirect impacts that carry certain uncertainties and complexities but in the analysis of cereal supply, most of the developed world is predicted to remain strong towards food supply shocks. However, COVID-19-induced trade restrictions could have severe impacts on agricultural income and GDP due to a decrease in trade and prices, globally (Udmale, Pal & Szabo, et al., 2020). To help small and medium-sized enterprises (SMEs) continue their operations, the supply chain integration must be supported. The government of Pakistan should make sure that large enterprises cooperate with them. Bringing these SMEs back into the broken supply chain and logistics will be crucial. Not only should the government provide tax reliefs but also give subsidies

to cover the interest expenses of SMEs. More so, if any late repayments have been made on government contracts over the last three months, penalties should be suspended (Javed & Ayaz, 2020).

Pakistan's major exported commodities include textiles, cereals, leather, surgical instruments, chemicals, etc. More than two-thirds of the overall textile products are exported to western countries hence making them the most important destination for finished products belonging to the textile and leather industries. With demand steadily declining in foreign countries due to continued layoffs and lockdowns (results in supply-side and demand-side disruptions) the demand for Pakistani textiles continues to fall. On the other hand, demand for other products such as cereals is not expected to be impacted by the same degree as they are exported to countries with lower proportions of infected populations. Total exports in the case of Pakistan may not decline entirely due to COVID-19 but also due to a decline in Imports. Figure (III) represents the composition of Pakistan's imports. It shows that 68 percent of imports are consist of intermediate goods, capital goods, and raw material. Those are then utilized to produce goods for domestic consumption as well as for export to the rest of the world. Therefore, the decline in imports of such goods will result in a decline in exports as well. The import of final consumer goods consists of 32 percent of total import and will have no impact on exports or production level.

Figure 3.
Composition of Pakistan's Imports

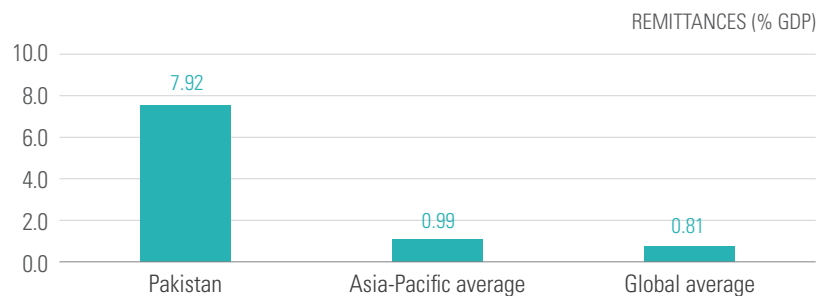


Source: Author's calculation from World Integrated Trade System (WITS) Dataset.

Impact on Remittances

Remittance along with Exports plays a major role in acquiring foreign reserves. A potential decline in remittance flows in Pakistan has a great impact on the economy and society in general. At the micro-level, remittance dependent households may experience a drop in savings, living standards along with financial stability for housing, food, education, and health care. At a macro scale, the national economy is highly dependent too. Although it favors real exchange rates and improved trade competitiveness among other countries, it largely impacts national savings, expenditure for development, the balance of payments, and foreign reserves (Salik, 2020). It is worth mentioning that Remittances hold a major share in Pakistan's GDP. Remittances share as a percentage of GDP in Pakistan is around 8 percent, while the Asia Pacific and global average is less than 1 percent in 2019-20 (Figure IV). A recent authoritative report by the Asian Development Bank (ADB)³ concluded that the coronavirus pandemic will hit remittances hard across the globe and Pakistan could be one of the worst affected economies. Lockdowns and travel bans enforced across the globe due to COVID-19 have negatively impacted remittances from migrants.

Figure 4.
Remittances as a percentage of GDP in 2019-20



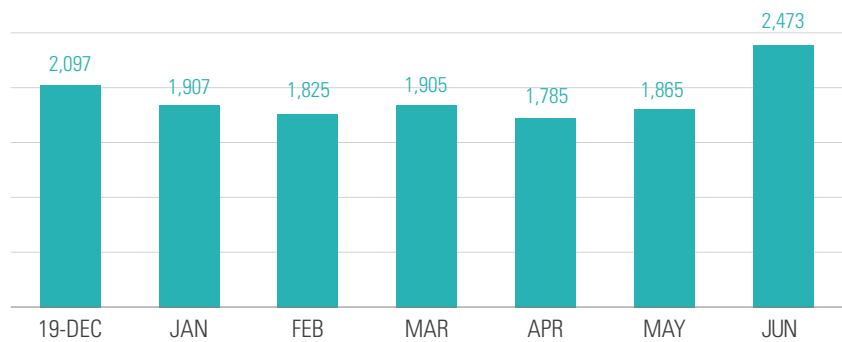
Source: Author's calculation Based on ESCAP (2020).

The Asian Development Bank (2020) reported a decline of 27 percent in Pakistani remittances due to the Corona pandemic (Takenaka et.al

³ <https://www.think-asia.org/handle/11540/12258>

2020). A recent World Bank report forecasted that remittances to Pakistan in 2020 are projected to decline by 23 percent due to COVID-19 (Ratha et.al 2020). However, amidst the chaos, the recent data shared by the State Bank of Pakistan in June-2020 shows an increase of 6.4 percent compared to last year (Figure V). Remittances in Pakistan also increased to 6.1 Billion dollars in the second quarter of 2020 from 5.6 Billion dollars in the first quarter of 2020. The reason might be attributed to greater use of digital remittances in last one year, increased number of Pakistan migrants and government of Pakistan's policy reforms aimed at promoting remittance facilitation (Ahmed and Mughal, 2020).

Figure 5.
Remittances in Pakistan during COVID-19 (Million US \$)

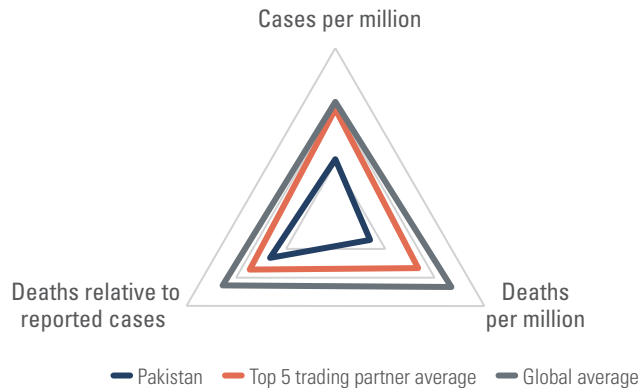


Source: Author's calculations based on Data from State Bank of Pakistan.

Control actions like restrictions on transportation, limitation of mobility of labor, and shutdown of workplaces lead to shock in the supply side of an economy. At the start restrictions on labor's mobility and transportation diminished the production capacity of the economy, thus upsetting supplies. People were locked down and workers were laid off, leading to the down economy on the demand side. Air travel restrictions on air traveling and closures of borders restricted people's mobility and supply of goods. As a result, governments instantly spent more on curative equipment including masks, protecting kit, and drugs. The government of Pakistan declared several macroeconomic stimuli to support labor forces, provided transfers of cash and supply of food to the needy people, and extended loans and reduction of the tax to businesses (Park et al. 2020).

Pakistan is one of those countries which has seen a steady decline in the number of positive cases in the past few weeks. Total cases reported in Pakistan are 303,089 with 6,393 deaths (2 percent) and a high recovery rate of 290,760 (98 %). Pakistan has the lowest cases and deaths per million among its all major trading partners (See Figure V).

Figure 6.
Pandemic relative to Major Trading Partners in Pakistan



Source: Author's calculation Based on ESCAP (2020).

Impact of Production (Supply) Shock on Pakistan Economy

Pakistan is among those countries which have seen a gradual decrease in daily reported cases. However, the problem with this virus is that we still do not know much about it. What if there is a second COVID-19 wave in Pakistan? What will be the economic implications? Against this backdrop, this short policy brief used an updated computable general equilibrium (CGE) model to estimate the effect of reduction in trade flows associated with the slowdown in the economic activity in Pakistan in case of a potential lockdown for 3 months. This will be interpreted as the impact of the COVID19 outbreak on trade. The global CGE model used is an extended version of the GTAP model (Hertel and Tsigas 1997)⁴ which

⁴ The model is solved using the software GEMPACK (Harrison and Pearson 1996).

facilitates the analysis of multiple households and factors of production. The latest GTAP database (Aguiar et. al 2019) contains input-output tables for 141 countries/regions and 65 sectors, linked through bilateral trade data. Each country in the GTAP model has a regional household that collects all income (from factors of production and taxes) and then maximizes a Cobb Douglas utility by allocating this income across consumption (private and public) and savings. Like final demand, firms may purchase domestic or foreign (imports) intermediate inputs, this is implemented through a series of nested CES functions (Khan et.al 2020). Markets are assumed to be perfectly competitive and prices adjust to ensure all markets are in equilibrium.

This model also contains additional data on Pakistani households and factors of production to examine the impact of COVID-19 on Pakistani households. Data for 16 household types (or representative households)⁵ and 12 factors of production are incorporated into the GTAP 10a database⁶ using data obtained from the 2010-11 Pakistani SAM (IFPRI 2015).⁷ The framework, nicknamed MyGTAP, developed by Minor and Walmsley (2013), incorporates the household data into GTAP, ensuring that the household data are consistent with the original GTAP data.

Research Scenario

The outbreak of COVID-19 has disrupted the economies around the globe. Control actions like restrictions on transportation, less labor mobility, and closure of workplaces lead to shock in the supply side of an economy. Thus, the restrictions on transport and labor movement impaired the economy's production capacity. This coupled with air travel restrictions and border closures restricted not only the movement of people but the movement of goods across borders. Against this backdrop, this research assumes a production shock in case of Short containment (Lockdown) in Pakistan for 3 months. This research reduced the production/output of Pakistani Top exported items⁸ by 25 percent. (Table 1).

5. The approach relies on the 'household' being disaggregated into multiple household groups based on data taken from SAM.

6. Base year 2014.

7. The link between the sectors in the Pakistan SAM and GTAP is available from the author.

8. Textile and Apparels, Processed Food (Vegetable oils and fats, Dairy Products, Sugar, Food Products, Beverages and Tobacco products), Light Manufacturing (leather, wood products, paper products, Metal Products, Motor Vehicles and parts, Transport Equipment) Heavy Manufacturing (, Petroleum, coal products, Chemical products, Basic Pharmaceutical products, Rubber and plastic products, Mineral products ne, Ferrous metals)

Table 1.
Simulation Design

	CODE	Simulation Detail
Production Shock	Sim-I	The reduction in production/output of Pakistani Top Exported Items i.e. Textile and Wearing Apparels, Processed Food, Light, and Heavy Manufacturing by 25 percent.

Impact of Production Shock on Macroeconomic Variables in Pakistan

Table 2 illustrates the impact of production shock on the standard macroeconomic measures used in CGE models, namely real GDP, total exports, welfare, and overall income inequality in Pakistan. Results show that production shock accounts for \$6 billion or 2.24 percentage point of the Pakistani GDP decline in the short containment scenario where production of its major exported goods are decreased by 25 percent. The welfare loss is around 12.2 billion US dollars. In the GTAP framework, welfare is measured in terms of equivalent variation (EV). This measure captures mainly improvements in allocative efficiency, changes in capital stock as well as any gains or losses in the country's terms of trade. Productivity loss due to lockdown will have a negative impact on overall welfare. Production shock will also account for a loss of \$2.72 billion or 8.9 percent of Pakistan's total exports.

Table 2.
Impact on Pakistan's GDP, welfare, and Exports (Constant 2014 Prices)

Simulation	I Real GDP % change (Million US \$)	II Welfare (US\$ Millions)	III Total Exports % change (Million US \$)
Pakistan	-2.4 (6016)	-12235	-8.9 (2726)

Source: Author's own calculations.

Impact on Exports

Table 3 shows the impact of Production shock due to COVID-19 on sectoral exports. Results show that production shock accounts for almost \$3.5 billion loss in Pakistani Exports of Textile and apparels. Textile and apparels are Pakistan's top exported items and almost 40 percent of Pakistani total output of Textile and Apparel is exported to the Rest of the World. Light Manufacturing exports will decline by \$1.6 Billion, Processed Food by \$ 0.97 Billion. The impact on Services is positive. Services exports will increase by \$1.3 Billion. Textiles & wearing apparel are Pakistan's largest export, while heavy manufactures are the largest import; both of which are produced using low skilled non-farm labor and formal capital. Heavy manufacturing exports will increase by 205 million US dollars.

Table 3.
Impact on Sectoral Exports (Constant 2014 Prices)

Sector/ Commodities	BAU ⁹	Production Shock	Difference
Grain Crops	2652.61	2393.02	-259.59
Vegetable - Fruits	661.52	604.59	-56.93
Processed Food	1525.15	552.44	-972.71
Textile and Apparels	14721.39	11193.68	-3527.71
Light Manufacturing	3156.83	1525.19	-1631.64
Heavy Manufacturing	1930.29	2135.63	205.34
Services	2911	4287	1376

Source: Author's own calculations.

⁹. Business as usual. Pakistan Exports to Rest of the World in 2014. Source : GTAP 10a Database

Impact on Household Income

Production/Supply shock due to COVID-19 will have distributional impacts on real factor wages in Pakistan. The changes in relative wages lead to changes in household incomes. Per-capita income is the key determinant of household economic status and levels of poverty. Household incomes are primarily composed of factor income, such that the changes in the wages shape the changes in household incomes.

Textile & wearing apparel – Pakistan’s largest export commodity, which is produced primarily by rural non-farm and urban unskilled workers. Table 4 illustrates the impact on household incomes. The production shock will impact factors involved in the production processes. Control actions like restrictions on transportation, less labor mobility, and closure of workplaces impact the factors of production and ultimately the household income. Production of textiles & wearing apparel, processed food, and other light manufactures all require the use of unskilled workers and capital. Textile & wearing apparel use non-farm unskilled workers more intensely, while processed food and other light manufacture use capital more intensely. Hence a decrease in the production of textiles & wearing apparel decreases the wages of non-farm and poorer unskilled workers more, while a decrease in the production of processed food and other light manufactures reduces the returns to capital owned by richer urban households further – leading to a decrease in the income of all urban household types in Pakistan.

Table 4.
Impact on Real Household incomes in Pakistan (Constant 2014 prices)

	Simulation
Rural small farmer (quartile 1)	6.09
Rural small farmer (quartile 234)	7.15
Rural medium+ farmer (quartile 1)	10.09
Rural medium+ farmer (quartile 234)	9.62
Rural landless farmer (quartile 1)	3.91
Rural landless farmer (quartile 234)	2.39
Rural farm worker (quartile 1)	0.14

	Simulation
Rural farm worker (quartile 234)	-6.53
Rural non-farm (quartile 1)	-37.94
Rural non-farm (quartile 2)	-39.02
Rural non-farm (quartile 3)	-39.76
Rural non-farm (quartile 4)	-41.14
Urban (quartile 1)	-31.67
Urban (quartile 2)	-35.38
Urban (quartile 3)	-37.36
Urban (quartile 4)	-39.74

Source: Authors' calculations.

Conclusion

The outbreak of COVID-19 has disrupted the economies around the globe. In this era of globalization, with economies so connected and integrated, the impact of COVID-19 is beyond mortality and morbidity. Economies dependent heavily on remittances or on export revenue will be effected more in case of control actions like restrictions on transportation, Production cutdowns and limited labor mobility. Remittances in Pakistan are not hit hard due to the pandemic as predicted by the World Bank and the Asian Development Bank. In July-2020, Pakistan received \$2.768 billion - the highest-ever level of remittances in a single month in the history of Pakistan. The increase in remittances is primarily due to the greater use of digital money transferring mechanism by overseas Pakistanis. The government of Pakistan declared several macroeconomic stimuli to support labor forces, provided transfers of cash and supply of food to the needy people, and extended loans and reduction of the tax to businesses.

Pakistan can face catastrophic consequences if the looming new trade crisis hits its shores in case of the second wave of COVID-19 since about 50% of Pakistan's exports are shipped to countries most affected by COVID-19. Control actions like restrictions on transportation, less labor mobility, and closure of workplaces for 3 months will account for a decline of \$6 billion or 2.24 percentage points of the Pakistani GDP. Production (Supply) shock accounts for almost \$3.5 billion loss in Pakistani Exports of Textile and apparels.

Textile and apparels are Pakistan's top exported items and almost 40 percent of Pakistani total output of Textile and Apparel is exported to the Rest of the World. Pakistani exporters in this global pandemic should focus on shifting towards the production of personal protection equipment and face masks. The government must facilitate exporters by easing their business constraints and make sure that there are no supply chain disruptions across the sectors.

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