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Impact of COVID-19 on Small and Medium Enterprises in South Asian Countries

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Abstract: *The research study finds the impact of COVID-19 on Small and Medium Enterprises (SMEs) in South Asian countries (excluding Afghanistan, due to the two-decades-long war on terrorism) by taking quarter-wise data from 2020 to 2021. By using the panel data random effect technique, the results demonstrate a negative relationship between COVID-19 spread and SMEs exports, as a one percent rise in the COVID-19 pandemic will result in a decline of 91 percent in exports of SMEs. The results also demonstrate that, with the exception of TTF (SME Financing as a % of Total Trade Finance), all explanatory variables are significant. SME Financing as a % of total trade finance (TTF) has a negative relationship with SMEs exports. Both BCS (Bank credit to SME sector) and NOB (percentage change in the number of SME borrowers) have a positive relationship with SMEE (Exports of SMEs), indicating that when BCS and NOB rise by one percent, SMEE will rise by .98 and 13.17 percent, respectively. The constant/intercept value shows that the SMEs exports will be 49.74 units when all other explanatory variables are set to zero. The research study also posed a policy recommendation in the situation of the COVID-19 epidemic, that what necessary and immediate action to be taken to save the lives and restore the economies of South Asian counties.*

Introduction

At the end of December 2019, there was a pneumonia outbreak that had no known cause; however, it was later determined that COVID-19, a novel coronavirus disease, was to blame for the cases (WHO, 2020b). WHO received reports of 539,189,367 confirmed cases of COVID-19, with 6,328,176 deaths, on June 10, 2022. As of June 4, 2022, a total of 11,833,638,209 doses of vaccine had been done. New COVID-19 cases and fatalities decreased by 5% and 8%, respectively, between the 28th of May and the 6th of June 2022, compared to the previous week. The study employed panel data from seven emerging South Asian countries in Asia to capture the effects of COVID-19 on SMEs in South Asia through time and space. We have consistently found that high COVID-19 Cases lead to a drop in SMEs in South Asian countries, based on our data set of seven countries from 2020 Q1 to 2021 Q4. In this analysis, other traditional SMEE factors appear to be statistically significant in explaining SMEs exports from South Asian countries. The panel data is analyzed using the random effect technique to determine the association between COVID-19 and SMEs in South Asia.

The results demonstrate a negative link between COVID-19 and SMEs' exports; a 1% rise in COVID-19 instances will result in a decline in SMEs' exports. South Asian countries export 91% of their goods. The results also demonstrate that, with the exception of TTF, all explanatory variables are significant (SME financing as a percentage of total trade finance). SME funding as a share of total trade finance also has a negative relationship with SMEs exports and revenues. Both BCS (bank credit to SMEs) and NOB (percentage change in SMEs finance borrowers) have a positive relationship with SMEE (small business exports), indicating that when BSC and NOB rise, SMEE rises by.98 and 13.17 percent, respectively. The constant/intercept value shows that the intercept value for SMEs exports is 49.74 when all other explanatory variables are set to zero. People in South Asia have faced a serious threat from the COVID-19 outbreak, which has wreaked havoc on their socioeconomic status and way of life. People in South Asia have faced a major threat from the COVID-19 outbreak, which has disrupted socioeconomic life. In order to preserve lives, safeguard livelihoods, and rebuild the economy in the face of immediate action is required. Human health and economic activities have been directly impacted by the Covid-19 outbreak, with the most vulnerable and underprivileged communities bearing the brunt of these effects.

This study examines some of the most crucial aspects that can aid vulnerable people who are affected by the pandemic. The government should be able to provide the most vulnerable citizens with some type of social protection because the social security systems in most South Asian nations are either insufficient or nonexistent. For instance, better-saving practices and easier access to financial services might act as safety nets during difficult times. Consolidated efforts are needed to reduce and reverse COVID-19's effects on our society and economies. The environment is interconnected. Governments must rank their priorities among medium, short, and long-term objectives. Cooperation on a regional and international scale is also necessary to deal with COVID-19's reverberations across numerous civilizations. South Asia nations must cooperate to overcome their problems and foster favorable economic conditions. Importantly, new strategies and tactics are required to deal with the coronavirus problems. The South Asian governments could use the following policy measures to lessen detrimental effects and vulnerable citizens of society.

All other regions have experienced a decline in the number of new weekly cases, but the Western Pacific Region has witnessed an increase (+46% weekly new cases). Compared to the previous week, there were more new deaths in the Western Pacific (+29%) and Eastern Mediterranean (+2%), fewer in the African Region (-39%) and more in Europe (-15%), the Americas (-9%) and Southeast Asia (-9%) regions (-9 %). Coronavirus Disease (COVID-19), a contagious viral illness that causes acute respiratory syndrome, SARS-CoV-2 virus caused it. The demographics of the planet have been severely impacted, with an estimated 5.3 million deaths as a result. Since the influenza pandemic of 1918, it has grown to be the most global health issue.

The COVID-19 epidemic has been confirmed to be an unprecedented worldwide catastrophe. The virus affected millions or even billions of people in various ways, including psychologically, physically, and societally. Compared to MERS and SARS, COVID-19 is much more contagious, has the poorest post-recovery effects, and frequently mutates, leading to enlarged mortality and unpredictable virulence. Clinical manifestations of COVID-19 have adversely affected systems, including the hematological system, brain, kidneys, liver, endocrine system, and others; nevertheless. Due to the combined efforts of scientists and industry specialists, a lack of life-valid medications and emergency medications has pushed the development of vaccines and the repurposing of

existing treatments in such a little era of time. As of 6 December 2021, the WHO had reported around 266000000 confirmed COVID-19 cases, with 5 300 000 fatalities.

The economic and health effects of COVID-19 have been catastrophic, wreaking havoc on lives, the economy globally, and trade worldwide. Having accurate information available on time is the most effective way to address this conundrum. A well-informed populace is more capable of making judgments, particularly those about commerce. This is the reason we developed this special website. It contains current data on trade, like announcements from WTO member countries, exports and imports, and details on how the mutual exchange system moved the pandemic. It is anticipated that small and medium-sized businesses may experience cash flow problems as a result of the protracted crisis.

To guarantee the health and safety of their personnel, those businesses that are still operating must pay additional costs to purchase items like masks, gloves, and sanitizers, among others. Furthermore, as a result of COVID-19, the value of currencies in South Asian countries like Pakistan has fallen, providing a new threat to businesses. Pakistan's labor force survey from 2017–18 indicates that the rate of unemployment is 5.8 percent (Sohail, 2018). However, the rate of unemployment is anticipated to increase to 8.1 % in 2020–21 due to the continued lockdown and crisis (Siddiqui, 2020). South Asian countries will suffer disproportionately, according to the argument above. The Coronavirus will wreak havoc on the economies of South Asian nations, particularly Pakistan. As an outcome, objectively measuring the COVID-19 outbreak's influence on SMEs is crucial to help these enterprises withstand the prolonged crisis. Policymakers and practitioners should simplify their plans.

Literature Review

At the end of December 2019, there was a reported pneumonia outbreak, but it was later discovered that COVID-19, a novel coronavirus illness, was to blame for the cases (WHO, 2020b). The infectious sickness known as Coronavirus Disease is brought on by the SARS-CoV-2 virus. Most people who are infected with the virus only have mild to moderate respiratory symptoms, which usually go away on their own. Only a tiny minority of people, nevertheless, may experience significant conditions and need medical care. Aging adults and those with causal medical conditions, including cancer, diabetes, or lung illness, are more prone to experience grim illness. Anyone who has come into contact with COVID-19 runs the risk of falling unwell, getting a major illness, or dying at any age.

The world had previously experienced a number of epidemics prior to the COVID-19 outbreak, including the swine flu, ebola, yellow fever, sars, Spanish flu, zika, and MERS (Maital & Barzani, 2020). However, mankind has never witnessed a COVID-19 epidemic that led to appreciable deterioration in world socioeconomic conditions (WHO, 2020 Buheji & Ahmed, 2020). Most economies are expected to see a short-term loss in their Gross Domestic Product (GDP) as a result of COVID-19, followed by changes in economic activity, a drop in savings, a drop in investor confidence, and a drop in output level (IOM, 2020).

SMEs in South Asian Countries

There are over 3.3 million SME businesses in Pakistan (SMEs), the majority of which are manufacturing facilities, service providers, and start-ups (Farid, 2016). Small and medium-sized businesses generated about 25% of Pakistan's exports and over 30% of its GDP (SMEDA, 2020). Due to their independence and capacity for self-regulation, SMEs in Pakistan encounter difficulties accessing financial services and possible loans. Through total information accessibility, banking, and identification through financial institutions, the SMEs segment can realize its full potential if it is supported by the regulatory framework of the government. The most significant and significant economic sector in Pakistan is the SMEs.

In Pakistan, SMEs are essential for creating jobs, raising living standards, and forming policies for the country's expansion. In Pakistan, SMEs have the ability to raise their current GDP contribution of $86 billion and employment share in the manufacturing sector of 78%. The current administration is aware that in order to effectively use the potential of SMEs, proactive measures and increased awareness are needed. The foundation of many economies throughout the world is small and medium-sized businesses (SMEs), which provide a considerable number of people with a means of subsistence and employment. Similarly to this, SMEs are essential to Pakistan's budget because they interpret for over 90% of the country's projected 3.2 million trades, 40% of the GDP, and an additional 40% of trade income (SBP, 2016; Shah, 2018). Both urban and rural parts of Pakistan are home to these enterprises, which account for a sizeable portion of the service, manufacturing, retail, and trade sectors. Enterprises in Pakistan have experienced unprecedented losses as an outcome of the outbreak and lockdowns.

Pakistan was the nation most adversely affected by the outbreak, according to predictions from UNCTAD (UNCTAD, 2020a). It is vital to look at how the COVID-19 epidemic has affected Pakistani SMEs as a result. Furthermore, because SMEs rely heavily on the cash economy, which has been severely harmed by the pandemic, the ongoing pandemic crisis would greatly impede their operations (Rasul, 2020). These businesses will be significantly impacted by labor shortages, manufacturing slowdowns, a shortage of raw supplies, and transportation problems. This will then must an enormous effect on the budget as a whole. Consequently, a forceful government reply is also compulsory to decrease the adverse properties of the current epidemic. There hasn't yet been any research on how the global Al outbreak has affected Pakistani SMEs. Therefore, the goal of this study is to determine how Pakistani SMEs have been wedged by the outbreak.

Our research also intends to assist doctors and policymakers in developing plans to reduce the effect of the present epidemic on SMEs. This study specifically emphasizes the importance of assisting SMEs in identifying risks and outlining mitigation strategies at an early phase of business policymaking and preparation, as well as paying more attention to the major risks that uncertainty in the external environment poses to small businesses.

Losing Jobs in SMEs

The majority of people in South Asia are either self-employed or employed in farming and associated sectors. Though the bulk of jobs in the area are held by Small and Medium Enterprises (SMEs) and the unorganized segment, there are also sizable managers in the industrial and service sectors. For example, India's 36 million SMEs contributed significantly to the country's economy and employed 60 million people (Dev & Sengupta, 2020). SMEs in Nepal generate almost 2 million employments and contribute 22% of the GDP (Shrestha, 2020). Additionally, SMEs make a considerable contribution to exports, produce foreign currency, and create jobs and revenue in other countries of South Asia.

SMEs and the unorganized sector, in general, have been particularly heavily hit by COVID-19 in South Asia. Unimaginable obstacles face wage workers and informal businesses. Many SMEs have now closed because they could not survive the lockdown, which has left many workers in the informal sector jobless. Workers have been impacted by the economic losses that have accrued as a result of decreasing demand, travel restrictions, limited entry to marketplaces, and damage to the movement of persons and products (ILO, 2020a). The COVID-19 restrictions have effectively prohibited all SMEs from operating and have ceased important economic operations, with the exception of a small number of health-related firms. For instance, with losing their employment, extra 1 million familiar sector employees in Nepal now require aid from the rule (Awasthi, 2020). There has been a significant

drop in an ultimatum for nutrition and linked foodstuffs as an outcome of guesthouses and cafeterias.

In Pakistan, the lockdown and the slow economic recovery were projected to result in the layoffs of around 12 million workers (PIDE, 2020). Additionally, it is anticipated that the fraction of the populace alive in poverty will increase by 25% to roughly 55% of outbreak-induced conditions restrict GDP progress to between 0 & 1.5 percent (PIDE, 2020).

Impact on SMEs Borrowers

Manufacturing is the industry most impacted by restrictions on SMEs Borrowers. Remittances from overseas are unique key sources of family income and overseas exchange incomes for South Asian countries. Owed to the conclusion of transmittal transfer companies, employment fatalities abroad, and a shortage of SMEs Borrowers at home, it is projected that remittance inflow in South Asia will drop precipitously. Migration and the remittances that result from it are the main bases of income for lots of low-income people in the area (World Bank, 2020c & KNOMAD, 2020). Remittances sent home by migrant workers are a significant cause of overseas currency and provide a lifeline for their families, which significantly boosts the nation's economy. For instance, almost 27 percent of Nepal's GDP comes from remittances (2019). India received more overseas remittances than any other nation, not alone in the region, totaling US$ 83 billion in 2019. Remittances constitute a substantial cause of domestic revenue in other countries of South Asia, wherever the ratio of remittances to GDP was 7.9 percent in Pakistan, 8.2 percent in Sri Lanka, 4.6 percent in Afghanistan, 5.8 percent in Bangladesh in 2019 (World Bank & KONOMAD, 2020).

Internal immigration donates meaningfully to family provision and providing nourishment and nutrition safety for the less fortunate in bucolic areas, just like external migration does. Rural poor people relocate to urban regions to help their families at home. In addition to the many migrants abroad, there are more than 100 million migrants living in India. The pandemic takes many interior refugee workers in extremely difficult conditions due to troubles in community transit and mobility limits. Many of them are unable to return home because they have lost their jobs, which were primarily informal. The majority of migrant workers go through this, especially those who live in crowded slums and work in the unorganized sector. As a result of the COVID-19 issue, poor and vulnerable internal migrants have been disproportionately impacted by lockdowns, bans on SMEs Borrowers, and exclusionary social measures. As a result, many workers are stranded and unable to go back to either their places of employment or their home areas.

SMEs Financing

A number of significant SMEs financings have had to be modified by supply chain participants as a result of the shutdown to accommodate pandemic limitations (Ozili & Arun, 2020). Online commerce has been steadily rising across South Asia in current years as a result of improved digital connections. Online commerce has steadily risen across South Asia in fresh years as a result of improved digital connections. Numerous agriculturalists instigated bringing vegetables straight over WhatsApp to gather orders (Naqvi, 2020). Swiggy, an Indian logistics company and quickly growing food delivery service, transports 40 thousand eatery allies and provides them with a package to assist them in increasing sales. The Capital Contribution Program also provides funding for distance and hygienic upgrades. Though the agriculturalist's markets were shuttered, several SMEs from the farming community relocated to urban areas and opened up shops there. Flipkart is rapidly rising during the epidemic problem in India and has developed a "delivery" grocery facility that utilizes its e-commerce operations to link SME dealers with regional superstore manacles like

Vishal Mega Mart (The Economic Times, 2020). Nepal's embryonic online commerce sector has also been gradually rising since the closure happening.

Due to COVID-19's mitigation measures, the world's energy consumption has dramatically decreased, and energy prices have also sharply decreased. Since the majority of South Asian countries are energy carriers, the declining oil charge may be advantageous to these nations. Not only will the cost of imports be decreased due to the lower oil prices, but they will also assist save foreign currency and improve the recent interpretation balance. For instance, India is the world's 4th largest oil user, and a preliminary calculation indicates that "a 10 US dollar" drop in crude may lower the recent account shortfall by around 0.5 percent. The cost of transportation and fertilizer products for agriculture, industry, and many other energy-dependent industries will all benefit from the decreased oil prices. The Pakistani government has already announced a 20-rupee per liter drop in oil costs (DAWN, 2020). Oil prices will drop, which will lower production costs and may help with managing inflation and daily expenses.

Healthcare services and related medical products and services are another industry with room for future expansion. People are now more concerned that Governments may thus spend more money on enhancing healthcare infrastructure as a consequence of the impact the epidemic had on common health. As a result, there will likely be an increase in the claim for medical and health items, particularly foods with fitness welfare. This might lead to a rise in demand for medical and health-related goods, particularly nutrient-dense foods. Due to the epidemic and ensuing supply chain disruption, it is essential to properly establish the food system and local economy. A further substantial new opportunity area may be represented by the expansion of internet-based facility areas. The epidemic has raised interest in internet-based ventures such as online retail, distance learning, online healthcare, and work-from-household opportunities. To create a sufficient budget for the area once the epidemic is under control, strategies that decrease labor marketplace resistance and aid worker version to these work prospects are required.

The COVID-19 pandemic offers a chance to boost resilience in the region that is most at risk by implementing stimulus plans to address poverty and other issues. By supporting maintainable growth to limit the effects of impending tremors like usual disasters, the government may put into action a strategy plan to reduce risks and increase resilience. Because they are dedicated to reaching the SDGs, the administrations of South Asian countries should use their resources and invest in helping the COVID-19 victims.

COVID-19 in Pakistan

The first COVID-19 incidence was reported by Pakistan on February 26, 2020. Since March 15, 2020, there have been a growing number of confirmed cases as a result of Iranian pilgrims being allowed to enter the Taftan Border. The Pakistani lockdown was also declared and implemented in fewer than a day, resulting in chaos as refugees hurried back to their backyards, exacerbating traffic & making communal distance difficult (World Bank, 2020b).

Since that time, there have been increasingly more cases in various regions of the nation. Pakistan had reported 1524549 confirmed cases as of March 31, 2022, with 30349 deaths to date (COVID-PAK, 2021). On March 31, 2022, Bangladesh (1951504), India (43024302), Bhutan (26963), Nepal (978402), Maldives (176993), and Sri Lanka all had confirmed Covid-19 cases (661453). Bangladesh (29122), India (521159), Bhutan (10), Nepal (11951), Maldives (298), and Sri Lanka all had confirmed mortality cases on the same day (16473).

According to Bases, Pakistan's outbreak & lockdown cost the republic a 3rd of its GDP (Junaidi, 2020). Despite the country's widespread

lockdowns, Pakistan is predicted to go through a recession (Naqvi, 2020). Additionally, the World Bank takes delivered a cautionary that Pakistan may shortly arrive at a recession (World Bank, 2020b) due to the persisting COVID-19 epidemic crisis and the severe slowdown in nationwide and worldwide economic activity in the previous months of the economic year.

The greatest and immediate result of the closure is the halting of business operations. In March 2020, the first province to enter lockdown was Sindh. The capital of Sindh, Karachi, has the largest industrial zone in the country and is where 30% of all exports originate. On the first day of business, only about a part of Karachi's 27 hundred sweatshops were open due to the shutdown (Hussain et al., 2019). The majority of people in Pakistan are low-skilled or unskilled workers who depend on daily salaries to support themselves. They are employed in a variety of industries, services, and agricultural sectors. Furthermore, 05 million Pakistanis live at or below the subsistence line, according to (Hussain et al., 2019). The daily wagers have been most negatively impacted by lockdowns.

The first CoV-2 enduring was discovered in Dec 2019, and the condition was given the moniker epidemic in Jan 2020. The lethal illness has banquet quickly to approximately 215 nations since it initially emerged in a seafood marketplace in Wuhan, a significant city in China. Following the COVID-19 outbreak, the state portrayed in Soderbergh's 2011 epidemic film Infection was impossible to predict. The recurrent surf of this causal worm and the management tactics used to combat them have ignited numerous discussions.

Recurring travelers from Iran, Pakistan, and Saudi Arabia who got stuck abroad and were transported home on special aircraft were the first to bring the virus to Pakistan. There is a public health emergency in Pakistan. One million twenty-four thousand seven hundred thirty-seven tests had been performed as of the end of March 2021, with 672,931 (or nearly 66%) confirmed epidemic cases and more than 14.5 thousand (or roughly 2.1%) reported deaths. In Pakistan, 605,274 people—or about 90% of the population—have fully recovered, and 53,127 individuals are presently undergoing medical treatment. Numerous reports claim that COVID-19 is to blame for the deaths of over 300 healthcare workers in Pakistan. The provincial government of Sindh was the 1st to execute a comprehensive lockdown, which assisted in sluggish the virus's feast.

COVID-19 and South Asia

In India, Bangladesh, and Pakistan, the outbreak has resulted in one of the biggest public health and economic catastrophes in recent memory. This study examines these nations' economic effects, as well as their forecast for the remaining months of 2021 and their interactions with the United States. It points out key areas that need to be prioritized in order to create a fair recovery on the subcontinent, which might help prevent economic and social instability in the face of deteriorating democratic norms, rising authoritarianism, and severe repression of dissent. In India, Bangladesh, and Pakistan, the COVID-19 pandemic has worsened income and wealth disparity and forced millions of people into poverty. In the short term, this presents a challenge for policymakers, particularly if food and commodity prices increase, escalating economic hardship.

However, a huge 2nd wave of the outbreak, which began in April 2021, led to not only significant economic hardship but also emotional and social misery. The Narendra Modi administration in India attempted to enact pro-growth initiatives in 2020. Due to the slow recovery of export profits, Bangladeshi Prime Minister Sheikh Hasina's administration is experiencing difficulties. On the other hand, it is anticipated that the nation will continue to experience political and economic stability, with high economic growth expected to resume in 2022 and beyond. By reopening the economy early, Pakistan was able to somewhat mitigate

the economic effects of the outbreak, but due to persistent structural issues, it would face considerable problems in establishing lasting prosperity. If fair compensation is not provided, there may be social and political unrest as well as harsh retaliation from governments that have recently been less tolerant of divergent viewpoints.

In South Asia, COVID-19 has reappeared, starting a brand-new and deadly pandemic. More than 2 billion people live in the region, which currently hosts half of all new infections worldwide. Every second, more than three new incidents are reported. Mortality is also increasing. Three more residents of the area die from the sickness every minute that goes by. Oxygen and other life-saving medical supplies are in short supply, hospitals are overcrowded, and the healthcare system is in danger of collapsing. The disease is killing entire families in the nations that are most severely affected. The health systems in India, Nepal, Sri Lanka, and the Maldives are under stress due to the rapid spread of the pandemic, and similar outbreaks are expected to occur in Bangladesh, Pakistan, Bhutan, and Afghanistan. The virus is spreading more quickly than nations can treat patients and save lives.

It is estimated that .22 million children and 11 thousand mothers expired on crossways in South Asia during the first wave of the pandemic as a result of significant interruptions in essential health services. Excluding Bhutan and Maldives, just one in ten persons in the region have had a COVID-19 vaccination. COVID- The low vaccination rates in the area will likely lead to 19 outbreaks in the coming months, which will spread the virus and cause many more heartbreaking deaths. India, which has had the most fatalities since the pandemic started, accounted for 4,529 of the 4,903 total fatalities on May 18th in South Asia. In the neighboring country of Nepal, case positivity rates have increased to 47%, with reports of nurses caring for 20 seriously ill patients alone. Hospitals in the capital of the Maldives are practically filled, while COVID-19-related death rates in Sri Lanka are steadily growing. Large tsunamis could have an impact on Bangladesh, Pakistan, Bhutan, and Afghanistan.

COVID-19's Impact on the Economy and SMEs

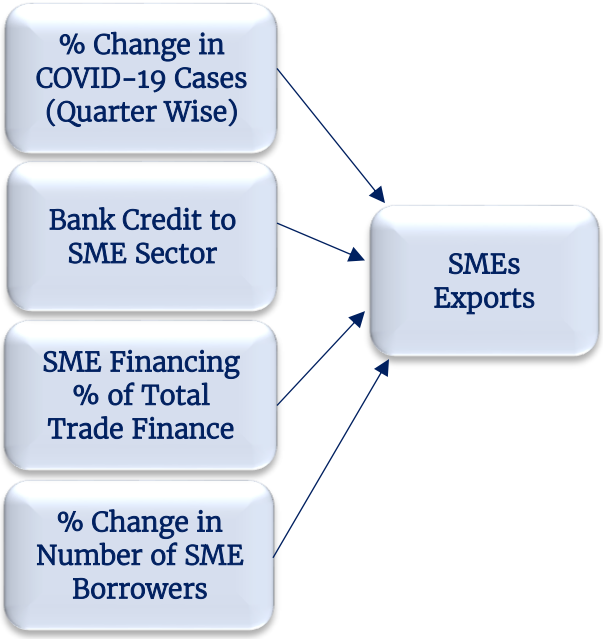
Additionally, up to 25 million could misplace their jobs globally, costing up to $ 3.4 trillion in lost revenue, according to ILO (ILO, 2020c). According to a more current ILO estimate, complete or partial lockdowns affect 2.7 billion workers globally, or 81 percent of the total (ILO, 2020b). "This catastrophe has afflicted the entire planet since World War II" (ILO, 2020b). Three million employment would likely be lost in the United States by mid-summer 2020; Europe & other regions of the world would experience a similar trend (Siddiqui, 2020). The outbreak has a "limited" impact on the economical production of wholesale, real estate, and retail commerce, vehicle and motorcycle repair, and lodging and food services (ILO, 2020b).

The healthcare systems in the least developed countries are poor. They depend largely on commerce and tourism, they have high levels of debt, and they are dependent on unreliable capital outflows (World Bank, 2020a). After the virus infection is contained, the country will recover, but there is a very high possibility that the financial crisis will last into 2020 (World Bank, 2020a). In addition, it's predicted that 11 million more individuals will live in poverty (World Bank, 2020a). It is obvious that conditions in developing economies will worsen before they improve, despite the fact that the outbreak's impacts on the economy are still being felt and are becoming more unpredictable (UNCTAD, 2020a). According to UNDP projections, developing nations will experience income losses of more than 220 billion dollars (UNDP, 2020b). Additionally, the World Bank recently predicted that half of the countries in South Asia would endure substantial recessions, marking the region's worst fiscal routine in 40 ages (World

Bank, 2020b). This is especially true in the situation of Pakistan.

Data and Methodology

On the basis of the evidence provided above, the following model has been developed. The dependent variable is Exports of SMEs (Goods and Services US $ Millions), and the four independent variables are the % Change of Covid-19 Cases in South Asia except Afghanistan (Quarter Wise), Bank Credit to SME Sector, SME Financing as a % Total Trade Finance and % Change in a number of SME Borrowers.



Shafi, M., Liu, J., & Ren, W. 2020 and Ahmad & Afzal 2020 use Small and medium enterprises exports to check the impact of COVID-19 cases with some other explanatory variables. By following the model, this current study aims to determine whether COVID-19 has an effect on SMEs in South Asian nations other than Afghanistan (Due to War) with other explanatory variables like Bank credit to SME sector, SME financing as a % total trade finance and % change in a number of SME borrowers.

After accounting for the additional explanatory factors, the extended model for our research study would then look like this:

The research study model can be following form:

$$SMEE = f(COV, BCS, TTF, NOB)$$

The econometrical form of the Model is:

$$SMEE_{it} = \beta_0 + \beta_1 COV_{it} + \beta_2 BCS_{it} + \beta_3 TTF_{it} + \beta_4 NOB_{it} + \mu_{it}$$

Where

SMEE = Exports of SMEs (Goods and Services US $ Millions)

COV = % Change of Covid-19 Cases in South Asia except for Afghanistan

BCS = Bank Credit to SME Sector

TTF = SME Financing as a % Total Trade Finance

NOB = % Change in number of SME Borrowers

*H*ere, I show explanatory variables for country effects, and t shows explanatory variables for time effects and the assumptions of U_{it} is that$U_{it} \approx IID(0, \sigma_u^2)$, i.e., Errors have zero mean and stable variances, and they are independently identically distributed, where I stands for a particular nation and t for a particular time frame. There are three different ways to examine or perform empirical panel data. The Ordinary Least Square is presented first, followed by the Random Effect Model and the Fixed Effect Model, sometimes known as Least Squares Dummy Variables (LSDV). OLS, FEM, and REM were utilized by Akbar et al. in 2011 to estimate the GDP per capita for nine (9) Asian nations. However, the standard empirical methodology assumes that OLS is employed to estimate the regression equations and that the omitted variables will have the same distribution as the regressors. So when we want to analyze the country-specific features like policy changes, political regimes, and good governance that affect the growth rate are not taken into account, this form of estimation may produce an interpretation problem.

So we will conduct our methodology through three popular methods, FEM, REM, and Pooled OLS method. The Hausman (1978) test can answer this question by comparing the FEM and REM. The test examines if Country specific effects are correlated with other regressors, then REM violates it violates the Gauss-Markov

assumptions and is no longer regarded as the Best Linear Unbiased Estimator (BLUE). This is due to the reason that Country effects are only part of the error term in a REM. But if Country effects are a part of the intercept and correlation among regressors and the intercept does not violate the assumptions of Gauss-Markov, then a FEM is still BLUE.

Data

South Asian countries (Bangladesh, Bhutan, India, Nepal, Maldives, Pakistan, and Sri Lanka) are used as the source of data for research studies (Except Afghanistan due to 20 years of war). Data is collected from respective economic surveys of South Asian countries, Bureau of Statistics (Pakistan), Finance division (Pakistan), National Statistics Bureau (Bhutan), Economic Overview (Nepal), Bangladesh Bank (Bangladesh), The Heritage Foundation (Maldives), Department of Census and Statistics (Sri-Lanka), Indiastat (India) Asian Development Bank and Economic Surveys of South Asian countries conducted by respective governments. Data has both time series and cross-section qualities, and the total number of observations for the research study is 56 ($n \times t = N$). As data is taken quarterly from 2020 Q1 to 2021 Q4 total of 8 quarters and a number of countries from South Asia are seven.

The methodological framework and plan for examining the connections among the study's variables. The empirical research methodology was used for this investigation. For empirical analysis as well as for the research study's validity, variables and data must come from a reliable source. The methodology includes the items listed below.

Methodological Models for Panel Data Analysis

As panel data examine country-specific and group effects or sometimes both. Three-panel data analysis techniques—the Pooled OLS Model, the Fixed Effect Model (FEM), and the Random Effect Model (REM)—can be used to analyze these impacts.

Results and Discussion

In direction to analyze the relationship between COVID-19 and the Exports of SMEs, the current study has been conducted on selected seven emerging South Asian nations (apart from Afghanistan). Each of the seven nations has distinct borders, various political structures, distinct laws, and unique monetary systems. The conversion of annual time series & cross-sectional data towards panel data—which is not possible if we only take into account one of these two dimensions—has been taken into consideration (Gujrati, 2003). The data included in our research study spans the quarters of 2019 Q1 through 2021 Q4.

In addition to having more degrees of freedom, panel data and longitudinal data also have the ability to reduce collinearity among regressors. We may therefore use normal distribution and more potent statistical tests with panel data. Baltagi (2005) asserts that pooled/panel data accepts the heterogeneity in each unit of cross-section, as well as a greater degree of freedom, greater variability, greater efficiency, and a lesser degree of collinearity among the variables. Before beginning the analysis, it is essential to specify each variable's scale of measurement, the acronym that will be used, and its source. All the necessary details about each and every variable utilized in this study are provided in the section below.

Descriptive Statistics

The descriptive statistics of the data used in our investigation into the effects of COVID-19 on Small and Medium Enterprises in South Asian nations are shown in Table 1.

Table 1

Descriptive statistic/Summary of data

Variables	Measurement	Obs.	Mean	Std. Dev.	Min	Max
SMEE	US $ Millions	56	37.28	16.80	20.4	71.4
COV	% Change in Covid-19 Case	56	56.39	15.97	18.39	68.23
BCS	Credit Amount	56	4.88	2.49	-2.58	8.54
TTF	% of Total Trade Finance	56	30.35	12.81	16.2	69.67
NOB	% Change in SME Borrowers	56	2.83	1.01	1.98	5.31

Table 1 presents the facts about the studied data for measuring the impact of COVID-19 on SMEs in Selected South Asian Countries. SMEE is a dependent variable having a mean value of 37.28 with a standard deviation of 16.80, and minimum value is 20.4, and a maximum value is 71.4. COV is an independent variable having a mean value of 56.39 with a standard deviation of 15.97, and minimum value is 18.39, and a maximum value is 68.23. BCS is an independent variable having a mean value of 4.88 with a standard deviation of 2.49, and minimum value is -2.58, and a maximum value is 8.54. TTF is an independent variable having a mean value of 30.35 with a standard deviation of 12.81, and minimum value is 16.2, and a maximum value is 69.67. NOB is an independent variable having a mean value of 2.83 with a standard deviation of 1.01, and minimum value is 1.98, and a maximum value is 5.31.

Correlation Analysis

The matrix of correlation coefficients shown in Table 2 demonstrates that our analyzed data is free of high multicollinearity.

Table 2

Correlation Statistics

	SMEE	COV	BCS	TTF	NOB
SMEE	1				
COV	-0.73	1			
BCS	-0.16	0.44	1		
TTF	-0.36	0.31	0.05	1	
NOB	0.46	0.10	-0.02	-0.38	1

Table 2 presents the facts about the correlation statistics of the studied data. The correlation between COV and SMEE is -0.73, the Correlation between BCS and SMEE is -0.16, the correlation between TTF and SMEE is -0.36, and the correlation between NOB and SMEE is 0.46. All findings demonstrated that the variables under study pose no significant risk of high multicollinearity.

Graphs of Studied Variables

Figure 1 to 5 presents the graphical presentation of data from South Asian countries. Figure 1 presents Exports of SMEs (Goods & Services US $ Millions), Figure 2 presents the % Change in COVID-19 Cases (Quarter Wise), Figure 3 presents Bank Credit to SME Sector, Figure 4 presents SME Financing as a % Total Trade Finance and Figure 5 presents 4.5 % Change in SMEs Borrowers.

Figure 1 presents the facts about exports of SMEs (Goods & Services US $ Millions) after the epidemic in Southern Asian countries. The figure shows that as time passes, exports of SMEs start declining continuously. The facts show that although the exports of Bhutan and Maldives are higher than other South Asian countries, these

also start declining after the severe attack of COVID-19. Maximum values for SMEs goods and services exports are Bangladesh 22.9, Bhutan 72.4, India 36.1, Maldives 69.1, Nepal 30.9, Pakistan 31, and Sri Lanka 34.7.

Figure 2 presents the facts about the % Change in COVID-19 Cases (Quarter Wise) after the COVID-19 epidemic in South Asian countries. The figure shows that as time passes, COVID-19 cases start rising continuously. The facts show that only Bhutan was the country where the number of COVID cases was very low. And India was a country where COVID-19 cases were very high.

Figure 1

Exports of SMEs (Goods & Services US $ Millions)

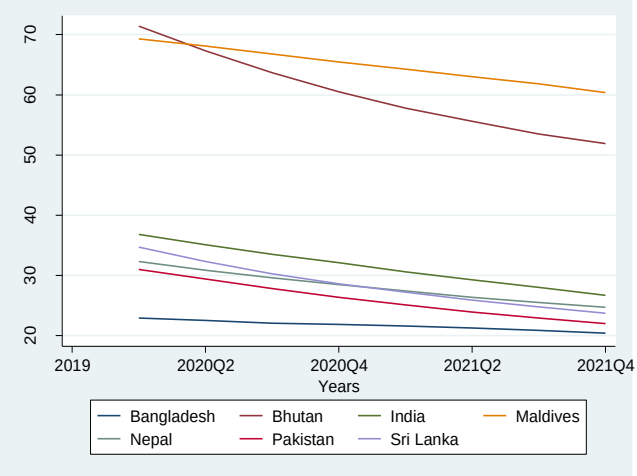


Figure 2

% Change in COVID-19 Cases (Quarter Wise)

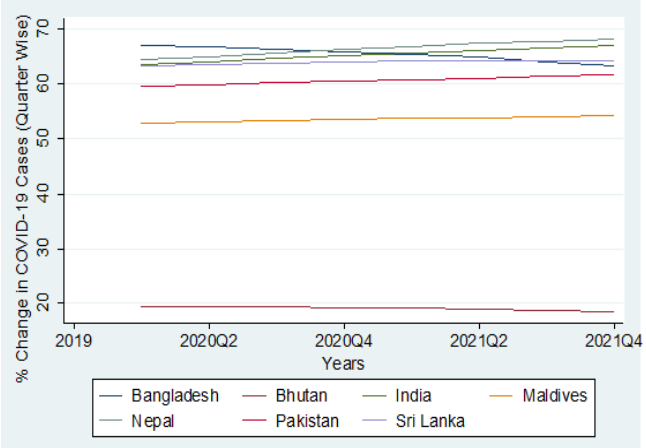


Figure 3

Bank Credit to SME Sector

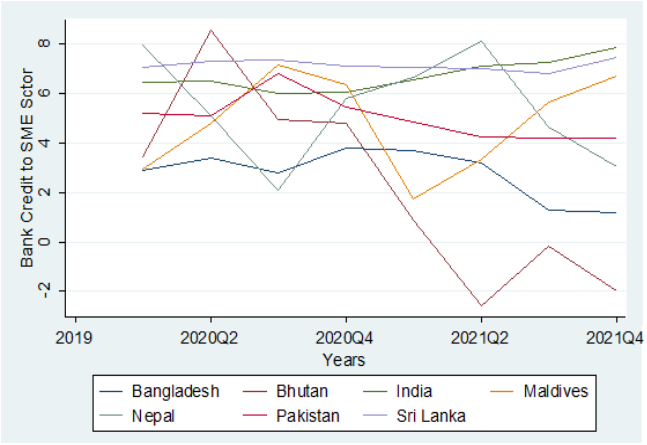


Figure 3 presents the facts about Bank credit to the SME sector during the COVID-19 epidemic in South Asian Countries. The figure shows that as time passes due to COVID-19, Bank credit to the SME sector shows mixed trends. In some countries, it starts declining, and in some countries, it shows increasing and decreasing trends.

Figure 4

SME Financing as a % Total Trade Finance

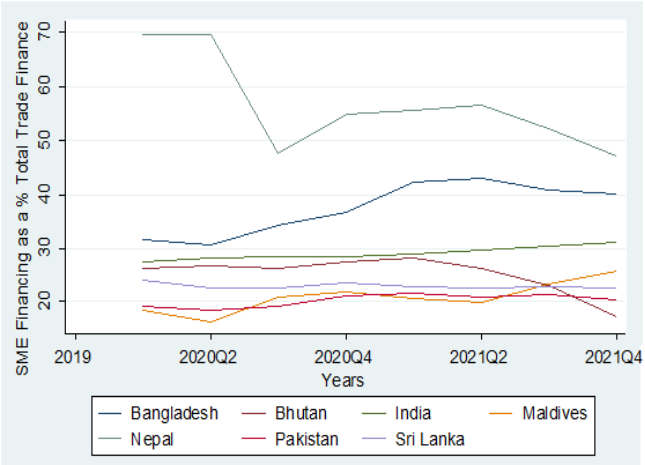


Figure 4 presents the facts about SME financing as a percentage of total trade finance during the COVID-19 epidemic in South Asian Countries. The figure shows that as time passes due to COVID-19, SME financing shows mixed trends. In some countries, it starts declining, and in some countries, it shows increasing and decreasing trends.

Figure 5

% Change in SMEs Borrowers

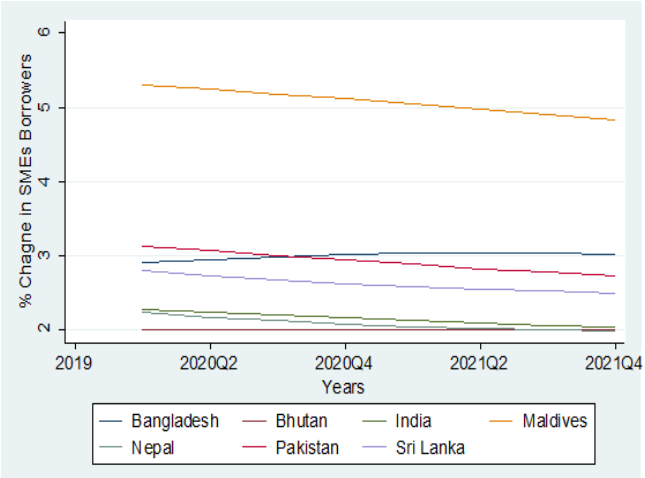


Figure 5 presents the facts about the percentage change in SMEs borrowers after the COVID-19 epidemic in South Asian countries. The figure shows that as time passes, SMEs borrowers start declining continuously due to the hard hit of COVID-19 and due to lack of orders or production.

Hausman Test

We obtained some intriguing findings from a panel data analysis using the econometric models described in the methodology section. The Hausman test, which has favored REM, is used to determine which model is the best among FEM and REM (Random Effect Model). By contrasting the FEM and REM, the Hausman specification test determines which model is the best. Table 3 displays the results of the Hausman test.

Table 3

Hausman test result

Hausman Test Value	Significant or not Significant
0.7457	Significant

Note: Statistically significant if the value of the Hausman tests less than 0.05.

Results of the Random Effect Model

Table 4

The dependent variable is SMEE (Exports of SMEs (Goods & Services US $ Millions)).

Variable	Coefficient	Std. Error	t-Statistic
NOB	13.17***	2.42	5.43
COV	-0.91***	0.18	-4.89
BCS	0.99***	0.21	4.82
TTF	-0.10	0.09	-1.15
Constant	49.74***	14.30	3.48
Effects Specification			
	S.D.		**Rho**
Cross-Section Random	5.62		0.91
Period Random	0.0		0.0
Idiosyncratic Random	1.70		0.08
Weighted Statistics			
R-Squared	0.62	Mean Dependent Var.	3.96
Adjusted R-Squared	0.59	S.D. Dependent Var.	3.99
S.E. of Regression	2.57	Sum Squared Resid.	336.14
F-Statistic	20.48***	Durbin-Watson Stat.	0.71
Un-Weighted Statistics			

R-squared	0.76	Mean Dependent Var.	37.28
Sum Squared Resid.	3644.96	Durbin-Watson Stat.	0.06

Note: *, **, *** represent the coefficient signification at 1%, 5%, and 10%, respectively.

If the Hausman test's value is less than 0.05, significant findings will be produced. But in our case, the Hausman test value is 0.7457, which is greater than 0.05. Hence, the Hausman test favors REM (Random Effect Model) as the Hausman test value is greater than 0.05, which states that the random effect model will apply to research data for better results. Table 4 presents the result of REM (Random Effect Models). Here dependent variable is SMEE, and the Independent variables are NOB, COV, BCS, and TTF.

The above Model A can be rewritten in an econometric form as:

$$SMEE_{it} = 49.74 - 0.91COV_{it} + 0.99BCS_{it} - 0.10TTF_{it} + 13.17NOB_{it}$$

The econometric model states that COVID-19 and SMEE have a negative relationship; a 1 percent increase in Covid-19 cases will decrease .91 percent of exports of the South Asian Countries. TTF also has negative relation with SMEE, and BCS and NOB have a positive relation with SMEE, which shows with the increase in BSC and NOB, the SMEE will increase by .98 and 13.17, respectively.

All explanatory variables except TTF are highly significant at a 1 percent level with an R-square value of 0.62 (weighted statistics) and 0.76 (un-weighted statistics). The constant value or intercept value for the entire model is 49.74 and is highly significant at a 1 percent level. Econometrics shows that while assuming all other explanatory variables equal to zero, the intercept value for SMEs exports is 49.74. With the significant increase in COVID-19, with every unit increase, there will be a decrease of 0.91 percent in SMEs exports. BCS has a significant positive value; with a 1 percent increase in BCS, it will increase the SMEE up to 0.99 percent. TTF has a significant negative impact on SMEE with a 1 unit increase in TTF. There will be a 0.10 percent decrease in SMEE. NOB has a non-significant positive relation with SMEE, as due to a 1 percent increase in NOB will increase SMEE up to 13.17 percent.

Conclusion and Policy Recommendations

The conclusion summarises the key findings of this research study; to capture the impact of COVID-19 on SMEs in South Asian nations through time and space, we employed a panel/pooled data from seven selected emerging South Asian countries. Taking into account the seven nations in our data set between the 2020 Q1 and 2021 Q4 periods, we have repeatedly discovered that the decline in SMEs in South Asian countries is a result of increased COVID-19 Cases. In this research study, other conventional SMEE factors appear to be statistically significant (while some are non-significant) in enlightening the exports of SMEs from South Asian nations. The random effect technique is used to examine the panel/pooled data for computing the relationship between COVID-19 and SMEs in South Asia. The result shows that COVID-19 and the Exports of SMEs have a negative relationship; a 1 percent increase in Covid-19 cases will decrease .91 percent of exports of South Asian Countries.

The result also shows that all explanatory variables are significant except TTF (SME financing as a percentage of total trade finance). SME financing as a percentage of total trade finance have also negative relation with SMEs exports, and Both BCS (bank credit to SMEs sector) and NOB (percentage change in SMEs finance borrowers) have a positive relation with SMEE (exports of SMEs), which shows with the increase in BSC and NOB the SMEE will increase .98 and 13.17 respectively. Constant/intercept value shows that while assuming all other explanatory variables equal to zero, the intercept value for SMEs exports is 49.74. The epidemic has had a substantially negative impact on South

Asian citizens' socioeconomic circumstances and way of life.

People in South Asia have faced a serious threat from the COVID-19 outbreak, which has wreaked havoc on their socioeconomic status and way of life. Since the coronavirus is constantly evolving, it is impossible to predict when it will be completely eliminated. The outbreak poses a serious threat that demands a quick response in order to preserve lives, protect livelihoods, and revive the economy. The outbreak has had a significant negative impact on economic activity and human health, with the impoverished and most vulnerable populations suffering the brunt of the costs. This research study examines some of the important ideas that can contribute to those at risk who are affected by the pandemic. The governments should be able to offer some kind of social protection to the poor residents, especially when they miss their chances for casual employment because the social security systems in the majority of South Asian countries are either weak or nonexistent. Better saving habits and easier entree to financial services, for example, might provide security during difficult times.

Coordinated energies are essential to lessen and recuperate from COVID-19's effects on our society and economies because health, the environment, and social issues are all interrelated. Governments must rank their short-, medium-, and long-term tasks in order of importance. Collaboration on a regional and international level is also essential to address the outbreak reverberations across many civilizations. The nations of South Asia must cooperate to solve their issues and foster circumstances for economic growth. Prominently, new approaches and methods are desirable to address the epidemic issues. The following policy actions may be taken by South Asian governments to lessen the epidemic's negative impacts on the poorest and furthermost weak citizens of humanity while also fostering fiscal and financial recovery.

Prepare for a COVID-19 economic rebound: by creating a plan to promptly adapt in response to the situation, avoiding blanket lockdowns to prevent local economies in low-risk areas from being negatively impacted. Wide shutdowns have wreaked havoc on the economy and people's livelihoods. Thus, closures are preferable. The Indian system of classifying the nation according to the frequency of coronavirus cases, allowing for economic activity in regions with little or no viral activity, and enforcing stringent safety measures in hotspot locations could be a good place to start. To put such laws into practice, though, certain instructions must be followed, such as adhering to a predetermined methodology developed in light of local circumstances and available data, as well as taking steps to contain the virus once it has been released. Due to the absence of such measures, there is a considerable chance that the COVID-19 virus will resurface in these nations, as it did in the U.S. and other European nations. It is crucial to make full use of the media to promote mental health, educate the public about particular health issues, and broadcast self-defense information (Khajanchi et al., 2020).

Create a strategy for accomplishing short, medium, and long-term objectives: to revitalize the economies at the nationwide and at world levels while captivating into account the special needs and conditions of the deprived and vulnerable communities there. Attention should be placed on resolving the current health problem, assuring food and nutritious security, creating more short-term jobs, and distributing income to the poor in order to sustain the economy in the near future. The medium-term emphasis should be on increasing economic activity to aid in the recovery of the economy as well as developing and putting into place the best possible stimulus to aid in the financial recovery of the economy. By endorsing long-term, sustained growth and the eradication of poverty,

the long-term objective should be to change or jump-start the economy.

Integrate and coordinate the development, financial, and economic activities such that various policy initiatives complement one another and increase the impact of their combined effects on economic recovery. While dealing with the pandemic's consequences and regaining employment will be of primary concern in the short term, enhancing long-term productivity may receive longer-term attention and building capacity to handle future challenges by participating in a well-adjusted portfolio of natural, social, human, and economic capitals and future pandemics and other socioeconomic shocks are lessened in their effects. Investments in green infrastructure, natural capital, and the advancement of skills, knowledge, and technology, for example, will increase the population's potential for production and produce long-term benefits for future generations.

Boosting the economy and making investments to create *jobs* in locations where underprivileged and unskilled workers can take part and benefit. Policy and investment decisions should be carefully considered in order to address not only current issues in order to achieve sustainability but also to increase long-term resilience, strengthen current programs to reduce poverty, and adopt targeted asset-building and economic recovery programs for reducing poverty.

Promote regional cooperation to make it simpler to transport essential products and services across borders, such as food, medicine, and other needs like food and pharmaceuticals. In order to combat the pandemic threat and achieve a quick and lasting economic recovery, South Asian nations must work together.

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