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'Stock prices response to oil price and covid-19 in Pakistan'

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DEDICATION

I dedicate this piece of work to our families, especially my parents who have left no stone unturned in the progress of our careers and academics. This is dedicated to my parent's hard work and constant dedication in making me blossom well and succeed well throughout our whole lives which has finally put me able enough to execute this project.

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ABSTRACT:

The COVID-19 challenge is unquestionably the first big sustainability test in the twenty-first century. This article analyses the effects of COVID-19 on Pakistani markets and commodities while the closure is in effect. The effect of the COVID-19 spread on the Pakistani stock and commodity markets was also compared between the first and second waves. The essay also discusses the lockout and the COVID-19 spread and stock market performance and sustainability, in particular South Asian nations. GMM multivariate analysis is used to examine the link between stock market returns, gold prices, and oil prices. According to research, oil prices and stock market performance suffer significantly during lockdown periods in Pakistan. The impact on gold prices, on the other hand, is significant and positive. This is also confirmed by the initial wave of COVID-19 infection data. When a disease spreads in waves, there is more uncertainty. COVID-19 may have an impact on the stock market performance in various South Asian nations, according to additional research findings. The stock market performance in all South Asian nations studied was not significantly impacted by COVID-19. Now that these data reveal that COVID-19 influences the stock and commodities markets, researchers may use them to understand better how a pandemic would affect them. Stock and commodities market movements can be predicted using this information if a pandemic occurs.

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STOCK PRICES RESPONSE TO OIL PRICE AND COVID19 IN PAKISTAN

CHAPTER: 1

1.1- INTRODUCTION:

In today's world, many countries seek to generate their oil since it is essential to their survival or prosperity, yet most are unsuccessful. In 2008, the stock market experienced its most volatile year. There has been an upsurge in inflation rates worldwide due to a succession of global crises. With inflation of 25.3 per cent, oil had a significant role in deciding how much people had to pay for everything in Pakistan in 2008. Economic or environmental factors that are unusual might cause volatility in the stock and commodity markets. There is financial and economic upheaval because of natural causes like the pandemic(Chen, M. H., Jang, S. S., & Kim, 2007).

First of its type, the new coronavirus swept the globe in December. At the end of March 2020, the World Health Organization labelled the lethal sickness a pandemic. As a result of the first case of COVID-19 discovered in China on January 3, 2020, the WHO issued a global alert. Following a dramatic spike in COVID-19 cases, most nations instituted extensive lockdowns in response to the WHO's advice to avoid social interaction and wear a face mask. The protracted and strict lockdown harms both the well-being of individuals and the economic sustainability of nations (Fassas, A. P., Papadamou, S., & Koulis, 2020).

Only ten days after the rapid spread of the coronavirus, the Pakistani stock market had four circuit breaker incidences. The stock market's decline had global repercussions, not only in Pakistan. Similar to the stock market, the COVID-19 epidemic triggered a significant shift in commodity prices. For the first time in history, oil prices declined in April, causing prices

to increase from March's lowest position to their highest peak in May 2020. As one of South Asia's fastest-growing economies, these restrictions have significantly impacted Pakistan. The second wave of uncertainty, lockdowns, and COVID-19 cases encouraged us to analyze the impact on the Pakistani commodities and stock markets of COVID-19 cases. During the first wave of infection, stock market shares negatively connect with new coronavirus, but this trend is reversed in the second wave (Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, 2020).

In our assessment, the Government's early response to a pandemic, such as shutting down companies and subsequently implementing smart lockdowns, is essential. Other economic efforts, such as the fiscal stimulus and the loosening of the monetary policy, are also examined. A 28 per cent loss in the Pakistani stock market's intra-day value, the lowest six-year intra-day value, shook investors' confidence (2020). A fiscal stimulus package of Rs. 1.2 trillion and a Supplementary Grant of Rs. The Pakistani Government-authorized one hundred billion for the "Residual/Emergency Relief Fund" to help individuals affected by the disease. SBP took other measures to facilitate some of the pandemic's economic impact. Rates on policy loans have been lowered by 625 basis points, while foreign currency loans have been given an additional month to be paid off.

There is a significant level of uncertainty in markets and investor aversion to risk when there is a pandemic, war, natural calamity, or a financial crisis. Historically, the stock market has reacted favourably to epidemics (2013). Stock markets throughout the world reacted strongly to the COVID-19, an unusual reaction in many nations (Baker et al., 2020). In terms of the influence of -19 on the stock market, the research is still in its infancy. According to this research, the effect on the stock market performance of pandemics has been addressed in some studies [Mzoughi et al. COVID-19 has a significant impact on SMV. However, there is a lack of information about the Pakistani stock market's reaction. Waheed and his colleagues (2020) tested the impact of COVID-19 on the Karachi Stock Exchange (KSE). They demonstrate that the Government's quick response positively affected KSE's performance. However, in these models, the Government's actions and other fundamental economic variables are not considered. There was an attempt to evaluate how the stock market reacted to daily COVID-19 positive cases, deaths, and recoveries. Yar, 2020 They conclude that the stock market is unaffected by positive or fatal cases. We may be overlooking essential market elements when we find evidence that contradicts what we observe throughout the world. In Pakistan, no scholarly publications have examined the

influence of SMV. This study examines how the KSE responds to COVID-19's influence on volatility.

A pandemic outbreak might significantly impact various systems, including labour markets and global supply chains. They rely on the financial markets to a large extent. Despite the poorest growth and lack of capital inflows, pandemic ramifications will have little effect on emerging global economies. Researchers worldwide have called for further investigation into this outbreak and prevent future outbreaks of this exact nature. Consumption, production, travel, and the financial sector have all been halted due to COVID-19. Ebola, MERS, and COVID-19 outbreaks have had significant socio-economic impacts on population health, social dynamics and public health. Because there was no clear cause for the Coronavirus (COVID-19), it can be described as a "Black Swan" event. Due to a significant economic slump, the world economy will be in much worse shape in 2020 than 2013. Although we have made every attempt, we are still unsure of the entire extent of the human and financial losses.

In addition, the recent turmoil in the financial markets suggests that this disease is having an effect. According to Ali et al. (2013), climate impacts the stock market as an economic instrument. Companies' financial outcomes and plans and how capital market participants respond to those results and dividends have microeconomic effects. According to Dow Jones and Standard & Poor's, firm share prices in the United States fell by 20 per cent from mid-March 2020, according to Machmuddah (2020). There has been a dramatic decline in the value of corporate shares on the Tokyo Stock Exchange (Nikkei). There has been a 9 per cent drop in Sri Lankan stock prices since mid-March 2020, and the stock market has been forced to close three times this week due to lack of liquidity. The Indonesian stock market's composite stock price index has decreased as investors worry about the impact of the COVID-19 pandemic on the global economy.

The S&P 500 lost 64.06 points, or 1.34 per cent, on April 8, 2020, to 4714.58 points. In the case of a terrorist attack or pandemic, international investors would be furious and panicked, leading to a rapid response in the form of panic-selling. Pakistan reported its first case of COVID 19 in February 2020. The illness has been verified in 438 thousand cases as of this writing. Compared to rising nations like Italy, France, the United States, Pakistan's recovery rate is greater. Pakistan's economy would be severely impacted by the severity of the disease's spread and its actions to prevent it. According to the Asian Development Bank, over 1.57 per cent of Pakistan's GDP might be wiped out by this pandemic ailment (ADB). According to the study, the outbreak resulted in more than 946,000 employment. This

sickness has had a detrimental impact on a country in recovery during the past two years. In light of the COVID19 outbreak, this page aims to add to the body of knowledge on Pakistan's capital markets. This study is meant to address the vacuum in empirical research on the Covid-19 event, stock market returns, and liquidity, given that we are currently in the second wave of COVID 19. Market participants seeking to understand stock market activity during the pandemic era would also benefit from this study's results.

The novel Coronavirus (2019-nCOV) or COVID-19 made its initial appearance in China's Wuhan City in December of that year (WHO, 2020). Because of its fast spread in January 2020, compared to past coronaviruses, it quickly became a worldwide phenomenon. Lockdown of Wuhan was China's response to the new virus and proved to succeed in many countries worldwide, including the United States and Europe. to stop the disease from spreading, the whole city was put on lockdown on January 23, 2020. (Guardian, 2020). Today, the outbreak originated in China and expanded to South Korea, which has resulted in 9.1 million COVID-19 positive cases and 472 539 fatalities worldwide (Hopkins, 2020). After its debut, the illness has seen a rise in the number of positive cases and deaths; while it has halted in Europe, it has continued to spread throughout the Americas and Asia. COVID-19 was declared a worldwide pandemic by the World Health Organization (WHO) on March 11, 2020, and the sickness has spread to more than 170 nations (WHO, 2020). It has been more than a century since the Great Depression when COVID-19 shook the financial and commercial markets. Due to their effectiveness, social distance and lockdowns are becoming more commonplace. However, they come at a high price in the form of lower firm sales and even the liquidation of certain companies. The financial losses suffered by COVID-19 have affected stock markets throughout the world. All across the world, financial markets have been impacted by the epidemic, and Pakistan's stock market is no exception. Pakistan's capital markets were affected by the emergence of COVID-19, and researchers hope to learn more about this by conducting a study. COVID19 positive cases, deaths and recoveries have increased the Pakistani stock market. Aside from COVID-19 recoveries, positive cases and deaths have little influence on the market's performance. Several reasons might affect the Pakistani stock market's movement in the first six months of 2020.

In Pakistan, COVID-19 was initially discovered on February 26, 2020, and since then, researchers have found over 13,000 instances that have been verified. Compared to nations like Italy, France, and the U.S., the recovery rate is better. As a result of this pandemic, Pakistan's economy might be badly affected if preventative measures are not implemented soon enough, and the disease spreads too swiftly. Between $16.38 million and $4.95 billion,

or 1.57 per cent of Pakistan's GDP, has been estimated by the Asian Development Bank (ADB). According to the research, the outbreak resulted in the loss of 946,000 employment. Because of this, a nation that had been on the mend for two years is now reeling.

As a result of trade, countries can maintain their balance of payments and control the exchange rate, affecting the economy. It was decided that the sector should be shut down because of this outbreak, which resulted in the economy decreasing. When a significant event or issue impacted the country, the stock market mirrored the changes in the market. After news of sick Pakistanis, the stock market plummeted to its lowest level in the previous five years on March 19. There has been a dramatic drop in overseas portfolio assets' value because of the pandemic. The stock market is under stress because of the widespread impact of the COVID19 outage. Since the beginning of this uncertain condition, the stock market has been on a downward track, as shown in Figure 1.1. Following approval of a $1.4 billion grant from the International Monetary Fund (IMF) and World Bank funding, Pakistan's stock market recovered, and the country's economy recovered as a result. As a result, the KSE-100 index has risen from 39,382 on March 5 to 44,960 on March 26.

Analysis of COVID-19's influence on financial and commodities markets is based on prior studies. Because earlier research focused on COVID-19's detrimental effects on the stock market and crude oil volatility, it was necessary to understand these effects fully. The COVID-19 outbreak might be viewed as an example of a risk that was overlooked in the past. Many businesses and governments have focused their attention on mainstream market risk sources and the pressing issue of climate change. Pakistan and other countries are experiencing curfew-like situations that interrupt people's daily life. In addition, there is a pervasive atmosphere of fear (leading, for instance, to the mass purchase of daily goods). A lack of information on the spread of COVID-19, the scale and death rate, the regulatory measures, and human behaviour is obscuring the economic consequences of the pandemic. Global economic growth is predicted to drop by 0.15 percentage points in 2020 due to COVID-19, resulting in a $135 billion opportunity cost. Three main elements will determine this year's outcome: the pace and length of the virus' spread; the amount of fear among travellers, consumers, producers, and merchants; as well as the actions implemented by policymakers to limit the virus' spread and increase output. When it comes to determining which companies' creditors will be most adversely affected by the viral outbreak, the stock market offers a unique opportunity. As a result, the equity market gives a constant and welcoming view of the economic effect of the pandemic (Mirza, Naqvi, Rahat & Rizvi, 2020).
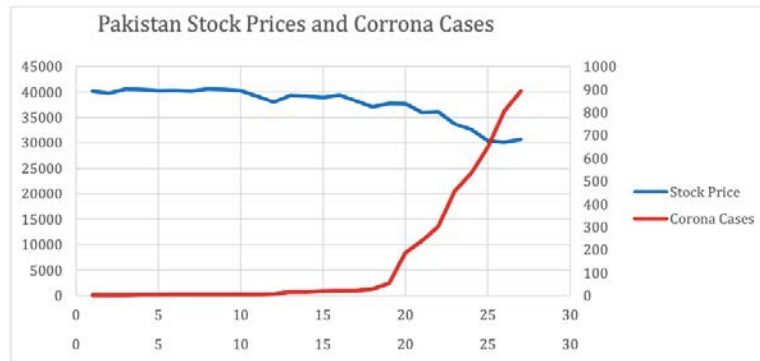
Figure 1 : Stock.Price.Index and COVID-19 Cases for Pakistan

Source : (Del Giudice & Paltrinieri, 2017).

As the KSE-100 Index plummeted to its lowest level since 2009, the Pakistan Stock Exchange (PSX) started trading on a sad note. KSE-100 Index has declined by a total of 1336.03 percentage points (4.68 per cent) since the rise of COVID-19 cases in Korea (Del Giudice & Paltrinieri, 2017).

TIME TRENDS IN INDUSTRY LEVEL RETURNS:

When the storm hits, even the most substantial companies may be unable to withstand it. Several industries might be affected, including transportation, leisure, hotels, airlines, and facemask manufacturers.

Figure 2: on a country-wide basis, the Pakistani stock market

Source : (Sharif, Aloui & Yarovaya, 2020)

All except one firm (Goods and Services) had negative raw returns. Second, power, transportation, chemical, banks, and automobiles were worst damaged by the recent financial crisis. Even in an economic catastrophe, many oil businesses will collapse, and transportation corporations will reduce their involvement in the petroleum industry. Medical-related enterprises predominate in other countries, but not in Pakistan. Products, services, and ut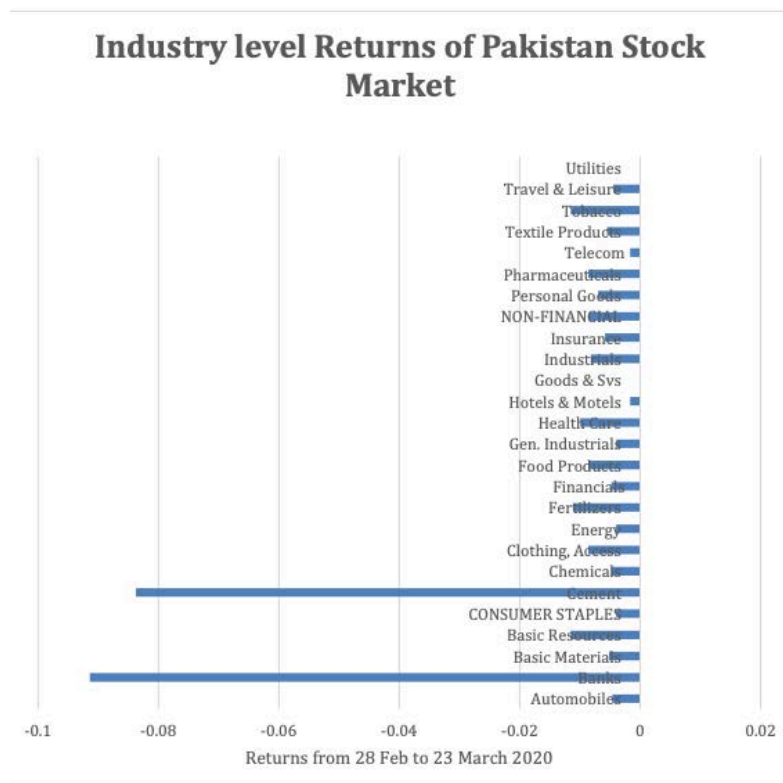ilities have fared better than others in Pakistan because demand for infrastructure supporting domestic employment has increased.

There has been a lot of volatility and market anxiety because of the Covid-19 pandemic. COVID-19's outbreak in Pakistan led to a record loss for Pakistan's stock market, which harmed investor sentiment severely. The intraday market value fell to its lowest point in six years this year, culminating in an overall 28 per cent drop. PSX's commercial banks, oil and gas exploration, food, tobacco, fertilizer and cement are the six sectors we have selected to investigate the influence of COVID-19 on share prices. It is estimated that these six industries account for more than 60 per cent of PSX's total value.
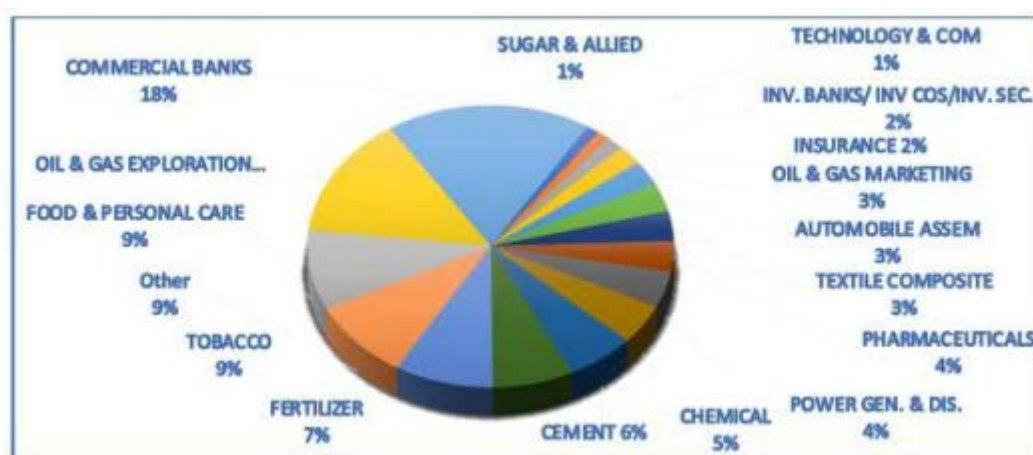
Figure 3: Coverage by Sector on the Basis Market Capitalization

This is due to the lack of competition outside the United States for utilities, often local. Utility stocks might benefit from the flight as well. When comparing zero with one, there is no difference whatsoever: Automobiles Banks In-Depth Knowledge What is Most Important Staples for the use of the customer alone. Cement's Chemistry Wearing Clothing Allows You to Take in Energy. Fertilizers Financials Eating and drinking There are many different industries, yet they all fall under the umbrella of "industrials." Hospitality Inns and B&Bs There is a wide range of products and services available. Industrials Insurance NON-

FINANCIAL For Your Own Use Pharmaceuticals Telecom Textiles and Clothing Tobacco Travel and Leisure Apps Travelers should expect a return of February 28 until March 23, 2020. Stock market risk-taking can resurface if Pakistan experiences an economic catastrophe. Pakistan's stock market is only one example of a pattern observed in other emerging economies(Sharif, Aloui & Yarovaya, 2020).

Because of exceptional economic or environmental conditions, the stock and commodities markets can be volatile. Unfortunately, naturally occurring pandemics can lead to financial and economic turmoil. The World Health Organization (WHO) declared the deadly disease a pandemic at the end of March 2020. When the new coronavirus emerged in December 2020, it was the first pandemic of its kind. In response to the discovery of the first case of COVID-19 in China on January 3, the WHO issued a global alert on January 30, 2020. In the wake of a substantial increase in the number of cases in Pakistan and throughout the world, the World Health Organization originally proposed COVID-19 to prevent social isolation and the use of a face mask. The prolonged and rigorous lockdown harmed both the well-being of individuals and the economic viability of nations. According to a past study, terrorist acts and SARS pandemics harm people's economic and financial well-being. Individuals' perceptions of fear and panic are also affected by such events. U.S. and Asian financial markets suffered big drops as the coronavirus spread rapidly, and the European and Asian stock markets also saw a significant dip. The COVID-19 epidemic sparked a sudden shift in commodity prices, much like the stock market's behaviour. Low worldwide demand sparked a dramatic price increase for gold from March to May 2020, while oil fell for the first time since records began in the 1970s (Kollias, Manou, Papadamou & Stagiannis, 2011).

Accountancy data has been used as a benchmark by investors in the capital and commodities markets in the past. The presentation of new financial data helps to gauge the market's reaction. However, unexpected pandemics and natural catastrophes may render accounting data meaningless. COVID-19's impact on commodities and stock markets in Pakistan and the volatility of various Pakistan stock markets prompted us to conduct a comparative study. However, it was not until March 2020 that the World Health Organization declared COVID-19 a global pandemic. As of April 16, 2021, Pakistan's Ministry of Health and Family Welfare estimates that 14,526,609 COVID-19 cases have been confirmed, with 1,679,121 active cases and a total of 175,673 fatalities. There is a higher mortality rate in Pakistan's second wave of coronavirus infection than in the first. The first wave of COVID-19 in Pakistan was contained in the first week of November 2020. Starting with lockdowns commencing in March 2020, the Pakistani Government put five phases of increasingly

stringent lockdowns into place. One of South Asia's fastest-growing Pakistani economies has been badly affected by these lockdowns. As a result of these circumstances, Pakistani commodity and stock markets have been rocked by lockdowns and the presence of COVID-19 (Broadstock & Zhang, 2019).

India, Pakistan, and Bangladesh are increasing new coronavirus infections since the WHO declared COVID-19 a worldwide pandemic. As a result, less than 3.4 per cent of South Asia's total territory is occupied by more than one-fourth of the world's people. Since Pakistan has large populations and undeveloped healthcare systems, researchers are concerned about the potential impact of COVID-19. South Asia's developing markets regarding consumption and domestic demand prompted us to study how this epidemic would affect India, Pakistan, and Bangladesh (Saleem & Shabbir, 2020).

In order to accomplish the stated objectives, we have divided the study into two sections. The impact of COVID-19 on the Pakistani stock and commodity markets is explored in the first section by comparing two time periods. In the first section of this article, the first section of this article uses timelines to investigate lockdowns and epidemics in Pakistan. In the second part of our inquiry, we will look at how the proliferation of COVID-19 impacts stock market performance in India and Pakistan. In order to better understand how COVID-19 spread, a second timeline was created after a brief period of lockdown. Lockdown stages 1 and 2 of the coronavirus have a significant and negative impact on the Pakistan stock market, while gold prices positively impact the price of oil. According to the research, the lockdown's influence decreased as people grew more aware of the virus's danger. Stock markets and oil prices are negatively affected by the presence of the coronavirus, but gold has a beneficial influence on them. The findings of the first wave of COVID-19 distribution corroborate this claim. While COVID-19 spread positively correlates with oil and stock prices, gold prices negatively correlate. Pakistan's stock market performance prior to and during the COVID-19 shutdown has been compared and shown to have a significant and negative influence. Stock market shares negatively link with new coronavirus during the first wave of infection, but this correlation is reversed during the second wave (Chiang, Jeon & Li, 2007).

Currently, the new coronavirus poses a severe threat to the economy and financial stability of the United States. A sufficient literature vacuum exists for our inquiry because a few studies have evaluated lockdown but the first and subsequent waves of COVID-19 distribution in South Asia. This study contributes significantly to the present body of information concerning the current implications of COVID-19 by comparing Pakistani stock

and commodities market performance with Pakistani stock performance. As far as the authors know, no empirical research has employed these three variables. This research also examines how distinct lockdown periods affect the Pakistani stock and commodity markets. Previously unexplored markets in Pakistan have contributed to the current understanding of coronavirus diseases. Using both mean-variance and multivariate analysis strengthens the study's conclusions.

First quarter of 2020 brought the COVID-19 pandemic, a very uncommon event that can have disastrous implications. A "black swan" occurrence occurred. In an effort to slow the spread of the pandemic virus, markets fell, industries were shut down, and supply lines were severely disrupted. Airports were abandoned, offices were closed, and stores remained closed. Wuhan, China, reported a case on December 31st, 2019. On January 13, 2021, Thailand announced its first verified instance of the sickness. On February 26, 2020, Pakistan announced its first case of COVID-19. A CFR1 of 2.12 percent is expected by June 1, 2020, with 76,000 recorded cases and 1,621 fatalities. On June 14, 2020, Pakistan saw its highest number of incidents on a single day. As of August 30, 2020, there were 213 confirmed cases. The second wave, which began in the second week of October and peaked on December 6, had 3,795 confirmed cases as of that date. Despite an increase in the number of occurrences, the maximum number of occurrences remained close to 1,000 until February of 2021. As of March 2021, Pakistan's third wave had officially begun. Patient numbers are rising at an infection rate of 8%, and the CFR is at 1.2%. As the infection rate rises and a new strain of the virus emerges, more than 600,000 cases are projected to be confirmed.

Some of the COVID-19 SOPs you should follow include donning a mask, washing your hands, and maintaining a safe distance from other people. SOP No. 3 has the greatest influence on day-to-day operations, particularly in informal retail and wholesale markets, and will result in the closure of tens of thousands of firms and the loss of tens of thousands of jobs. SOP #3 More industrialised nations, like as Pakistan, where the population is more wealthy, are also concerned about the COVID-19 pandemic. Between January 1 and February 2, 35 million jobs were cut in the United States. As a result of employment losses in emerging countries, half a billion people might fall into poverty. With more lawsuits and business closures, employees are afraid about the future of their employment, as are employers. Investors' concerns about the value of firms' assets are beginning to increase. An international downturn has been likened to the Great Depression of the 1930s. In January and February of this year, China's GDP declined by 10 to 20 percent compared to the same time in 2012. Other nations in Europe and Iran had predicted a similar decline. Because of the

economic shock, massive government action is necessary. When China's epidemic prompted businesses to suspend production, there was less demand for energy and raw materials and less demand for intermediate and final products from China. It wasn't only the United States. As a result, growth in the global economy came to a grinding standstill. Disruptions in the global value chain hurt developing nations, particularly those that depend significantly on exports. Pakistan's stock market dropped an average of 1500 points per day in March 2020's closing. The fall in oil prices, the arrival of coronavirus, and interest rates were all blamed for the stock market's drop. An estimated one-third to one-half of the rupees invested in a variety of stocks were wiped out. It was anticipated that the Karachi stock market (KSE-100 Index) will rise beyond 42,000 points in January 2020. The discovery of COVID-19 and the accompanying announcement of a lockdown in mid-March sparked concern among students and staff alike. It took a year after it began to recover from the financial crisis in March to return to its pre-crisis level. The drop in demand for Pakistani and other emerging nation products has had a negative impact on manufacturers and exporters. Because of the epidemic, no country wanted to send textile supplies until things returned to normal. There were problems for exporters, too, with managing their working capital. There is a shortage of goods and resources for small enterprises, particularly those run by freelancers, due to a lack of supply lines Prior to the current financial crisis, the 2007-2008 financial crisis was widely considered to be the worst financial tragedy in the history of the planet. The current crisis has had the greatest impact on the economy's largest sector, services. Lack of interest from customers led to the collapse of several service-based firms in the region. In wholesale and retail trade, after transportation, services now account for the largest percentage due to border restrictions and a general slowdown in activity. Pakistan's overall economic growth in 2019-20 was (-) 0.47 percent as compared to prior year's (-) 1.9 percent growth. The COVID-19 has exacerbated long-standing problems in the manufacturing and service sectors. On the other side, the government's involvement allowed for a return to recovery for the economy (the economic stimulus package). Extreme Poverty and Low-Paying Jobs An additional 19.87 percent of the population was labelled "vulnerable" in 2015-16, meaning that they are at danger of sliding into poverty at any moment in the future. More than 44 percent of the population, including 24.3 percent of those now living below the poverty line, is at risk. They may require rapid assistance if the epidemic spreads. There were 56.6 percent of the population considered socioeconomically fragile by PSLM 2014-15 forecasts. There would be a wide range of people impacted by the epidemic, including women and children, home-based and piece-rate employees, transgender people, immigrants, and those living in poverty.

According to the 2017-18 Labor Force Survey, there are presently a total of 61.7 million people in the workforce. Unrelated jobs account for a total of 37,9 million persons working in the United States today. The informal sector of the economy employs 27.3 million people (72 percent). Only a little more than half of the 13 million people operating in the informal sector are paid employees; the remainder are self-employed or working "on their own account" (11.2 million, or 41 percent). Assessing employment losses, both ILO and PIDE considered a mild slowdown in economic activity and a severe limitation on economic activity.

More than 15 million people might lose their employment, according to PIDE, but the International Labor Organization (ILO) estimates between 12.6 million and 19.1 million. The manufacturing, construction, and transportation industries follow closely after wholesale and retail. Non-agricultural employment, on the other hand, is predicted to decline by 4.8 million to 5.8 million jobs. With a GDP contribution of over 40 percent, Pakistan has 3.25 million micro, small and medium-sized companies (MSMEs). Since these enterprises are largely conducted and controlled by individuals, they account for 97% of all jobs in the informal sector. Small business owners who lose their employment due to the reality that most small businesses are managed by illegal immigrants have few choices. Uber, Careem, and Bykea are examples of companies that don't always require you to be in a certain location to deliver services. When these persons are labelled as independent contractors, these platforms are dodging their responsibilities as employees. None of the social security programmes that would normally cover them exist, such as Ehsaas.

The agricultural value chain was affected by border restrictions and lockdowns. There might be a decrease in the supply of agricultural products and other things for the local consumer as a result of this. As a result, individuals may not have access to enough, diversified, or nutritious food in locations where food security is already a concern. Poverty-stricken mothers and children face an even greater risk (since reduced household incomes and purchasing power will lead to restricted nutritional diversity and rationing of food intake). It's possible to draw judgments, but there's not enough proof.

The COVID-19 is having the expected negative effects as expected. Resolving Health-Related Problems Pakistan's healthcare system is substantially more frail than those found in more industrialised countries like the U.S. and the UK. There are not enough resources to satisfy the requirements of the people. 1 in every 1,680 persons in the US has access to a hospital bed. As the incidence of infection rose, so did the daily test count. Throughout the first and second waves of the pandemic, vaccination and maternity and child health care were two of the most critical issues. The disruption of immunisation services due

to a lack of vaccines and other essential supplies may have had an impact on the vaccination of youngsters. The disruption of antiretroviral and antibiotic supplies may have caused shortages during the COVID-19 epidemic. Medical staff and financial resources may have been diverted to treat COVID-19 patients following the pandemic. Women's roles in the household and illness prevention grew as the pandemic advanced. When it comes to health care, the role of women extends beyond the house. The result is that most healthcare personnel are women. This particular set of healthcare workers is no stranger to taking on additional duties at home or in the household. Inspiring and Inspiring Others. To protect the virus from spreading through social and physical isolation, education was the only area that was shut down following the emergence of COVID-19 Students from kindergarten to grade 12 have been affected by the COVID-19 outbreak, which has sickened 42 million people to far. In many cases, low-cost private schools are facing financial difficulties, which puts its employees in jeopardy of losing their jobs. This disease may aggravate an already inadequate educational system, but it may also improve learning potentials. It's especially difficult for women and other marginalised groups, as well as those who reside in rural or urban slums, to get online and use tele-educational materials.

In rural areas and urban slums, where vast numbers of children have never attended school, more than 70% of current enrolment is concentrated. The general literacy rate of the country may suffer if the COVID-19 problem increases. Putting an End to Conflicts Between Men and Women The epidemic has a disproportionately negative impact on women and other underrepresented groups. Domestic workers, instructors, and college professors are all dominated by women. The government shutdown has harmed more women than any other group because of its lockdowns, school closures, transportation delays, and inability to pay wages. People in India who work from home and earn a monthly salary of between $3,500 and $4,500 are more than 12 million in number. Because of their status as unorganised labourers, these employees encounter a variety of challenges. Without social safety nets, they are especially vulnerable. This group of employees is at the greatest danger of losing their jobs due to their incapacity to work the appropriate amount of hours in the present economic situation. Philanthropy's Influence Pakistanis are recognised across the world for their generosity. The entire country always responds promptly to a crisis. To put it another way, it's hard to overlook the value of giving. As a result, its work has assisted a number of relief and rehabilitation organisations. There have been a variety of organisations and people who have contributed to charitable causes. The charity has three main areas of focus: For example, I provide COVID-19 patient testing kits, respirators, and other personal safety equipment to

hospitals with minimal resources (PPE). Integrated Approach to Economic Salvation for the Protection of Human Life and Property. The federal government should form an occupational safety and health advisory committee. The NCOC was created early on in the pandemic to monitor and make important decisions. Coordination of the national effort against COVID-19 and the implementation of committee decisions are responsibilities of the NCOC. In order to gather, examine, and process data from all provinces, AJ&K, and GB&ICT, the centre has specialised staff and centres all throughout Pakistan. NCOC suggests cleaning and disinfecting all areas, items, and surfaces where a suspected or confirmed case of COVID-19 has been present, used, and/or touched (ii). All of these steps, including testing for COVID-19, donning masks, and fleeing the area, are crucial. Hospital zoning is recommended for patients with COVID-19 to make treatment and care more convenient. the health and safety of building and construction employees (xv) Personal Protective Equipment (PPE) and Hospital Outpatient Guidelines for Hospital Personnel (xiii) Body of COVID-19: Airlift, Interment, and Safe Handling (xix) In celebration of Eid ul-Azha (xxi), businesses such as restaurants and wedding halls have reopened, as well as marketplaces and government buildings (xxii). Additionally, the COVID-19 1166 hotline has been established in the event of an emergency, in addition to the aforementioned security measures. We chose and presented the most fundamental preventative measures via electronic and social media in a variety of methods.

1.2- PROBLEM STATEMENT

COVID 19 on the stock and commodity markets in Pakistan was one of the most widely discussed subjects during the conference. Stock markets in industrialized countries witnessed a period of high volatility when the epidemic initially broke out. For this study, the impact of COVID-19 on the Pakistani stock market, which is a developing country, will be examined in depth. In order to determine if the preceding and subsequent COVID 19 spreads influenced Pakistani equities and commodities, research was done. The impact of Covid 19 on the coverage of lockout periods on the Pakistani stock markets is the subject of this study, which is being conducted.

1.3- RESEARCH OBJECTIVE

In the first part of our research, we look at the Pakistani stock and commodities markets in two sections. During the first section of the investigation, an additional chronology is used to compare the former and subsequent outbreaks of COVID_19. The

second timeline depicts how Pakistan's events developed when under lockdown. Secondly, this study compares the stock markets of Pakistan before and after the closure of the Government. The post-lockdown period in Pakistan has been designated until July 31, following the implementation of lockdown. It is also examined how the stock market fared during either the first or subsequent phases of COVID-19.

Hypothesis 1 (H1): The performance of the stock and commodity markets is significantly affected by the presence of the coronavirus.

Hypothesis 2 (H2): Volatility is more substantial in the first COVID-19 spread than in the second wave.

Followings are the research objectives:

1. To identify the performance of the stock and commodity markets is significantly affected by the presence of the coronavirus.
2. To examine the volatility in the first wave and second wave of covid-19.

1.4- RESEARCH QUESTIONS

Q: 1 What is the impact of covid – 19 on the performance of the stock and commodity markets?
Q:2 Is volatility is more substantial in the first COVID-19 spread than in the second wave?
Q : 3 What is the response of stock prices on oil prices in Pakistan ?

1.5- SIGNIFICANCE OF THE STUDY

When it comes to the spread of COVID-19 and other "black swan" incidents, there was a belief that public attention and the media were conduits of infection that should no longer be disregarded. Another study indicated that the virus itself is not dangerous, but the dread of the virus makes it so. Whether or not COVID-19 is an immediate financial market contagion or should be handled as a sequence of simultaneous occurrences to prepare for the possible future. As a second step, researchers should assess any dangers from an abrupt shift in consumer demand. They should also analyze how COVID-19 would affect investors' behaviour and perceptions of volatility in the stock market. When it comes to the spread of COVID-19 and other "black swan" incidents, there was a belief that public attention and the media were conduits of infection that should no longer be disregarded. Similar phrasing suggests that the virus itself is not lethal, but its fear is. There must be a clear understanding of whether the COVID-19 is a fast-moving financial market pandemic or a sequence of coincidental incidents before any action can be taken. If demand suddenly shifts dramatically,

researchers should investigate the prospect of an economic or financial disaster. Finally, it is critical to analyze how COVID-19 will affect investors' behaviour toward the volatility of the stock market and their perceptions of it.

CHAPTER: 2

2.1- LITERATURE REVIEW

This article affects the stock and commodities markets by the consequences of a pandemic and other unforeseen events. These findings examine how pandemics and other unexpected events affect the stock and commodity markets. The theoretical basis will also be discussed. Theories and approaches are also addressed in this section.

When COVID-19 and other unforeseen events occur, lockup periods during the first or second wave of infections can reduce their impact on the market. Unfortunately, very little research has been done to date. It has been found that stock performance is adversely affected by investors' fears of a pandemic. Mainland China's hotel exchange performance is said to have been affected by the SARS outbreak (Chen, M. H., Jang, S. S., & Kim, 2007).

Ding, Levine, Lin, and Xie (2020) analyze corporate immunity in the COVID-19 pandemic as part of their research project. More than 6 000 firms from 56 countries are included in their first quarter 2020 data. Stock prices and the characteristics of businesses are directly affected by COVID-19 cases. Stock prices fell little for corporations with more robust pre-2020 financials, fewer entrenched executives, and more significant social responsibility measures less susceptible to the epidemic. Companies having greater corporate ownership did better than those with more hedge fund ownership, while those with more hedge fund ownership performed less well. COVID-19's stock and aggregate returns are examined by Alfaro, Chari, Greenland, & Schott (2020) in real-time. They explain that the

COVID-19 trajectory infections predict the returns of the U.S. stock market in unexpected ways. If the estimated infections double, the next day's aggregate U.S. market returns decrease and vice versa. This is based on data from Yahoo Finance and Bloomberg. COVID-19-related loss exposure grows as leverage and capital intensity increase. Businesses and industries afflicted with disease incur considerably more significant losses than those not. Their study examines family ownership during the outbreak of COVID-19 in Amore, Pelucco & Quarato (2020). Financial success is examined as a result of family ownership and control. During the study's expansion into Italy, the researchers selected some Italian businesses to participate. Company boards with shareholders in control outperformed those without, according to research. Covid-19's ability to spread is examined by Corbet, Larkin & Lucey (2020). Experts think this disease originated in China, where the financial markets were a hub for both financial and physical spread. The study's findings show that a "flight to safety" during the period analyzed had a high number of expected qualities. Bitcoin and China's stock markets used to be closely linked, but the financial crisis has altered this relationship. Schoenfeld's (2020) analysis on the risk factor takes both financial markets and pandemics into account. The research uses the COVID-19 pandemic as a natural experiment to examine how financial markets respond to large-scale pandemics. According to the research, management undervalues pandemic risk compared to SEC-mandated factors, which reduces the firm's value. According to the study's findings, pandemics significantly affect financial market performance.

A study by Ruiz Estrada, Koutronas & Lee examines Covid-19's financial and economic impact (2020). " Using this model, researchers can better comprehend the spread of COVID-19 illness and its impact on financial markets. In this paper's pandemic scenario, new multidimensional geometric techniques and the concept of aggression are introduced. Ashraf, Rizwan, and Ahmad evaluated the impact of Islamic equities investments during the COVID-19 outbreak (IEEE). In the first quarter of 2020, IEEE continued to outperform their traditional counterparts, according to S&P Down Jones. Due to the care taken in handling the IEEE and considering the possible benefits of hedging, this claim may be substantiated While IEIs can provide advantages in times of market fall, a study indicated that hedging benefits are more expensive, according to researchers.

COVID-19 was the starting point of his investigation into the European investment fund's erratic performance. Mirza and colleagues found that COVID-19 affected the stock market (Mirza, N., Naqvi, B., Rahat, B., & Rizvi, 2020). All significant investment sectors have seen a decline in performance, except for social fund investments. Papadamou et al.

study .'s found that Google searches had a significant impact on stock performance during COVID-19. For the first time, we believe that corona conditions directly impact market volatility in well-known stock markets worldwide. According to Da and colleagues, stock market volatility may be worsened by Google searches during times of stress and uncertainty. We can draw this conclusion because of this. According to Liu and colleagues, stock market performance, in general, was harmed by a coronal cloud of pessimism (Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, 2020).

During the corona pandemic, Chen studied the consumption habits of 214 Chinese municipalities to understand the pandemic's impact. Products and services were first in-demand online, then offline, with demand in Wuhan falling 70 per cent in total. According to Albulescu, a decrease in demand for oil has led to an increase in economic instability in the United States (Albulescu, 2020).

COVID-19's spread and lockdown may impact Pakistani gold and oil prices and the volatility of South Asian financial markets.

Confinement spells, but the first and subsequent wave epidemic viruses make the stock and commodity markets less influenced by COVID-19 and other unexpected events. On the mainland, Chinese researchers Chen et al. examined the impact of SARS on hotel exchange activity in China. According to his findings, equities have a detrimental impact on the performance of investors who are afraid. In the wake of terrorist attacks and devastating pandemics, investors panic sell. According to Burch et al., Mirza and his colleagues examined Covid-19's impact on the stock market. The volatility of the European investment fund was examined after the COVID-19 hit. According to a recent survey of investors, only social funds have been spared. Papadamou at COVID-19 studied the correlation between Google searches and stock performance. As many as thirteen developed stock markets throughout the world were shown to be directly influenced by corona-related circumstances. Da et al. discovered that Google search increases stock market volatility at times of high stress and uncertainty. These findings corroborate and validate this hypothesis, as evidenced by this research. Investors' gloom and the breakout of COVID-19 were shown to negatively influence 27 of the most important financial markets globally (Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, 2020).

During a pandemic, there is a decrease in demand and consumption. A study by Siu and Wong revealed that the SARS pandemic had a detrimental impact on Hong Kong's domestic and worldwide demand for products and services. The SARS pandemic in 2003 cost the United States $3 trillion in GDP, according to DeLisle. (GDP). Wuhan (the epicentre)

reported a 70% drop in consumption during the corona outbreak, which affected 214 cities across China. In addition, the lowest online demand for items and services was discovered. Albulescu argues that the corona pandemic in the United States has reduced the demand for oil, which has increased the American economy's volatility. A few others, like Fornaro and Wolf, Wren-Lewis, and a few more, supported the prior findings (Wren-Lewis, 2020; Fornaro & Wolf, 2020).

As JCT Mao's theory of investment decisions under uncertainty explains, investors panic and sell indiscriminately when there is uncertainty. There are many unknowns and complications regarding financial investments, such as stocks. Based on rationality and self-interest, classic theories of investment decision-making have been created in the past. Behavioural economics, which claims that investors cannot make rational judgments in uncertainty, is used in the financial markets (Mao, 1969).

Many individuals are worried about their jobs and finances because of the new coronavirus. As a result of the virus's global spread, all economic activity has been put on hold. Increased positive instances have sparked fear and concern among Pakistan, Pakistan (Bangladesh), and Pakistan. These uncertain scenarios lead to hurried investments and sales. In light of uncertainty theory, we should study the relationship between COVID-19 and the financial and commodity markets (DeLisle, 2003).

On top of this demand theory, which states that pricing and demand are interwoven, slight adjustments can significantly impact the other. For both industrialists and producers, these considerations have led to a rise in the hoarding of commodities like gold and oil, as well as financial losses. Even educational institutions and construction enterprises have had to shut down because of the virus's fast spread. There is a lack of literature on the implications of COVID-19 on the South Asian stock and commodity markets. Nevertheless, these theoretical underpinnings and a lack of literature are sufficient for research objectives (Siu & Wong, 2004).

COVID-19's distribution and lockup have influenced the demand for gold, oil, and the volatility of stock markets in South Asian countries, according to previous studies and market instability.

Regardless of a nation's geographic position or regional prominence, oil is crucial to its financial operations. The price of crude oil impacts nearly every business (Hasan, Choi, Eppinger, Clark, Chen, Alam & Colwell, 2012). There is a consensus that oil price fluctuations affect the real economy and other sectors. Oil's price and the economy's stock market volatility are linked. There is a direct correlation between future oil prices and current

spot prices in the oil market. Oil prices and stock markets are both susceptible to severe and concurrent fluctuations.

The price of oil and the stock market are connected by research. Data from 2000 to 2008 was utilized to assess the impact of oil price fluctuations on Vietnam's stock market. According to their analysis, an increase in oil prices has a significant and positive impact on stock values. Despite recent rises in oil prices, the findings refute this theory. There was a negative link between oil prices and stock performance in all countries investigated. Between 1989 and 1996, Greek market returns were analyzed using a vector error correction approach. The analysis found that rising oil costs harmed stock values (Del Giudice & Paltrinieri, 2017).

When examining the relationship between oil price volatility and stock value. The volatility of crude oil prices is closely connected to stock returns, and this correlation is more substantial than previously anticipated. All seven G7 countries and the global economy will be studied to see how oil prices and stock prices correlate. As a result, a more unconventional strategy has been substituted for bootstrapping. The study found no correlation between these characteristics and economic growth in any G7 countries (Da, Engelberg & Gao, 2011).

The value of stock markets worldwide, notably in Japan and the United States, is directly affected by oil prices. On the other hand, falling oil prices drag the economy. Rising oil costs have taken a toll on the U.S. and Japanese stock markets, but not Germany's. Numerous scholars have shown a link between oil prices and stock prices both theoretically and empirically (Ali, Alam & Rizvi, 2020). Theoretically and empirically, a correlation between oil and stock prices.

According to previous remarks on COVID-19, the pandemic outbreak has damaged every industry and financial market. Recent investigations on the impact of COVID-19 on stock prices have included both conventional and novel methodologies. COVID-19's effect on the global economy affects crude oil prices and three key stock indexes (DJI, S&P 500, and NASDAQ Composite). A bidirectional long-term memory network and a stationary wavelet transform may predict stock and commodity prices. Crude oil price indices and COVID-19 confirmed occurrences were used to estimate future oil prices. Event research was used by He et al. (2020) to examine the market performance and market reaction patterns of significant Chinese firms in the COVID-19 pandemic. This illness has been demonstrated to negatively impact transportation, power, and environmental protection stock values. Education, information technology (I.T.), industry, and healthcare have been prominent exceptions to this epidemic." They analyzed 21 worldwide stock market indices for COVID-

19, according to Liu et al. (2020). The world's major financial markets have fallen in response to the virus's introduction. Asian economies have witnessed more aberrant results than the rest of the world's economy. This pandemic has significantly influenced worldwide financial markets based on the extraordinary volatility following its beginning and the distinctive pattern of global stock markets before and after this outbreak. More stock prices were impacted by the COVID-19 pandemic than any other outbreak before it. Another team of specialists has analyzed stock price swings in the health sector, worldwide, and equity markets. Oil and gold prices have also been studied (Burch, Emery & Fuerst, 2016).

Stock price fluctuations and market performance are significantly affected by the use of this indicator in current and past research. To improve the performance of Asian manufacturers' goods, American buyers should be made aware of any misconceptions they may have. To better understand the impact of asymmetric uncertainty on 11 Asian stock market indices, researchers used an ARDL nonlinear model. According to their results, uncertainty negatively impacts stock values, and the converse is true when it rises. Using the NARDL model while accounting for the imbalance has various advantages. According to Luo and Zhang (2020), EPU impacts Chinese enterprises' stock prices' likelihood to fall between 2000 and 2017. Stock prices are projected to decline more often when the EPU increases. It has also been discovered that the effect of EPU on stock prices develops as a company's exposure expands. EPU and EPU-induced failures are more likely to strike small and medium-sized businesses (SMEs) with high volatility, robust growth, and severe value uncertainty (Batten, Kinateder, Szilagyi & Wagner, 2018).

Kannadhasan and Das (2020) utilized qualitative regression to investigate the impact of the EPU and geopolitical risk on the Asian emerging stock market (GPR). While geopolitical risk negatively connects with the lower quantiles, EPU is harmful to all quantiles. EPU and GPR negatively impact stock returns. According to Chen and Chiang, China's stock market returns are negatively impacted by EPU levels (2020). When it is determined that the lagged EPU and stock prices show a positive connection, the stock market begins to rise in response. Using 19 equity indexes, researchers J. Wang and colleagues (2020) made an interesting comparison between the VIX and the EPU when forecasting future performance. The EPU index was the most accurate (Bani & Ramli, 2019).

COVID-19 has been linked to asset management in E.U. member states by Baig et al. (2021). From January through May in 2020, they have divided the spread of disease into three distinct periods. Researchers concluded that all three stages of a social entrepreneurship fund's life cycle were practical. Mirza, Naqvi and his colleagues conducted a study on

European investment funds during COVID-19 to examine their market reaction, volatility, and performance (2020). As of June 2020, the investment funds market will be under pressure, while social entrepreneurship funds will remain strong. During the COVID-19 epidemic (Mirza, Naqvi, Rahat & Rizvi, 2020).

During COVID-19, human capital outperformed its competitors. According to Mirza, Rahat, and others, COVID-19 has lowered the company's market capital, raising the risk of default (2020). These industries are particularly vulnerable to market disruptions during this outbreak. Human capital efficiency in Latin American mutual funds was studied due to a link between the commencement of COVID-19 and human capital efficiency in Latin American mutual funds. As research has shown, maintaining peak performance has become increasingly crucial in recent years. Why? Investing in Latin American equities funds has become more prevalent in recent years. There is a higher return on investment for every dollar spent on human capital. This paper examines the effects of Covid-19 on the value of non-financial firms in ten European Union countries using a stress test scenario (2020). According to their results, the value of all industries has decreased considerably due to decreased sales.

No prior study has been done on the correlation between oil prices, COVID-19 (EPU), and the SPI. Our investigation will fill a theoretical and empirical gap in the literature.

The economy's expansion, currency exchange rates, stock prices, and returns have been examined in earlier studies of oil prices and oil prices. According to Arouri and Fouquau, rising oil prices have a significant association with a decline in economic activity in the United States (2009). According to his VAR analysis, oil prices and volatility considerably affect corporate stock returns. According to studies, rising oil prices significantly impact stock returns. Stock returns rise when the oil price falls, and the contrary is true.

Due to a demand shock, oil prices might positively or negatively impact stock returns. Price increases on the supply side are expected to have a more substantial negative impact than price decreases on the consumption side. It does not matter whether you define an oil price shock in national or worldwide oil prices.

Global aggregate demand and demand shocks for eight industrialized countries are broken down into three components by Apergis and Miller (2009). Despite their small magnitude, fluctuations in oil prices significantly influence stock returns.

This oil-specific demand shock is more significant for Canadian stock returns than supply or overall demand shocks. According to Granger causality studies, shocks impacting the oil industry have a more considerable influence on stock market returns. Stock market

returns are not affected in any way by supply-side or global aggregate demand shocks (Arouri, Lahiani & Bellalah, 2010).

According to a study, stock market returns in China and the United States vary depending on the sort of shock that causes oil prices to change and the industrial sector in which the stock market works. Oil price volatility appears to be less of an issue for Chinese companies than American ones.

According to Batten et al., fluctuating oil prices on the stock market will have little effect on fossil fuel usage in the future (2018). The portfolios produced from eight established and emerging economies demonstrate a risky stock market integration. Research shows that investing in energy companies can help investors control their exposure to fluctuating energy costs. COP21 will go more smoothly due to this (Batten, Kinateder, Szilagyi & Wagner, 2018).

As a result of Anoruo's (2011) research, the impact of oil price shocks on stock market returns was also explored. Traditional VAR and M-G research methodologies show that crude oil price movements and stock market returns are linked in a nonlinear, bi-directional manner. Oil price shocks statistically influence actual stock returns in 13 European countries studied by Park and Ratti (2008). Oil price shocks significantly impact actual stock returns in Europe and the United States than interest rate changes. Oil price shocks have been demonstrated to have a more significant impact on the United States than Europe.

Crude oil exports and imports are closely related, as Am and Shanmugasundaram (2017) found. For every one per cent increase in the price of oil, exporting nations' stock values rise by 0.13 per cent, while exporting countries' stock values decline by 0.89 per cent. Oil exporters receive more money when crude oil prices rise, resulting in stock values. They are in a hazardous situation for oil importers. For example, when energy costs rise, financial institutions lose money, affecting the value of their stock.

Cointegration tests, Granger causality, IRFs, and variance decomposition analysis are used to evaluate the impact of shocks on the Pakistan stock market (VDCs). Causality tests show that the Pakistan stock market and oil prices have a long-term association. Researchers say vital components have been incorporated for the long haul. Results from our study of Pakistan stock markets and crude oil prices suggest that Pakistan's market has a small but constant advantage (Amin & Khan, 2020).

This is a nonlinear panel. The asymmetric response of stock prices to a rise or fall in oil prices is measured using cross-sectional variability models. According to this study, the oil price has a more considerable influence on stock prices when it swings.

The market boomed as a result of deregulation. The Colombo Stock Exchange, Sri Lanka's stock market, has been in operation for over a century. Even though the market had been stagnating for a long time, the deregulation measures of 1991 gave it a new lease on life. There was a minimal influence on the economy before the deregulation of stock markets in this part of the world.

Since the onset of market liberalization, an increasing number of companies have gone public. As automated trading and internet markets become more prevalent, so does the use of automated exchanges. Pakistan and Bangladesh, which have roughly the same number of publicly listed companies as India, are nearby. While Pakistan and India have two settlement periods, India/Pakistan has three settlement phases. Tobago and Trinidad both have t+3. It indicates that India and Pakistan are the two most active stock trading countries in the area, based on turnover ratios. Only Pakistan and Sri Lanka have market value-to-GNP ratios higher than India's. Bangladesh's fourth-place result in the competition was a considerable distance from the pace set by the overall leaders.

As a proportion of the total market value, the GDP for each nation is displayed in this table. Since 2000, Pakistan's stock exchange ratio has fluctuated between 16 and 130 per cent. As a result, it is the most volatile stock exchange in the area. As recently as 2007, Bangladesh and Sri Lanka saw an increase in the cost of living. India's to Bangladesh and Sri Lanka and Pakistan's ratios are substantially greater than Pakistan's throughout the period. The graph shows this clearly.
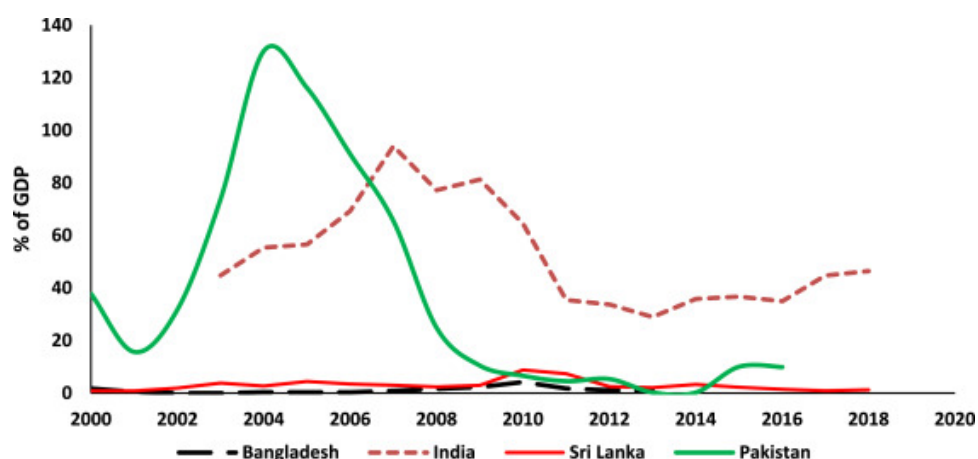

Figure 3: Market capitalization about gross domestic product (GDP).

Source: World Development Indicator, World Bank, 2020.

As a proportion of GDP, the market capitalizations of listed domestic companies are shown in Fig. 2. To calculate a company's market capitalization, the total of its share price

and the number of outstanding shares must be considered. Pakistani stocks had the highest market capitalization ratio over the period studied. There has been an enormous reduction in Pakistan's proportion of the global market since the stock market crash of 2008. It is still lower in Bangladesh and Sri Lanka than in most other nations. These industries are all considered "emerging" markets in their own right. An emerging market is one in which the country has a middle- or low-income population, as defined by Standard & Poors. Concerning the country's GDP, the quantity of investable capital is minimal, and there are few restrictions for foreign investment. As their market capitalization has grown, the economies of these countries are yet subject to far higher levels of volatility than a country like the United States.
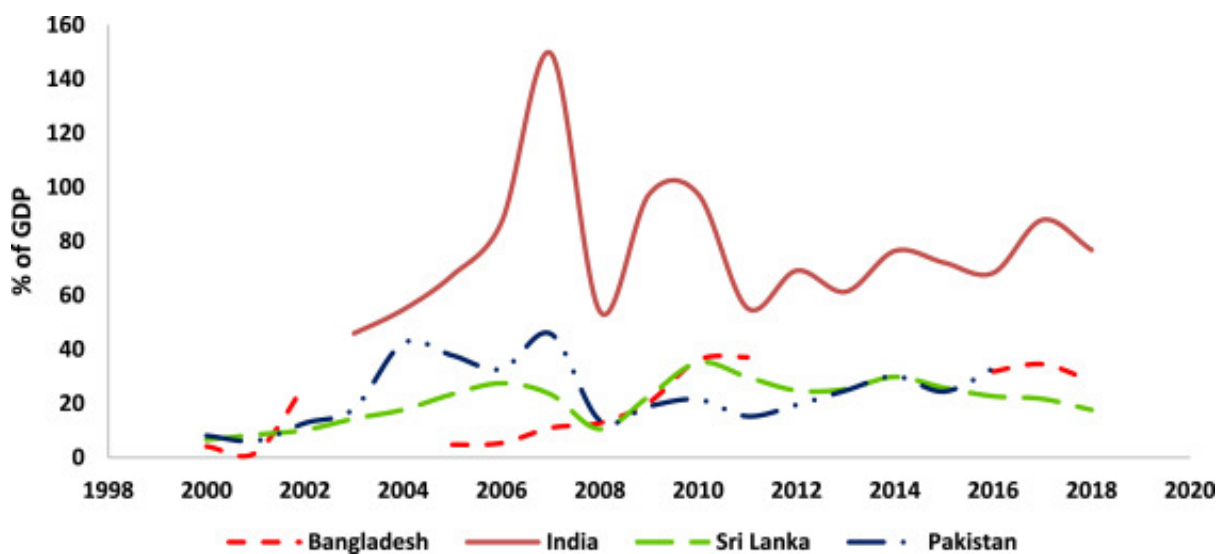
Figure 4: GDP per capita market capitalization of domestically listed enterprises

Source: World Development Indicator, World Bank, 2020.

There was an oil consumption scenario for each year of the South Asian countries, as seen in Figure 4. According to data, Pakistan's use more oil per capita than any other South Asian country. A total of 1860.37 terawatt-hours of oil was used year on average by Pakistan between 2001 and 2018. (TWh). Pakistan and Bangladesh used an average of 243.89 terawatt-hours (TWh) of oil per year and 58.99 TWh per year. Compared to other countries, Sri Lanka consumed the least oil. Around 48.10 TWh of oil were burned between 2000 and 2018. A five-year average of oil consumption increase in Bangladesh (2015–2019) is the highest globally. The percentage is 10.78%. India, Pakistan, and Sri Lanka had average oil consumption growth rates of 5.84 per cent, 2.18 percent, and 0.41 per cent, respectively.

Much attention has been paid to oil price shocks in macroeconomic studies since the 1970s. An oil embargo put in place by the OPEC nations in 1973 sparked an international

financial crisis that lasted for decades. As a result of the Iranian Revolution, the price of oil went up, and production decreased. Thus, macroeconomics has long viewed fluctuations in oil prices as a model for global shocks that can affect several economies simultaneously (Amin, 2015). South Asian countries were more adversely affected by the sudden surge in oil costs than industrialized countries. From 2014 to 2016, the oil price fell significantly due to a supply glut and a lack of response from the oil countries.
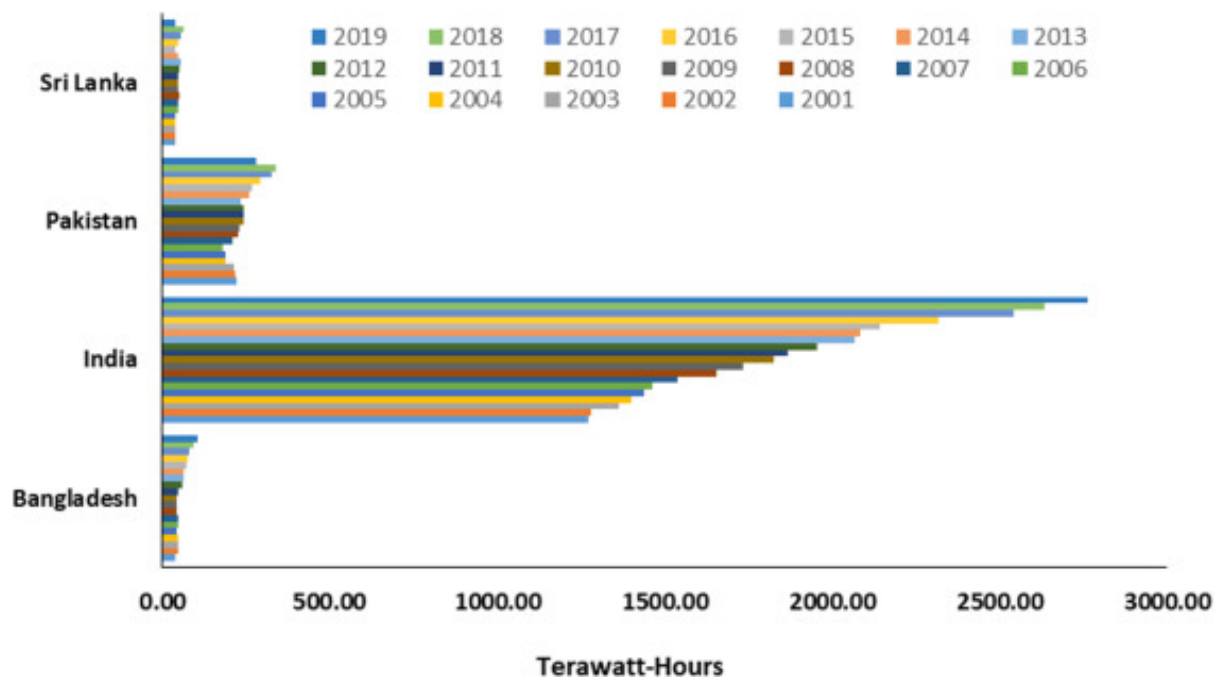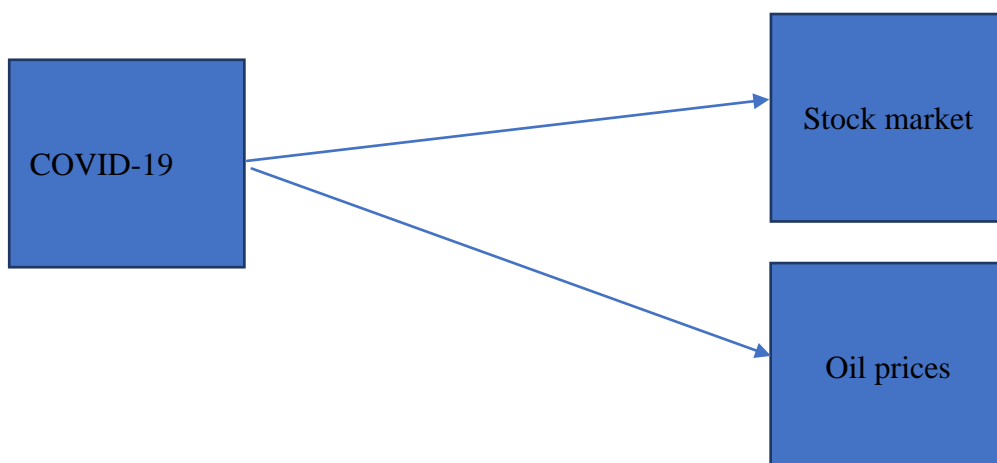

Figure 5: Countries in South Asia that use much oil

British Petroleum (B.P.), 2020.

2.1.1- THEORETICAL FRAMEWORK

dependent variable (stock market returns) is both cross-sectional and time-varying (stock market returns).

Hypothesis 1 (H1):

In particular, the coronavirus impacts the stock and commodity market.

Hypothesis 2 (H2):

Volatility is more substantial in the first wave of the COVID-19 spread than in the second.

CHAPTER: 3

3.1- RESEARCH METHODOLOGY

The methodology of this research is quantitative methodology. Utilizing data from the National Stock Exchange (NSE) and the MCX, Pakistani stock and commodity markets have been examined in Pakistan (MCX). We have included them in our analysis because they fluctuate more than the others. On the other hand, other variables have a lower investment percentage for these goods. COVID-19 infections in South Asian nations and stock market performance have been compared using closing prices from the Indian Stock Exchange and the Dhaka Stock Exchange indexes and data from the European Center for Disease Control database. Other South Asian nations were excluded from this study due to a lack of data and that COVID-19 is less prevalent in those countries.

3.1.1- RESEARCH DESIGN

The first part of this research analyses the Pakistani stock and commodities markets in a two-part segment. In the first portion, we look at the shutdown and the outbreak of COVID-19 in Pakistan, two separate but related events. The second portion of this research compares the stock markets of India, Pakistan, and Bangladesh over different periods (pre-and post-lockdown). Since all three South Asian countries enforced lockdowns simultaneously, the post-lockdown phase is expected to last until July 31. The second part of this research evaluates the market's performance during the first and second outbreaks of COVID-19 infection. In both phases of the study, the timetable is shown in Table 1a and b. In light of the date of the COVID-19 pandemic and the subsequent lockdown, the following explanation is proposed:

(a)	
Phases of Lockdown	**Dates**
No lockdown (No COVID)	1 January to 20 March 2020
1st Lockdown (Phase 1)	23 March to 14 April 2020
2nd Lockdown (Phase 2)	15 April to 30 April 2020
3rd Lockdown (Phase 3)	1 May to 18 May 2020
4 Lockdown (Phase 4)	19 May to 31 May 2020
5 Unlock phase (Unlock)	1 June to 20 July 2020
First Wave of COVID infection	23 March 2020 to 30 November 2020
Second Wave of COVID infection	1 February 2021 to 16 April 2021

(b)		
	Pre-Lockdown	**Post-Lockdown**
India	1 January to 20 March 2020	23 March to 31 July 2020
Pakistan	1 January to 20 March 2020	23 March to 31 July 2020
Bangladesh	1 January to 20 March 2020	23 March to 31 July 2020
	First Wave	Second Wave
India, Pakistan, Bangladesh *	23 March 2020 to 30 November 2020	1 February 2021 to 16 April 2021

Figure 6 : (A) Schedule for the first phase of Pakistan 's shutdown (B) Timeline comparisons of South Asian nations

3.1.2- RESEARCH DATA AND SAMPLE SIZE

The first and second coronavirus outbreaks have been scheduled based on new cases. The first and second COVID-19 outbreaks are depicted in Table 1, which shows dates of lockdowns and infection timelines in Pakistan's effort to contain COVID-19 spread. In order to make comparisons more accessible, we have defined the first wave to have ended November 30 2020, as the end of the peak caseload in all three countries. There was an increase in the number of COVID-19 cases in South Asia on February 1, 2021, so we have picked that date as the beginning of the second wave (Islam, Sayeed, Rahman, Ferdous, Shano, Choudhury & Hassan, 2021).

As a result of the COVID-19 scenario, the pre-and post-lockdown timelines in India, Bangladesh, and Pakistan are shown in Table 1b. Prior and post-lockdown periods are defined by the rapid spread of infection in the targeted countries and the fact that all three countries imposed lockdown at around the same time. Consequently, we have established standard timelines: January 1, 2020, through March 20, 2020, and March 23, 2020, through July 31, 2021, for pre-and post-lockdown situations(Chen & Siems, 2004).

If the outbreak continues, the post-lockdown phase will end on July 31 2020, and this is because all three countries picked had the highest number of cases and most uncertainty in their first three months. We thus used July 31 as the post-lockdown end date to assess the short-term impact and high level of market irrationality. It is also possible that COVID-19 began spreading outside China on March 20, making that date a credible possibility.

Before doing the Welch test (an alternative for one-way ANOVA when the assumption of homogenous variance is broken), the Games–Howell test (post hoc) was used to evaluate how much stock returns, and commodities market prices diverged from their averages in the various stages of lockdown. We used heteroskedastic independent t-tests to investigate if this link changed in Pakistan during the first and second waves of COVID-19 distribution. First and second wave COVID-19 spread variances differed. Hence a heteroscedastic independent t-test was used(Babu, Khetrapal, John, Deepa & Narayan, 2021).

It is possible to utilize the t-statistics test to quantify the impact of an economic event on the capital and commodity markets by comparing index returns to their mean average. Additionally, these approaches are more thorough and reliable for assessing hypotheses. This investigation's findings might be bolstered by using the Generalized Method of Moment (GMM), according to Arellano and Bond(Arellano & Bond, 1991). Using the same methodology, we will look at a selection of countries in South Asia to meet the objectives of the second half of the research.

The static nature of typical regression approaches, such as least squares, fixed effects, and random effect models, might lead to econometric mistakes. Using the GMM model helps avoid these biases since it takes instrumental considerations into account. The GMM method is better suited to imbalanced data and small sample numbers. It is clear that the model's output accurately captures endogeneity, heteroskedasticity, and stationarity. However, the GMM estimation approach does not require any variables in the second-order of integration. There is no second-order integration of the variables found by ADF or the unit root test, which needs a one lag GMM estimation. Unit root test results for Augmented Dickey-Fuller may be found in Equation A in Appendix A(Arellano & Bover, 1995).

3.1.3- VARIABLE SPECIFICATIONS

There are two ways to look at this: (1)

To use a constant term, one must assume that the dependent variable (stock market returns) is both cross-sectional and time-varying (stock market returns). For example, the daily mortality rates and several COVID-19 positive cases are represented by the $X_{i,t}$

variables, while the X′ variables indicate a vector of coefficients, where vi denotes any country-specific effects that were not detected and Xi,t denotes the relevant error terms(Chaibi & Ftiti, 2015).

Total daily coronavirus cases (C), the weighted average overnight repo rate (R), and the Pakistani Rupee to U.S. Dollar nominal exchange rate (E) are utilized as measures of COVID-19. The model includes both of these variables since they are readily available. A dummy variable (D) was used to account for fiscal stimulus and monetary easing during the epidemic (D). A daily data collection period lasted from February 25, 2020, through December 7, 2020. In contrast to other variables, C and S data are always available. C. (weekends and holidays) data is matched with the data of the other variables based on the latest working day of the other variables (weekends and holidays). C and S data may be found on Ourworldindata.org, while data on the KSE general index of all shares price index (S.M.) and data on all other variables can be found on Bloomberg(Shafiee & Topal, 2010).

3.1.4- DATA ANALYSIS TECHNIQUES

Market volatility (DSM) may be assessed by looking at the conditional variance of the initial difference between the two variables (DSM). SMV is obtained from Bollerslev's GARCH model, whereas A.R. is described using the Box-Jenkins (1976) approach (1986). According to Ljung-Box (1978), to verify that both the mean model and the GARCH model are accurate, they analyze the squared standard residuals from the GARCH model (results of volatility measurement not reported to conserve space but available upon request). Sims' VAR was introduced in 1980 and is used to predict. For all variables except R, logarithmic scales are used. Log/scale levels (log/scale) are used to calculate the model. All variables were shown to be stationary in log levels/levels by a series of Dickey-Fuller (1981) tests. In order to ensure the validity of our findings, we conducted a variety of robustness checks(Syed & Aidyngul, 2020).

$STit=\alpha+\gamma STi,t-1 +\beta'Xi,t+\upsilon i+\varepsilon i,t.$ (1)

This country-specific effect, vi, represents the independent variables (daily mortality rates and COVID-19 positive cases). The dependent variable is referred to as S.T., whereas a constant term refers to a variable that is both cross-sectional and time-varying (stock market returns). Use the coefficients vector Xi to characterize error words and see how they stack up(Haque & Chowdhury, 2020).

CHAPTER: 4

4.1- RESULT AND DISCUSSION

At the outset of the study, it was necessary to evaluate how volatile the Pakistan stock and commodity markets were. Based on a thorough examination of the NSE indexes, gold and oil closing prices, the first and second COVID wave 19 and other indications, we arrived at our conclusions. Figure 7 summarises the results of the descriptive data analysis conducted for this article.

Gold				Oil pakistan (per Barrel)			National Stock Exchange (pakistan)		
(Rs. Troy Per Ounce)									
	N	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
No	58	113,789.90	3974.56	59	49.88	10.16	57	11,560.40	1065.62
Phase 1	17	123,918.80	3889.14	17	23.11	2.3	13	8453.38	446.06
Phase 2	13	129,947.40	1789.41	13	12.03	15.26	12	9263.35	259.6
Phase 3	11	129,461.60	1194.86	11	25.56	3.08	11	9194.79	141.63
Phase 4	9	130,781.60	1236.18	10	33.63	0.869	8	9188.19	246.55
Unlock	20	130,965.10	1948.25	23	38.4	1.41	22	10,116.45	191.04
First Wave	186	136,100.80	7237.63	180	36.13	8.19	178	10,740.42	1247.73
Second Wave	46	128,006.10	3616.02	49	60.7	2.92	47	14,879.08	246.43

Figure 7 : Descriptive Statistic.

It is clear from our descriptive study that the closing prices of stock indexes and oil have fallen dramatically throughout the lockout. Shutdown begins with a steep dip in elevation and ends with a modest elevation gain. For instance, the mean average price of oil was 49 before the lockdown began; the mean average price of oil was 23 after phase one. For example, when the lockout began, NASDAQ stock prices were 11,560.40 on average, and they decreased to 8453.3 after the first phase of the lockout was over, according to the Associated Press Reduced demand for crude oil as a result of the suspension of activity in the transportation and tourism industries may be a factor in falling oil prices. Stock prices have fallen as a result of the fear that pervades the minds of investors and corporate executives around this time of year. As the price of gold rises, so does the lockdown period, which is consistent with how long it has been in force. When it comes to investing, some people

believe that gold is the safest option during times of illness and disaster. For each commodity, Figure 1 displays the year-over-year price changes.

The descriptive statistics also show that the volatility of all three commodities in Pakistan is rather high during the first wave. The National Stock Exchange of Pakistan and oil prices, on the other hand, have a negative relationship during the first wave of the cycle. However, this association improves with the second wave. A reduced level of uncertainty in the second wave is the most reasonable answer. For the second wave, the Pakistan government has not yet established a nationwide lockdown, and even state governments have only enacted lockdowns in certain hot locations once the government has recognised them as such. The second wave of labour migration has been lower than the first. Anti-COVID-19 vaccination initiatives are currently going done in all 50 states in an effort to stop the spread of the disease. More than a few businesses in Pakistan have obtained government help to mitigate the initial wave of devastation's economic impact. As a result of these encouraging developments, investor sentiment has improved. In the second wave of the cycle, investors are more cautious than they were in the first wave of caution when making investment decisions. As a result of the increased worldwide demand for oil and the subsequent rise in oil prices, there was no second wave of partial shutdowns. Optimism in the market and the government has a negative impact on gold investment, which is why stock prices are rising. This has resulted in a drop in gold's price.

Before performing the post hoc analysis, we performed the Levene test to see if the variance was homogeneous. The results were positive. It is common to utilise the same pricing measurements to demonstrate the consistency of data. When the p-values are less than 5%, we know that the data is not homogenous. It is now possible to utilise the Games–Howell test, which is more appropriate for this sort of data.

The Welch test was used to see if there were statistically significant variations in the mean values of the stock and commodity markets during different lockout periods. These findings are summarised in figure 8 of the Levene test for variance homogeneity. (An attachment is provided as an addendum to this email.)

	Levene Statistic	df1	df2	Sig.
Gold Prices	6.239	5	122	0.000 *
Oil Prices	6.372	5	127	0.000 *
Stock Indices	8.295	5	117	0.000 *

Note: * denotes 5 percent level of significance.

Figure 8 : Variance homogeneity test

In each phase of lockdown, the means of all three variables differ statistically significantly, as indicated by a p-value less than 5%; however, to see how the mean difference differs in each phase separately, we proceed with the Games–Howell test results, which are shown in figure 9 in the next section. The figure 9 below shows the complete results of the Games–Howell test:

	Statistic [a]	df1	df2	Sig.
Gold Prices	165.371	5	39.464	0.000 *
Oil Prices	160.149	5	39.825	0.000 *
Stock Indices	106.048	5	33.765	0.000 *

Note: * denotes 5 percent level of Significance. [a] asymptotically F distributed

Figure 9 : Test of equality of means using Welch's robust method

This difference in mean stock price movements, gold and oil prices, and the Games–Howell test showed a statistically significant difference before and during the lockdown. Despite the coronavirus spreading around the globe, as can be shown in Table 5, the gold price has increased during the shutdown. Investors are more optimistic about gold investments now that the outbreak has lifted gold prices dramatically. The new coronavirus has a strong negative correlation with oil and stock returns, as well as gold and stock returns. There is a considerable negative correlation between oil and stock returns and the new coronavirus, as evidenced by these findings. The range in mean values was greater during the initial and second stages of lockdown, which might be due to a lack of clear information and uncertainty. For months after the pandemic, the mean value began to return to normal and eventually returned to zero as the viral intensity diminished and individuals became used to the disease. According to the data we have, there is a high association between the epidemic and stock market and oil prices in the affected nations. The coronavirus, on the other hand, is a wonderful profit potential for those in the gold industry.

So, in order to study stock and commodities markets' reactions in Pakistan to COVID-19 epidemics, we utilised the heteroskedastic independent t-test. Since the first and second waves of the epidemic in Pakistan were unique, it was not a one-size-fits-all occurrence. A heteroskedastic t-test indicated in figure 10 that the first wave of COVID-19 dissemination in Pakistan had considerably greater variance in each of the three variables than the second wave. Table 6 summarises the findings of the investigation. A negative link existed between

oil prices and stock returns during the first coronavirus outbreak; this correlation has now re-established itself. A similar pattern has occurred in the case of gold. First, prices rose, and then fell from their highs during the first wave.

	Mean Difference	t-Value	df	Sig.
Stock values	−4143.65	−40.97	211.46	0.000 *
Gold price	8094.87	10.77	147.64	0.000 *
Oil price	−26.17	−34.27	213.04	0.000 *

Note: * denotes 5 percent level of significance.

Figure 10 : Phase-wise comparison of means using the Games–Howell test

It was found that COVID-19 had a substantial detrimental impact on the Pakistani stock and commodities markets when it first spread, as opposed to the second wave of dissemination when it was shown to have a positive impact. The financial markets of South Asian nations like Pakistan and Bangladesh have been influenced by COVID-19 in a different way than the stock markets of Pakistan and other Asian countries. During and after the lockdown pandemic, as well as the first and second waves of COVID-19 infection during and post-lockdown pandemic, as well as the first two waves of infection, stock market returns for selected South Asian countries were examined using a similar approach to determine their resistance to the virus. As shown in figure 11 , the closing stock prices of all three nations before to and throughout the lockout period of COVID-19 are shown in the chart below. Here's an example:

Stock Indices	COVID-19	N	Mean	Std. Deviation	Std. Error Mean
India	Pre	53	11,782.9821	705.59	96.92
	Post	68	9332.2319	660.02	77.06
Pakistan	Pre	52	40,606.0087	1960.84	271.92
	Post	74	32,804.1342	1940.12	220.22
Bangladesh	Pre	52	4421.8585	187.25	25.96
	Post	36	3950.2313	72.83	10.98

Figure 11 : The first and second waves of COVID-19 were compared using a heteroskedastic independent t-test

Figure 12 demonstrates a reduction in the mean stock performance between the pre- and post-lockdown periods in both nations following the breakout of COVID-19 in the United States and the United Kingdom. The outbreak had a negative impact on the stock market in all three countries assessed. Since January 2011, the Pakistani stock market's performance has lagged

much behind that of Pakistan's and Bangladesh's. It is projected that the level of sickness would play a key influence in the comparison between India, Pakistan and Bangladesh. The Levene test can be used to determine if the outbreak of COVID-19 is to blame if the variance is homogeneous. There may be significant differences in mean stock market performance among selected South Asian countries due to the COVID-19 epidemic, which may be tested using the t-test. Table 8 presents the results of Levene's test for equality of variances and the t-test to ease comparisons.

		F	F	Sig	t	df	Sig. (2-Tailed)	Mean Difference
India	Equal variances assumed	0.18	0.667		19.71	121	0.000 *	2458.5
	Equal variances not assumed				19.56	108.8	0.000 *	2458.5
Pakistan	Equal variances assumed	0.13	0.717		22.13	125	0.000 *	7794.8
	Equal variances not assumed				22.10	109.2	0.000 *	7794.8
Bangladesh	Equal variances assumed	25.2	0.000		14.17	87	0.000 **	459.9
	Equal variances not assumed				16.08	70.4	0.000 **	459.9

Note: * denotes 5 percent level of significance, ** 1 percent level of significance.

Figure 12 : Descriptive analysis

We can proceed to evaluate whether or not this data is significant if India and Pakistan's variance is homogeneous (p-value greater than 5%). (t-test p-value greater than 5 percent). The variance between India and Pakistan is homogeneous, as determined by the Levene test. Low t-test significance demonstrates that changes in coronavirus illness and increased market uncertainty are primarily responsible for differences in the mean stock market performance between pre- and post-analysis periods. Since there is no evidence to show that the COVID-19 epidemic in Bangladesh has caused the variation, the p-value in Bangladesh suggests there is some heterogeneity in the variance. As a result of the COVID-19 outbreak, which halted trade for two months, the performance of the Bangladeshi stock market shifted. Haque and Chowdhury claim that macroeconomic shocks such as insufficient monetary growth and confidence crises have exacerbated this disparity, as well as the formation of a floor price and the failure to manage contagion. Between COVID-19's first and second waves, it also examined whether or not stock market performance in the selected South Asian nations had changed more or less between the second and third waves of COVID-19. Table 9 shows the first and second wave heteroskedastic t-test results for the first and second waves, respectively. The combined mean of the two waves indicates that the volatility of the stock market was higher in both nations' first wave than in their second wave. The financial

markets of all three nations were affected by the first wave of COVID-19 sickness, but they recovered after the second round of infection.

		N	Mean	Std. Dev.	Mean Difference	t-Value	df	Sig.
Stock values Pakistan	Wave 1	177	37,289.40	4002.74	−8150.15	−25.06	219.55	0.000 *
	Wave 2	52	45,378.38	968.19				
Stock values Dhaka	Wave 1	135	4558.57	432.07	−864.94	−20.88	175.02	0.000 *
	Wave 2	49	5420.26	130.34				

Note: * denotes 5 percent level of significance.

Results of this investigation are in agreement with the GMM technique's results, which are summarised in the adjacent table. During the initial wave of COVID-19 transmission, infection with COVID-19 had a significant impact on stock market performance, as seen in the table below. Since there was less financial uncertainty at that time, we've solely examined data from the initial wave of data. South Asian stock market performance was negatively affected by GMM results, which were based on coefficient and P-values, according to a study. The first wave of COVID-19 proved COVID-19 to be correct. [35] According to a preliminary assessment by the UK's Intensive Care National Audit and Research Centre, India, Pakistan, and Bangladesh are more vulnerable than any other country to the COVID-19 pandemic. Larger populations, more comorbidities, a lack of health care infrastructure, and socioeconomic disadvantages put South Asian countries at greater risk for disease. Of the known cases of COVID-19, 21 percent have been detected in South Asian countries. Investors grew alarmed and scared as a result of all of these forecasts and the rise in reported cases, leading to disastrous stock market performances during the first wave of the COVID-19 pandemic. COVID-19 pandemic mortality rates were lower in the Asia-Pacific region than the rest of the world, which was attributed to strong immune systems and the existence of a younger population in those regions. In the second wave of COVID-19 transmission, the World Bank says that reduced death rates and faster pandemic preparedness increased stock market performance.

Dependent Variable: Stock Returns	t Value (Coefficient)	p Value	Sargan Value [1]	Serial Correlation p Value [2]
India (COVID Cases)	−3.19 (−0.13)	0.0001 *	0.12	0.46
Pakistan (COVID Cases)	−4.12 (−0.05)	0.0004 *	0.23	0.42
Bangladesh (COVID Cases)	−3.09 (−0.43)	0.0010 *	0.41	0.36

Note: * denotes 5 percent level of significance, [1] Null hypothesis is that the instruments used are not correlated with the residuals, [2] The null hypothesis is that the errors in the first-difference regression exhibit no second-order serial correlation.

According to our findings, the COVID-19 outbreak had a significant impact on financial markets. These findings were based on the work of Gormsen and Koijen, as well as other researchers who examined a wide range of South Asian nations.

CHAPTER 5

5.1- CONCLUSION AND POLICY IMPLICATIONS

This research will evaluate the impact of Covid-19 on the Pakistan stock and commodity markets, as well as the stock markets in South Asia's worst-hit nations. The homogeneous variance, Welch test, the Games–Howell test, the heteroskedastic independent t-test, and GMM test were used in this work. Researchers have identified evidence that coronavirus transmission has a negative impact on the performance of the Pakistan stock market. This has an extra effect on investors, who get nervous about the future of their investments when there are lockdowns caused by coronal mass ejections (CMEs). Laid-off workers and shut-down businesses, as well as lower productivity, have harmed the profitability of nearly every industry. Low profitability and insufficient demand, along with the pandemic's unpredictability, caused a precipitous drop in the stock market during the early phases of lockdown and the initial wave of COVID-19 infection. When COVID-19 first began to spread, the stock market lost about 30% of its value. As people became more aware of and prepared for the virus's impacts over time, stock markets stayed constant despite an increase in reported cases. The stock market responded favourably to the second wave of the COVID-19 epidemic. Second wave of the Great Recession was assisted by economic stimulus measures. During the second wave of the global financial crisis, the Pakistan stock market and the KSE-100 both fared strongly as a consequence of fiscal stimulus and high investor confidence. Central banks throughout the globe sought to reduce the financial market effect of the COVID-19 pandemic by putting in place temporary financial measures to limit the epidemic, but they were unsuccessful.

These findings demonstrate that loosening financial constraints through policy actions by the central bank can have a positive effect on real economic activity. Some financial measures were taken following the adoption of COVID-19, such as the suspension of dividend payments and the relaxing of countercyclical capital buffer restrictions. During the

second wave of the financial crisis, all of these policies were put in place at the same time and helped the stock markets recover.

Because of the coronavirus, the price of oil has dropped dramatically, while the price of gold has increased significantly, as seen in the figure below. There appears to be a discrepancy between the oil and gold finds. Similarly, we can see that oil research has had mixed results. According to the first wave of research, oil prices have been decreasing over the past year. As a result of the greater supply brought on by the extended closure, oil demand has decreased rather than grown. According to the International Energy Agency (IEA), demand for oil fell by 30 percent in April 2020 compared to the same month last year. Manufacturers had to cope with still another problem: storage, when demand was at its lowest point. The drop in oil prices in June 2020 was brought on by an increase in oil supply . In June 2020, second-wave oil inventories peaked, resulting in reduced oil prices.

Oil markets became oversupplied as a result of the OPEC+ coalition's own failure to reduce output during the first round of cuts . Because of variables including the OPEC+ agreement to limit output among member states, the ease with which tighter constraints may be enforced, and a spike in global demand, oil prices will rise to parity after the second round of price declines. This discovery strengthens supply theory's theoretical foundations. As in the past, gold, despite its lack of economic value, may be a beneficial hedging tool in times of economic instability. Because of this, COVID-19 is predicted to have a positive influence on the price of gold. Because of its greater liquidity, it is more appealing to investors than debt or real estate. When gold prices rise, stock prices fall, and the reverse is true when equity instruments' prices fall. The collapse of Lehman Brothers in the United States in September 2008 sparked a worldwide financial crisis, according to study. According to the same analysis, gold's price jumped from $700 per ounce in October 2008 to $1900 per ounce in September 2011. According to our findings, gold is safer than other financial assets during times of pandemics and uncertainties.

The planned sanctions are anticipated to have a considerable impact on the economic well-being of several South Asian countries. According to data from the Luohan Academy, Bangladesh, , and Pakistan are the top three South Asian countries in terms of COVID positive incidents, followed by Sri Lanka and Pakistan. An economic indicator developed by the Luohan Academy indicates that these three countries are most at risk of global pandemic because of their big populations, weak health-care systems, and enormous budget deficits. Compared to other countries affected by a new coronavirus, South Asian countries had the lowest average GDP expenditure on social security, according to IMF data (0.9). Many South

Asian countries have seen their export remittances, tourism, and foreign investment decline in recent years, placing strain on their governments' balance of payments. Approximately 30 percent of the country's GDP has been harmed by the extended lockdown imposed owing to the new coronavirus strain's debut. To show the long-term consequences of pandemic-related economic uncertainty, this study demonstrated that the stock markets of South Asian countries were negatively impacted by these fears. COVID-19 has a bigger impact on the global economy than second-wave COVID-19, which has a greater impact since it is more severe, a research found. A second wave of the pandemic has being prepared for by enhancing medical infrastructure in various countries as the outbreak continues to spread.

COVID-19 epidemic has prompted the government to implement extreme movement restrictions, total lockdown, and/or smart lockdown. As a citizen, you are responsible for ensuring that the policies of your local government and other relevant agencies are followed [46]. Anxiety levels were higher among individuals who took part in the second round of interviews than among those who participated in the first. Participants in the first wave were more concerned about the economic impact of the pandemic than they were about the health consequences. Policies are trying to come up with long-term economic recovery strategies in light of these circumstances. As a result, it's crucial to bear in mind that the various policy packages outlined thus far have different purposes. Health has taken precedence in certain countries as a way to lessen the financial burden on healthcare systems while simultaneously coping with the implications of the global economic downturn.

It is recommended that the following steps be taken sequentially to address economic uncertainty and poor development: The central banks and governments of South Asia must work together to strike the correct balance between economic closure and reopening. Together, we can accomplish more in this area. Reviving sluggish consumer demand needs fiscal stimulation from governments to central banks. Stimulus packages issued by the government. South Asian governments may instil confidence in borrowers and companies alike by adopting credit distribution programmes that focus on equal rates of disbursement while simultaneously providing adequate relief from loan repayment moratorium periods, as the Pakistan government has done. 60 percent of South Asia's GDP is generated by small and medium-sized businesses (SMEs), retail, and informal sectors. These industries require financial reforms and liquidity support as well as flexible debt payment restructuring and regulatory forbearance [48]. It is imperative that South Asian countries get financial aid from international organisations in order to maintain their overburdened healthcare systems.

COVID-19 is a major worry for everyone touched by the humanitarian crisis, which has global ramifications. In this age, there has also been an economic and financial crisis. Sustainability is becoming increasingly important to a growing number of people, who believe it is crucial for long-term economic growth and financial sector stability. We may deduce that the short-term impact of this pandemic on the stock and commodity markets will be greater than the long-term impact. In order to avoid losing money, investors need to exhibit extraordinary caution while making short-term decisions. Evidence of COVID-19's influence on the Pakistani and South Asian stock and commodity markets has been objectively demonstrated in this study.

The COVID-19 drove global financial markets into extraordinary volatility and poor returns. Based on early data, Pakistan's stock market looks to be breaking the trend of global stock markets. Using daily data obtained from February 25, 2020, to December 7, 2020, this article investigated COVID-19's impact on SMV. This can be alleviated by using economic considerations (E and R) as well as government policy initiatives. It was determined using a VAR model that COVID-19 had a significant impact on SMV. When we introduce a COVID-19 shock to our baseline model, we see a large rise in SM volatility. Various E measurements and model assumptions can be used to explain these findings. These results are in line with other recent research in the area. Investors' confidence and risk-averse behaviour may have been damaged by policymakers, but the volatility reaction was moderate and became negligible after five days. Consequently, Pakistan avoided the worst of COVID-19's impacts.

5.2- LIMITATION AND FUTURE WORK

Thus, instead of assessing how the market performs once the pandemic has subsided, this research exclusively examines the time period while new coronaviruses were on the increase. Furthermore, macroeconomic variables were totally ignored in this study, which leaves a lot of opportunity for further research.

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