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Impact of National Culture on Stock Markets' Returns and Volatility During COVID-19

by

Muhammad Atif Khan

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the

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I want to dedicate this thesis to my parents specially my father Nazar Muhammad Khan (Late), respected teachers, friends and family for their love, support and care.



CERTIFICATE OF APPROVAL

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”Then which of the Blessings of your Lord will you deny”

In the Name of Allah, the Most Gracious, The Most Merciful. All thanks to Allah almighty, the Cherisher and Sustainer of the worlds. The God who blessed me with the knowledge, wisdom, and courage to complete my tasks successfully. Billions of salutations and benedictions to the Holy prophet **Hazrat Muhammad (PBUH)** who told us the way of success.

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(Muhammad Atif Khan)

Abstract

The main aim of this study is to investigate the impact of national culture on stock market returns and volatility. Data sample has been extracted from 16 countries including Australia, Austria, Brazil, Russia, India, China, South Africa, Pakistan, the United States, Sri Lanka, Singapore, Morocco, Kenya, Canada, Japan, and Vietnam. The data arrangement comprises of six emerging countries, six developed countries, and four frontier countries. The framework of this study is to investigate the impact of national cultures along with six dimensions (PDI, UAI, MAS, LTO, IDV, IVR), COVID cases, on stock return and volatility and two control variables, the exchange rate and interest rate. Using panel data regression analysis, the findings show that National culture has an insignificant impact on returns from all 16 countries. Moreover, only MAS has a negative significant impact on return in the national culture dimension, whereas the rest have negative outcomes. COVID cases have a significant negative influence on returns in all 16 nations, as the return decreases as the number of cases increases, and the market becomes uncertain, contributes the fear influences the decisions of investors. National culture and dimensions, as well as their disparities between countries, have a negative impact on volatility.

Keywords: National Culture, COVID-19, Exchange rate, Interest Rate, Stock Return, Stock Volatility.

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Abbreviations

EMH	Efficient Market Hypothesis
ER	Exchange Rate
FDI	Foreign Direct Investment
GAM	Generalised Additive Model
IDV	Individualism versus Collectivism
IR	Interest Rate
IRTCCPM	Increase Rate of the Total COVID-19 Cases Per Million
IVR	Indulgence versus Restraint
LTO	Long-Term Orientation
MAS	Masculinity versus Femininity
PDI	Power Distance Index
SARS	Severe Acute Respiratory Syndrome coronavirus
SR	Stock Return
SV	Stock Volatility
UAI	Uncertainty and Ambiguity Index
WHO	World Health Organization

Chapter 1

Introduction

Culture is a set of common values, conventions, and beliefs that separates members of one societal structure from those of other societies/groups (House et al. 2004). People's behaviour is influenced by culture, which determines what is morally right and wrong in a community (Hofstede 2001). "The collective mental training that distinguishes people of one nation from those of another" is how national culture is described (Hofstede et al. 2010). Despite the fact that tradition is a vast and difficult to measure this concept, this research focuses on the element of national culture that helps people avoid ambiguity. Uncertainty avoidance differs by country (Hofstede, 2004).

Culture refers to a group of people's or society's taught and shared ways of thinking and acting. The fundamental patterns of values and attitudes differ significantly between cultures. The Hofstede model of national culture is used to examine Power Distance (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty Avoidance (UAI), Long-Term Orientation (LTO), Indulgence versus restraint (IVR). According to the study, the prevailing national culture, that determines people's sentiment to uncertainty, is a significant emotional component in explaining why investors in various countries responded so differently to the Covid-19 problem. Culture is a collection of shared values, beliefs, and conventions that distinguishes participants of one social unit from members of others (House et al. 2004). Culture has an impact on human behaviour since it dictates what is ethically acceptable and wrong in a community.

(Hofstede et al., 2001). National culture is described as "the collective mental training that differentiates citizens of one nation from those of another" (Hofstede 1980; Hofstede et al. 2010).

The PDI dimension reveals how much less powerful members of society accept, and expect unequal distribution of power. The key problem is how a society deals with socioeconomic injustice. Individualism at the extreme point, IDV is defined as a preference for social framework in which people are expected to look out just for themselves and their immediate families. The MAS of this indicates a preference in society for achievement, courage, aggressiveness, and financial rewards for success. The common person is more competitive than the average one. Femininity, on the other hand, is defined by a preference for togetherness, humility, concern for the weak, and a great quality of life. The average person holds a more dominant viewpoint. The Emotional response to uncertainty is another dimension of culture and measures through Uncertainty and Ambiguity Index (UAI) which indicates how uncomfortable people in a society are with unpredictability. Countries with a high UAI stick to strong religious and behavioural rules and are intolerant to unconventional behaviors and ideas. Low UAI cultures are more spread, valuing action over beliefs. Long-Term Orientation (LTO) believes that every society must maintain certain historical links while addressing current and future issues. Societies approach these two existential goals in different ways. Low-scoring societies, in fact, prefer to uphold lengthy beliefs and norms while reacting negatively to cultural progress. IVR Indulgence societies in which basic and natural human desires such as enjoyment of life and pleasure are mainly uncontrolled. Restraint refers to a society that uses strict social regulations to limit and regulate the satisfaction of desires.

The paper tackles two primary issues: measuring national culture as a proxy and designing models for current investigation. In respect of the challenge, Hofstede's 6 Dimensions of Culture (1980, 2001) is widely regarded as the most important books in cross-cultural psychology (Beracha et al. 2014). "Power Distance" (PDI), "Individualism vs. Collectivism" (IDV), "Masculinity vs. Femininity" (MAS), and "Uncertainty Avoidance" (UAI) were the first four quantitative indicators developed by Hofstede (1980). (UAI). To broaden the perspective, Hofstede added two

new indices: "Long-term vs. Short-term Orientation" (LTOWVS) and "Indulgence vs. Restraint" (IVR) (Bond and Hofstede 1988). These indices are thought to be moment and capable of describing the most important cultural qualities of a country. Volatility in the stock market is a major source of concern and mix-up. Recognized volatility (RV) is a procedure that is dependent on the difference between stock market returns, has been shown using a variety of time series analysis and random differential conditions (Fornari and Mele 2000). However, indicated instability (IV) is an often used unpredictability indicator. The created IV file is a weighted composites of costs for a variety of options, using the whole financial exchange list as the primary resource. Han (2008) uses Han 2008 as a tool to gauge the general mood of the market.

Investor attitude is the vital factor in making investment decision due to different behavior towards financial losses (Gormsen and Koijen 2020), and also because of investor attitude. An investor's mood is described as their appraisal of future revenues and investment risk, as well as their willingness to invest. According to Schmeling (2009), cross-country disparities in culture norms impact investors' emotion, which determines influences how they react to news. On December 31, 2019, the World Health Organization (WHO) confirmed the very first case of COVID-19 pandemic in the Chinese city of Wuhan. During the Chinese New Year celebrations in mid-January 2020, the virus spread to other Chinese cities, turning the epidemic into a national problem. The current outbreak has been connected by Chinese experts to the coronavirus family of viruses, which includes both SARS and Ebola (MERS). As of August 2, 2020, there were around 18 million confirmed cases worldwide, with 687,000 deaths (WHO, 2020). To date, America has been the most severely afflicted region, followed by Europe and Southeast Asia. COVID-19 outbreaks have wreaked havoc in China, Italy, Iran, Spain, France, the UK, and the United States so far (Ashraf, 2020).

The Covid-19 has produced tremendous uncertainty regarding how lethal the virus's is, when a vaccine will be available, how long economic shutdowns will be necessary, how governments will respond, the consequences of government actions, and how individuals will react (Wagner 2020). Now adays booster dose are also available, vaccinated peoples are allow to use two booster dose for safe and

good health. Because of the high degree of uncertainty, making predictions has become incredibly challenging. The impact of this effect could be seen in asset market price fluctuations. The global stock markets, in particular, reacting to the Covid-19 outbreak with extraordinary instability and negative results (Al-Awadhi et al. 2020; Ashraf 2020b). The Covid-19 pandemic has created huge uncertainty about the disease's intensity, when a vaccine will be available, how long economic shutdowns will be necessary, how governments will respond, the consequences of government policies, and how individuals will react (Wagner 2020). Because of the extreme unpredictability, making predictions has become incredibly difficult. The impact could be seen in value change in assets. Conversely, the market reaction, was not constant across countries (World Bank 2020). Market reactions varied by nation, not just because the various levels of predicted future financial loss (Gormsen and Kojen 2020), but also investor feelings (Zhang et al. 2020).

Investors mood is explained as a person's estimate of cash flows and financing decisions, as well as a tendency for risk-taking (Baker and Wurgler 2006). Cross-country disparities in culture and values, according to Schmeling (2009), affect investors' sentiment, which determines how they react to the news and information. Furthermore, there is a chance that the potential variables will be highly collinear. As a result, combining all of these variables into a single regression model is not suggested. Prior studies has randomly ignored these difficulties, which are critical to the empirical analysis's validity. Alternatively, at the moment, the research is concerned primarily with national cultural aspects. Because national culture is such a deep cultural entity, the study focuses the impact of national culture on long-term stock market's performance and volatility. As a result, short-term variability modelling, such as the time series GARCH model, is not the focus of this research.

The results in the six factors do not meet the basic requirements of the Gauss-Markov theorem. In this case, traditional linear regression procedures are inappropriate. Alternatively, Hastie and Tibshirani (1990) developed the generalised additive model (GAM), It combines elements of both generalised linear and exponential models GAM provides a fair balance between the flexibility of unstructured

or response-based approaches and the readability and familiarity of linear regression. To the model association between the Hofstede's six culture dimensions variables and volatility indicators, GAM was used.

With the exception of La Porta et al framework's classical finance theory limits the influence of national culture (1997, 2000). Moreover, it is empirically proved that our values, which determine our attitudes and behaviours, are shaped by national culture (Adler 1997; Henrich et al. 2002). Despite its casual nature, national culture is more resistant to intentional policies and institutional governance (North 1990). However, national culture has a significant influence, particularly on financial market and other problems (Shiller 1999).

Overall, there is large cultural impact remains (Bekaert and Harvey 1997). In any case, public culture has a significant impact on financial groundwork that are necessary for market coordination either domestic or global level (Eun et al. 2014). According to Hofstede et al. (2010), culture is indeed a broad term that encompasses all of the bits and pieces, feelings, laws, and behaviours that make up our mental programming.

The term "culture" refers to all of the background variables that influence investor mood (Brown et al. 2002). Cultural biases have been extensively researched and proven in behavioural finance. Chui et al. (2010), examine the impact of different culture on current strategy returns. Furthermore, Beckmann et al. (2008) contend that culture does, in fact, influence investment behaviour in a complicated way. Although cultural dimensions do not exist in a physical sense, their consequences are undeniable. Culture is contagious among people and is linked to underlying behavioural concepts. The matrix of dimension scores developed by Hofstede serves as a bridging framework for cross-cultural research. Those parameters are based on surveys conducted across a wide range of cultures. These and other indices could be used to detect the major cultural aspects, as well as distinctions in people's thinking, attitudes, and social behaviours.

The studies have highlighted the importance of analyzing and understanding dimension scores. Only when culture is contrasted it can be applied meaningfully. Over time, the general positions will change. In a process, commonly cross-country surveys conducted over the last two decades, these general perceptions have been

shown to be relatively consistent over the time. The conclusion are based on the value of culture dimensions in a global study. The fundamental parts of national culture dimensions are revealed through a factorial analysis across countries. Despite some early criticism, these measures have gained significant popularity and are now used in a wide range of empirical studies.

Since the first reports of a news coronavirus in China in early jan 2020, the world epidemic has claimed countless lives and threatens to cause chaos on the global economy. Despite the fact that the pandemic has affected nearly every country, the responses to it have been wildly disperate. Although Sweden has limited social restrictions, several other countries have adopted mandatory lockdowns and social isolation to varied degrees. A few financial business sectors have lost more than 30% of their value since reaching their new from top to bottom, but there has been significant variation among country regions. This relates to the concept of how the responses of financial donors to the crises were impacted. This research could be beneficial in gaining a better understanding of the country's way of life. From one perspective, studies suggest that social differences may help to explain financial supporters' risk tendencies and resilience (e.g., Li et al., 2013), as well as have a key role in how they interpret and respond to new suggestion (Anderson et al., 2011). As a result, people's perceptions and responses to the epidemic may be influenced by their cultural beliefs. Surprisingly, Emergent Norm Theory states that when people are faced with uncertainty or risk, they will create new standards to guide their behaviour (Turner and Killian, 1987). The impacts of national culture on the pandemic is investigated in this study. Surprisingly, the level of financial exchange response differs according to the sociological qualities of a country. Hofstede (1980, 2001) separates a country's style of life into six categories. Independence and risk avoidance are the two most important social characteristics that have been shown to affect financial decisions. Individualism is defined as people's desire for just a loose social structure wherein they are more concerned with themselves and their immediate families than with larger groups. Uncertainty avoidance is a metric that evaluates a community's tolerance for unanticipated events. Higher volatility is associated with higher stock market declines, according to research on stock return volatility. According to this study, nations with low individualism and

strong uncertainty avoidance contribute the increased volatility and market drops during the first few weeks of the COVID-19 pandemic.

Examining the social and cultural aspects of tuberculosis, they suggest, opens up new avenues for lowering tuberculosis detection delays, strengthening health systems, and reducing infectious disease spread. Fairhead (2016) feels that ignoring cultural concerns early in an outbreak leads to ineffective and challenging public health activities in his study on Ebola in the Forest Region of the Republic of Guinea. Cultural variables have a major impact on cholera exposure and transmission in the Republic of Cameroon, according to Ngwa et al. (2017). According to COVID-19 research, culture has begun taking on greater importance. Pogrebna and Kharlamov (2020), for example, reveal that hand washing culture is a significant component that helps us to understand much of the pandemic's current heterogeneity. Cultural effects, according to Muurlink and Taylor-Robinson (2020), may have a systematic impact on the gender balance of COVID-19 infection prevalence. To ensure successful outbreak control and effective COVID-19 screening and treatment, Bruns, Kraguljac, and Bruns (2020) emphasise the importance of culturally appropriate education, prevention, and treatment in public health initiatives. Messner (2020) stresses the need of public authorities paying special attention to cultural situations in their countries while taking measures to control COVID-19's growth. To our knowledge, no fine-grained published investigation on the relationship between cultural factors and COVID19 instances has yet been published. The formulation of specialised plans for each country's fight will be made possible by increasing the number of research that can alleviate this deficiency. In this sense, it can contribute to the global struggle's effectiveness. Understanding the connection between national cultures and outbreaks, is crucial. Unleashing this causation could lead to effective political solutions for all types of outbreaks, not only the COVID-19 pandemic. The research also aids in identifying the factors that influence people's willingness to follow the rules.

Maloney and Taskin (2020) also claim that social separation has risen primarily as a result of people's voluntary avoidance of public settings in response to more COVID-19 incidents. In addition, according to Morita et al. (2020), the viability of informal laws such as work environment terminations, public transportation, and

national travel limits significantly promote social division. Furthermore, scholars have examined this difference using Hofstede's social features structure: People in low-'Independence' societies conduct more friendly removing, according to Frey et al. (2020). According to Huynh, people with a high 'Resilience Avoiding' culture are more likely to maintain friendly distance (2020).

Another factor is that the first-stage pandemic took everyone off shield, therefore there were no lessons to be learned from their peers. All nations have tried a variety of measures to tackle COVID-19. According to the study, the impact of culture and strategy decisions may be better differentiated in the first wave than in the second. Individuals' perceptions of COVID-19 shifted in the following wave, and as a response, they recognized the need of social isolation, including wearing of masks. To begin, the researchers looked at how government policies and public culture contributed to social isolation. The investigation is also quick to look at the relationship between friendly distance and each of Hofstede's six public culture aspect. Understanding which component is more essential will assist decision-makers in determining the most effective strategy for improving social purchasing power at this critical time.

The study examines the ability of interest rate and currency rate volatilities to predict them on the Malaysian stock market, as well as a KLCI analysis. Changes in these two elements have an indirect impact on the stock value of a company and, as a result, on stock returns. The majority of the research has done in the United States and other developed markets, despite the fact that the relationship has been widely explored. Interest rates and stock returns have a negative relationship, according to some empirical evidence, and interest rate levels and volatility affect the financial sector's return distribution. The study looked into the impact of currency rate risk. Some studies found a positive correlation, while others found a negative relationship. It may be argued, however, that when exchange rates vary, the value of assets and liabilities denominated in foreign currency can change dramatically, either increasing or reducing. As a result, a company's profitability and, as a result, the value of its stock may suffer. In a nutshell, empirical research aiming to assess the relationship between interest rate, exchange rate, and stock returns yields mixed results, and the research believed it was necessary to conduct

this study due to the mixed results. By using GARCH to analyse the KLCI under various interest rates and exchange rates from 1997 to 2009, the researchers aim to predict the interest rate, exchange rate, and stock return all at the same time. The research is to determine how interest rates and currency volatility affect Malaysia's underlying stock return. It examines how current and historical interest rate and exchange rate volatility can assist investors in predicting volatility and conditional market returns, resulting in above-average risk adjusted returns.

The main occurrence of COVID-19 in Pakistan was detected on February 26, 2020. When better in comparison to developed countries like France, Italy, and the United States, the return rate is higher. The impact of COVID on Pakistan's economy is dependent on how quickly reasonable precautions are implemented and how rapidly the disease spreads. According to the Asian Development Bank (ADB), the pandemic might cost Pakistan's GDP between \$16.38 million and \$4.95 billion, or 1.57 percent of GDP. According to the study, the occurrence resulted in a 946,000 work shortage. This is difficult for a country that has spent the last two years recovering. Exchange is regarded as the heart of any economy because it obtains foreign stocks, to maintain financial stability and govern the money rate. When the incident occurred in Pakistan, the government has chosen to shut down the industry, causing the market to crash. Previously, when an important change or crisis occurred, the financial markets reflected the nation's changes. Like the reported highly toxic cases in Pakistan, The stock market starts to fall, and on March 19, it achieves its absolute low level in last 5 years. The epidemic is the primary cause of this sharp decline, since foreign financial investors have stopped their outside portfolio investments. COVID-19 imposes a lockdown on businesses, putting a burden on the securities exchange. The IMF grants Pakistan a \$1.4 billion loan to deal with the pandemic, and the World Bank contributes money when the IMF and other countries agree to extend credit payment deadlines. The nation's securities exchange and corporate activity are restored in a roundabout way. The KSE-100 index has increased significantly as a result of these efforts, going from 39,382 on March 5 through 44,960 on March 26 (2020, News Desk).

Since the Great Depression, COVID-19 sickness has impacted negatively on the

global economy and financial markets. Precautions methods like sociocultural separation and lockdowns have shown to be more effective, Despite the fact that they come at expense of sales decline and possibly the permanent closure of some businesses. The financial damages generated by pandemic have influenced the global financial markets. The pandemic's contagion effect on global financial markets has been evident on nearly every continent, and pandemic has an impact on the Pakistani stock market. The purpose of The research is to see how stock markets in other nations, such as Pakistan's, responded to the COVID-19 epidemic and how that affected market performance. COVID-19 positive cases, deaths, and recoveries are supposed to influence the performance of the Pakistani stock market. The research shows the study demonstrate that only COVID-19 recoveries have had an impact on market performance, therefore positive instances and deaths are meaningless in this context. During the first half of 2020, a number of other factors will influence the behaviour of the Pakistani stock market.

Multiple factors, exchange rate fluctuations, for example, can have a significant impact on the market value of enterprises and stock prices. Despite much debate, there is still no agreement on how the stock market and the exchange rate interact. Currency and interest rates, according to financial theory, have an impact on a company's worth. The stock prices of companies may be influenced by positive and unfavourable exchange rate changes. Foreign direct investment (FDI) is a significant component of stock prices in Pakistan, and fluctuations in the exchange rate, whether depreciating or appreciating, can have a significant impact on FDI trends. Similarly, changes in stock prices have an impact on currency rates.

China is one of the fastest growing emerging economies in the world, and the Chinese stock market has risen dramatically, since the country's open-door policy in 1978 and other economic and financial reforms that began in the early 1990s and continue to this day. It boasts the world's second largest stock market (Shanghai and Shenzhen stock exchanges combined) with a market capitalization of almost four trillion dollars and over two thousand listed companies. In general, stock markets react quickly to changes in economic paradigms, both domestically and globally. In terms of the Chinese stock market, history shows that its overall behaviour has remained turbulent throughout time.

As a result of the epidemic, which has had a tremendous economic impact on both advanced and emerging economies such as the United States, Spain, Italy, Brazil, Pakistan, and India, uncertainty and risk have been created. The financial market has reacted with wild swings and has been adversely harmed. The COVID-19 epidemic has significant impact on the financial industry, which has damaged stock markets. Firzli (2020) refers to this ailment as "the larger financial catastrophe" (2020). Business is extremely leveraged in many nations, unstable organisations are further disrupted, and corporate debt is at an all-time high. The global financial market risk has risen dramatically as a result of the pandemic. (Zhang et al, 2020). Fear and uncertainty have caused enough losses for investors. For example, the global stock market lost nearly US\$6 trillion in one week from February 24 to February 28 as a result of the pandemic's impact (Ozili and Arun, 2020). Since the pandemic outbreak, the valuation of standardized & poor (S&P) 500 indices has decreased by 30%., according to Azimili (2020), Increased uncertainty impacts the required rate of return and consequently the present value of stocks.

Because the research looks at Australian equity returns and insatibility, it's important to know how the Australian government uses monetary and fiscal policy to aid the economy. The most significant monetary evidence by the Australian government. Australia, on the other hand, adopted an aggressive economic strategy by lowering lending fees and a stimulative financial strategy by supporting changes. The Reserve Bank of Australia (RBA) interest rate, which affects market loan fees, was 0.75 percent in January 2020. The RBA reduced its true money rate many times in 2020 to keep up with the COVID-19 economy before choosing to keep it at 0.10 percent in February 2021. The research is looking at COVID-19's influence on stock returns and instability. Only a few studies looked at the influence of the COVID-19 outbreak on stock market performance throughout the time period covered by our research.

The goal of the study is to determine how the COVID-19 epidemic will impact the global financial markets. The financial market is the location where routine operations such as buying and selling publicly-held company shares take place. Investors buy stocks with the hopes of making a profit, which is only feasible if the price of the equities rises. Stock markets indices which provide a quick overview

of the market condition, and their volatility shows the price movement of stocks traded in the market. The impact of recent pandemic on stock market returns was investigated in this study, Specifically, the COVID-19's impact contagion infectious disease on the world. This pandemic has impacted a large number of people as well as the global economy. The organization has moved to prevent human transmission and improve control of affected people, and financial movement has nearly ended. The profit from a securities exchange is not fixed by the linked firm's presentation; however, in the current circumstances, firms are impacted by the pandemic, which reduces benefit and profit instalment abilities, resulting in a financial exchange cost reduction. According to professional market speculation, financial backers are frequent, and they make their own venture decisions based on market data.

Various global epidemics, such as SARS, the H7N9 virus, the Ebola virus, and the COVID-19 pandemic, have occurred in the twenty-first century. The majority of research that looked at the impact of these outbreaks on stock market performance indicated a negative influence. In the case of the current epidemic, COVID-19, Goodell (2014) claims that the pandemic has had a negative influence on the world economy as a whole. The pandemic, which has affected 216 nations worldwide, has an impact on all elements of the global economy, including stock markets. More specifically, the pandemic had an impact on stock market performance worldwide. Obviously, the epidemic increased the amount of risk, resulting in significant losses for investors within a short period of time. The difficulty was magnified when a second wave of influenza emerged in several nations, indicating that the pandemic is still unsolved. As a result, as the epidemic progresses, there will be a great deal of uncertainty. Many investigations have been conducted in order to evaluate the effect of the COVID-19 pandemic on the economy overall and the securities markets in specific.

COVID-19 has had an impact on practically every aspect of life, including the financial markets, from the health crisis to the economic instability. Until now, scholars have primarily concentrated on traditional stock markets, with Islamic stock markets receiving only sporadic attention in relation to the current health problem (see Sherif 2020). To the best of our knowledge, this study presented the first empirical evidence of volatility in the aftermath of the COVID-19 catastrophe.

The goal of the study was to look at the influence of the global health crisis on various stock indices from around the world.

1.1 Theoretical Background

1.1.1 Efficient Market Hypothesis

According to the market efficiency hypothesis theory, when calculating stock prices, a financial market is efficient if it fully and accurately reflects all relevant information. Particulrly , a market is considered to be efficient concerning certain information sets if providing that information to all participants does not affect the stock price. Furthermore, efficiency about an information set, suggests that trading based is difficult to achieve huge returns. According to the Efficient Market Hypothesis (EMH), security prices should represent an unbiased reflection of all immediately available information at any one time, and the return earned should be following their risk perception. Theoretical and practical research on EMH provides mixed results. One of the most well-known and prominent current financial theories, the Efficient Market Hypothesis (EMH), asserts that all relevant information is quickly incorporated into securities prices as it is provided. There are three types of efficient market hypothesis: weak, semi-strong, and strong. (Naseer & Tariq, 2015)

1.1.2 Risk Reward Theory

The risk-reward theory suggests in this study that the pandemics create fear in the market because it affects decision-making power, causing some people to panic and make rash decisions. Stock investors utilise the risk/reward ratio to control their capital and chance of losing. The ratio helps in examining a market's projected return and risk.

1.2 Gap Analysis

Many people have studied stock market returns and volatility throughout Covid-19 pandemic , but no one has looked into the link between country culture and stock market returns. Asset pricing in equity markets is influenced by country culture. The relevance of national culture as a missing link will be highlighted in this study, which will add to the literature (Goodell and Aggarwal 2014; Breuer and Nadler 2019).

The analysis reveals several gaps in current literature. Both Maloney and Taskin (2020) focus on the first wave, but Huynh's contribution of national culture is ignored. Huynh (2020), on the other hand, ignores the government interference discussed in the previous two studies. As a result, all three studies used weak models that could contribute to omitted variables. Existing research on social distancing focuses only a portion of Hofstede's 6 cultural dimensions, and there's no need to ignore others. Frey et al. (2020), for example, investigate the impacts of 'Individualism.' Im and Chen (2020) look into the effects of "Individualism" and "Uncertainty Avoidance," while Huynh (2020) looks into "Individualism," "Uncertainty Avoidance," and "Power Distance."

Women in feminine countries value nurturing in the same way as men do. Women in masculine countries, on the other hand, are more forceful and competitive, but not to the same extent as men. As a result, countries exhibit a divide between men's and women's ideals (Hofstede and Bond 1988).

1.3 Problem Statement

To address culture, including the behavioral sentiments on stock market performance across countries. Because there is a long-term and short-term orientation, cultural differences affect the power distance between countries, and due to the different culture of countries, investors behave differently in stock market and may contribute to stock market crash.

The following four categories represent important cultural traits of a society: power distance, uncertainty avoidance, individualism–collectivism, and masculinity–femininity. In the end, Hofstede (2001) assigns a score to each country based on each cultural

component, revealing how people feel about social changes across different cultural backgrounds.

1.4 Research Question

- Does national culture affect stock returns and volatility of financial markets?
- Does the national culture affect stock returns and volatility of financial markets during Covid?
- Does national culture affect the investor's decision?

1.5 The Objective of the Study

- To investigate the effect of national culture on stock return and volatility of financial markets.
- To investigate the effect of national culture on stock return and volatility of financial markets during COVID-19.
- To examine how national culture affects investor's decision.

1.6 Significance of Study

This study can help portfolio managers make better decisions during a financial crisis. It's also crucial for investors who are deciding whether to invest for the long or short term during a pandemic. This study can be used by risk managers to minimize risk, and it is also beneficial for government and policymakers. Moreover, company executives, and stock market decision makers will be able to identify ways to handle stock market volatility successfully. As researchers to have a better understanding of market conditions and their circumstances.

1.7 Plan of Study

This research is divided into five sections. The first chapter covers the following topics: introduction, theoretical background, gap analysis, research questions, objective of the study, and the significance of the study. The second chapter includes a summary of previous research on the relationship between national culture, the COVID-19 pandemic, exchange rates, interest rates, stock returns, and volatility, as well as the study's hypothesis. In Chapter 3 are included, the definitions of variables and methodologies used, as well as the panel regression models and panel data approaches (random, fixed effect, and common effect) that were used. The results and discussions are presented in the fourth chapter. The fifth and final chapter concludes with recommendations, limitations, and the study's future direction.

Chapter 2

Literature Review

2.1 Impact of National Culture on Stock Return and Volatility

Yildiz, and Karan, (2020) investigated the influence of nation environmental performance and national culture on the stock price decrease risk of sustainable energy firms. They produce a positive nonlinear connection between nation environmental performance and crash risk using a large sample of 626 sustainable energy firms from 31 countries. National culture characteristics, especially following the worldwide economic crisis, play a large influence in predicting the danger of a sustainable energy failure . Environmental legislation and national culture, on the other hand, do not have a significant role in predicting the likelihood of a fossil fuel company failing. Other stock market crash risk estimates the endogeneity of national culture variables had no effect.

Liu, W. H. (2019) proved that volatility in the stock market is a major cause of ambiguity. All six variables play a major impact in determining the levels of volatility in individual stock markets, according to a cross-sectional study based on the Generalized Additive Model. This study backs up the value of national culture in the long run. The results reveal the specific intuitive patterns of the six dimensions, which help to understand the implied volatility levels in foreign equities markets. National culture, despite its informal nature, is more resistant to intentional policies and institutional governance (North 1990). Furthermore,

national culture has a significant impact, particularly when it comes to worldwide finance and other issues (Shiller 1999). In general, the strong country-specific effect (Bekaert 1997). Even for economic institutions that are part of market integration or an open market, the effects of national culture are significant (Eun et al. 2014).

The influence of nation culture on equity market reaction to Covid-19 was investigated by Perez, Gilbert, Indriawan, and Nguyen (2020). In this study, simple regression analysis is performed on a sample of 63 nations. Culture has a considerable impact on the rise of instability of extraordinary returns, according to the findings, which are unaffected by a variety of other stock-return-related characteristics. They found that nations with a high level of individualism but a low level of uncertainty avoidance respond having more volatility than countries with a high level of individualism but a low level of avoidance of uncertainty. They also discover that the rigorousness index, which is based on government reaction protocols, has an adverse influence on the country's cumulative remarkable gains on the financial markets.

Gokmen, Y., Baskici, C., and Ercil, Y. (2021) investigated the confirm total cases of the COVID-19 pandemic and the cultural dimension scores of selected European countries are used. Because the measurement units of cultural and epidemic variables differ, the optimum regression model should be chosen using a stepwise multiple logarithmic regression analysis. Power distance has a considerable and unfavourable impact on the overall COVID-19 occurrences per million rise rate, according to the findings (IRTCCPM). A 60-day timeline will be used for each country. PD has a considerable and detrimental impact on IRTCCPM, according to the data. Furthermore, the findings imply that both IND and INDUL have a positive impact on IRTCCPM.

Fernandez-Perez, A., Gilbert, A., Indriawan, I., & Nguyen, N. H. (2021) confirmed that Investors, firm management, and other financial market participants have been proven to respond to crises differently depending on their country's culture. However, no studies focus impact of culture on market reactions during crises have been conducted. This is the very first attempt to investigate how a country's culture affects equity market reactions to a global health crisis. Within the first

three weeks after a country's initial COVID-19 case notice, countries with lesser individualism and more uncertainty avoidance had larger stock market declines and increased volatility. The findings hold up when it take into consideration investor worries, total infected cases, the rigour of government response measures, the amount of political corruption, democracy, and the 2003 SARS outbreak.

Rothonis, S., Tran, D., & Wu, E. (2016) researched whether cultural proximity can amplify volatility in global equities markets. The researchers discovered that the cultural distance measure is adversely associated to the extent of return volatility across countries using daily data of financial markets indices for a sample of 49 developed countries and developing countries. National culture is also found to be more important when two markets have a known as investor base and more international portfolio investments. Furthermore, the findings suggest that when one market within a country combination is less accessible in terms of foreign market than another, the research shows that the economy crashes, If they engage in exchange trading, the cultural divide between them will exacerbate volatility . According to the findings, market players from similar cultural backgrounds respond and analyze information into share prices in a similar way, contributing to the globalisation of volatility links.

Hua, W., & Wei, P. (2017) investigated relationship between market-wide trading activity and price volatility in 36 nations for the sample years of 1996 to 2012. Based on an understanding of noise trading, the volume–volatility should be stronger in countries with higher degrees of individualism and masculinity, lower levels of power distance, less-developed markets, younger populations, and lower transparency. In terms of country culture and population age, empirical findings mainly confirm our expectations. However, the data supporting the level of market development and transparency is fairly limited.

Han, S., Kang, T., Salter, S., & Yoo, Y. K. (2010) investigated to see if managers' earnings discretion is influenced by their country's value system (culture) and institutional components (legal environment). According to the findings, managers' earnings discretion is explained by national culture features of uncertainty avoidance and individualism, and that this relationship fluctuates depending on the extent of investor protection. The study looks at whether national culture predicts

earnings management in a small and specialised sample of five Asian countries.

Beugelsdijk, S., &Frijns, B. (2010) investigated the foreign bias in international asset allocation in the research. Based on current behavioural literature, the findings show that a society's culture, as well as the cultural distance between these two economies, have a significant role in explaining foreign choice. According to the findings, a country's foreign bias is determined by its level of avoidance of uncertainty and individualism (more volatility countries allocate less to international markets, causing these individuals to be more aggressive in their international asset allocations) (in individualistic countries performance is more directly attributed to a person and less to teams). The research also assume that the quantity of money provided to a market is affected by the degree of cultural distance between two countries. For the allocation to established markets, the number of observations is lowered from 525 to 483, and for the allocation to emerging markets, it is cut from 438 to 357. Based on comprehensive robustness testing, the research found support for the assumptions on the influence of culture on foreign portfolio diversification.

Galariotis, E., &Karagiannis, K. (2021) studied all aspects of social behavior, which are influenced by culture, including our values, customs, beliefs, and anticipated behaviours. Furthermore, it has been discovered that government economic policy has a significant impact on financial markets. For the first time, this study combines two findings to see whether and how culture and economic policy uncertainty impact style investment, particularly momentum investing. The research also go further past research by include other cultural aspects, such as power distance, uncertainty avoidance, masculinity, and long-term orientation, in addition to individualism (Hofstede [1980]). Researchers employ a sample of worldwide markets from several geographical locations, with set of cultural, economic, and political characteristics, as well as different levels of capital market development (Australia, Brazil, Canada, Germany, India, Japan, and the United Kingdom). *Software of the Mind: Cultures and Organizations* [2001] McGraw-Hill, London. *Consequences of Culture* 1st ed., 2nd e Sage, Beverly Hills, CA, [2011]. "Cultural factors, economic policy uncertainties, and worldwide financial market momentum investing are all linked. Apart from individualism, researchers believe that other cultural elements, such as fluctuations in the business cycle and/or global variables

such as oil prices and global market-related worries, may impact momentum investing.

See-To, E. W., & Yang, Y. (2017) investigated mood have a significant impact on individual behaviour and decision-making, according to behavioural economics. The question is how to directly evaluate investor mood and quantify its consequences, rather than whether market volatility affects financial market pricing. Prior to the introduction of big data, research relied on proxies to indirectly gauge investor confidence, which was difficult due to a lack of data points. Furthermore, the majority of sentiment research studies concentrate on institutional investors rather than individual investors. Regardless that individual investors hold over half of the stock market through stock investments in the United States. The research investigate the role of individual sentiment in order to overcome problems in measuring sentiment dispersion in stock market and to support the importance of individual investors. Researchers want to know if sentiment dispersion incorporates information regarding predicted market returns and, in particular, realised volatility. According to the study, a text mining method was used for extracting sentiment and applied both linear regression analysis and Support Vector Regression, individual opinion dispersion includes information about shares realised liquidity, which can be used to increase accuracy rate, enhancing the growth of big data, and significant breakthroughs in data and text mining techniques. By measuring individual sentiment dispersion, presenting a new perspective on the impact of investor opinion on financial markets, and suggesting a complementary investing strategy based on user-generated content, the paper proposes a novel method for evaluating the impact of investor sentiment on capital markets. The research expect our findings to contribute to existing theories of electronic market financial behaviour.

Mubarik, F., & Javid, A. Y. (2009) analyzed for the period of July 1998 to October 2008, this study examines the relationship between trading volume, returns, and volatility in the Pakistani market. To make the time series stationary, the Dickey-Fuller test is used. To investigate the relationship between return, volatility, and volume, the ARCH and GARCH-M models are used. Market and individual stock returns show signs of first order autocorrelation. The Granger Causality test

results show a feedback between market return and volume. However, the evidence implies that more stocks cause volume than volume causes returns in the case of individual stock returns. For the period from July 1998 to October 2008, a total of seventy enterprises from Pakistan's three manufacturing sectors were included in the sample. When trading volume is incorporated in the variance model of the GARCH-M model, the empirical results show that there is a significant interaction between market activity and return instability. The statistics show that the previous day's trading activity has a considerable impact on the current return, suggesting that past day returns and volume can be used to explain current market returns. In the GARCH-M model, the presence of a considerable first-order autoregressive process shows a strong relationship between volume and future returns.

Labidi, C., Laribi, D., & Ureche-Rangau, L. (2021) investigated the impact of national culture on the flow of socially responsible investment (SRI) funds. The research anticipates that cultural traits may drive SRI fund flows, based on recent research that suggests non-financial attributes and social preferences underlie SRI decisions. The research uses a database that spans the years 1997 to 2019 and includes mutual funds from 45 nations. Higher SRI flows are linked to low masculinity, uncertainty avoidance, and, to a lesser extent, high religiosity. Power distance and individualism, on the other hand, have a considerable significant difference on traditional financial markets but not on ethical money that flows.

Agnes, P., & Capuano, P. (2021) analyzed financial markets are in desperate need of an integrated and comprehensive culture that drives business behaviour and organisation, particularly in terms of risks and stakeholder relationships. Financial institutions must be protagonists, not bystanders, in the development of this positive risk culture. This necessitates the involvement of risk governance professionals in the process. The role of risk management in financial institutions' organisational structures is examined, which takes into account the natural shift from risk culture to risk governance. This study then looks at how the major parts of risk governance have been studied in recent research in order to better understand the probable link between bank profitability and risk. The research finds that since the beginning of the global financial crisis, the governance has grown

significantly, resulting in the implementation of not just theoretical approaches but also empirical analysis. Multiple regression models — with or without fixed effects — are commonly employed in quantitative research, although certain unique analysis techniques are also utilised for specific areas of analysis, such as the estimate of certain variables. Although research on the subject may not always agree, literature suggest a general trend toward financial institutions paying more attention to risk governance, which is connected to higher performance.

Singh, V., Li, B., & Roca, E. (2017) conducted a thorough investigation of the impact of culture on stock market ties. A quantile regression model is used to analyze the determinants of market connections using culture variables such as language, religion, and Hofstede's cultural dimensions while adjusting for distance, economic, and legal variables using data from 25 national stock markets. also it also examined whether these effects are stable across areas and whether changes may be detected during market downturns. it also looked at whether market liquidity, which is a measure of market efficiency, reduces the impact of culture on market links. The conclusion is that investor preferences are shaped by culture, which has an impact on stock market integration. Market linkages tend to increase in equity markets with similar cultural attributes; nonetheless, researchers see differences between regions. Moreover, stability and financial instability have no bearing on the significance of cultures variables as market linkage determinants.

Venaik, & Brewer, (2016) studied the Business and management instructors, researchers, and professionals frequently use the Hofstede and GLOBE national culture factors to explore cultural differences across countries. Furthermore, there are fundamental faults in employing all of these characteristics to understand cross-cultural disparities. First, most of those components used to evaluate culture values lack face validity. Second, national culture values for comparable dimensions seem to be either unrelated or negatively connected across the two models for common countries, whereas the scores for various aspects are more closely associated than the values for similar aspects. The absence of face, parallel, and discriminant validity of the dimension ratings makes them dishonest in representing the culture issues they claim to serve. As a result, implying larger features of societies, individuals, and organisations from these values is incorrect, and managerial

recommendations based on such studies are misleading. Because national culture models affect cross-cultural learning in management, ignorant belief in such models promotes cultural ignorance.

2.2 Impact of National Culture on Stock Return and Volatility During Covid -19

Xu, (2021) looked at how market returns adjust dynamically to unexpected changes in COVID-19 cases, and also the uncertainty that occurs with a pandemic. They found that a surge in COVID-19 cases had a negative impact on the stock market as a whole, analyzing daily data from Canada and the United States. Furthermore, the stock return reactions in Canada are asymmetric in both the up and down scenarios. The disparity comes down to a lack of understanding of the pandemic's consequences. Fear has a negative effect on financial market in the U. S, according to the study. They discovered that a increase in COVID-19 cases had a detrimental influence on the Financial market in general based on daily data. Stock return reactions in the COVID-19 situations in Canada are asymmetric in terms of rise and reduction. The asymmetry is due to the detrimental impact of uncertainty about the pandemic's progression on the Canadian financial markets.

Albulescu, C. T. (2021) examined how official COVID-19 announcements affected financial volatility during the pandemic phase of the crisis. Used the S&P 500 relevant to the phenomenon as a proxy for US financial market volatility to compare the impact of data reported at the global and US sectors. Findings suggest that disease cases were reported globally and in the United States exacerbate financial volatility, (ii) COVID-19 data reported worldwide has a greater impact than data reported reported in the U.S, and (iii) COVID-19 data reported globally has a greater impact than data reported in the U .S. (iv) During the pandemic phase of COVID-19, the impact of EPU on market volatility is low. Finally, the significant findings imply that the COVID-19 problem' long-term persistence, as well as the uncertainty surrounding it, enhance the volatility of US financial markets, affecting the worldwide financial cycle.

Bora, D., & Basistha, D. (2021) used a generalised autoregressive conditional heteroscedasticity model, this research empirically explores the influence of COVID-19 on stock market volatility in India from 3 September, 2019 to 10 July, 2020. By using daily closing prices of stock indexes Nifty and Sensex. The research also examined stock price returns in pre-COVID19 and post-COVID19 scenarios. According to the data, the stock market in India had significant volatility during the pandemic. When the research examined the findings from the COVID and pre-COVID periods, it discovered that the pre-COVID-19 period had a higher return on the indexes than the COVID-19 period. Wang, Y. (2021) analyzed the impact of national culture and government policies on social distance, during the initial wave of the pandemic, in order to combat COVID-19 across key economies. they studied social distance data from Google mobility reports using the Oxford COVID-19 government reaction tracker's government strictness index and Hofstede's country culture ratings. Researchers discovered that government repression had a considerably greater impact on social alienation than national culture. As the government tightens its grip, social separation grows. they showed two cultural factors matter: 'Long-term Orientation' reduces social separation, whereas 'Indulgence' has the opposite effect. Rather than criticising the culture, the findings suggest that politicians should take action.

Liu, Y., Peng, M., Wei, Z., Xu, J., & Xu, L. C. (2021) investigated research gives one of the first extensive and detailed investigations on the impact of firm resources, country institutions, and national culture on the survival and expansion of private firms around the world during the COVID-19 pandemic. The findings are based on the World Bank's COVID-19 Enterprise Follow-up Surveys, which include 18,770 businesses from 36 countries. Companies in nations with higher per capita income, lower COVID spreads, and fewer COVID control rules have a better chance of surviving and expanding. (2) During the pandemic, favourable ownership and parent-company linkages serve to buffer the pandemic shock. (3) The severity of a country's COVID policy has a considerable impact on the link between company characteristics and business survival/growth. (4) Firm survival and growth are favourably related to a country's long-term cultural trend, but not to uncertainty avoidance and individualism. The likelihood of a firm's survival, as

well as revenue and employment growth, is adversely correlated with the general quality of the country's governance.

Nelson, M. A. (2021) investigated factors that determined the early date and strictness of government replies to COVID-19 for over 150 countries were explored using data from the University of Oxford's Coronavirus Government Response Tracker. Authoritarian governments had a poorer initial policy response than democratic countries in the early stages of the epidemic, but decided to pursue more active quarantine efforts in the second half of the six-month period,. Unitary regimes tended to have more stringent policy measures in place at the outset than federalist ones, although these limits were lifted faster. Early policymakers were slower in nations with more freedom (political rights and civil liberties) and countries that spent less on public health, but they caught up three to four months after the pandemic started. There's no evidence that female executives implemented more strong anti-virus procedures than their men equivalents as a group. There is also scant evidence that island nations or countries that were hit later in the global wave adopted strategies that varied from those of other countries. The policy ramifications, such as how countries should prepare for future pandemics, are discussed.

Davison, C. (2020) researched that how firm debt affects the stock returns of companies that were heavily hit by the economic effects of social distancing. The research employ a difference-in-difference design to determine whether larger levels of firm debt had a causal effect on firms that were more exposed to social distancing constraints. The effects on stock returns are economically significant. The study also found that as the epidemic continues, the amplitude and sign of this effect changes. Increased debt resulted in lower stock returns for organisations less able to move their people to work remotely during the period from 20 February, 2020 to 20 March , 2020, when the stock market was falling considerably, compared to those that are more willing to conform to social distance. When the Federal Reserve announces its substantial involvement in the corporate bond market on March 23, 2020, this effect rapidly reverses from March 23, 2020 to March 24, 2020, larger debt resulted in higher stock market returns for firms more influenced by COVID-19. The results demonstrate how real-world economic shocks mix with

business economic situations to generate stock gains. Findings also show how Federal Reserve policy has a causal impact on stock market returns, providing insight into market perceptions of the Fed's extraordinary participation in the corporate bond market.

Ashraf, B. N. (2020) investigated the research looks at how the stock market reacted to the COVID-19 outbreak. The research found that stock markets reacted negatively to an increase in COVID-19 confirmed cases, from 22 January, 2020 to 17 April, 2020, data on daily COVID-19 confirmed cases and fatalities, as well as stock returns from 64 countries, was used. That is, as the number of confirmed instances increased, stock market returns decreased. Stock markets reacted more quickly when the number of verified cases climbed than when the number of deaths increased. Our findings show that the negative market reaction was strongest during the early days of verified cases and then again between 40 and 60 days later. According to the findings, stock markets respond quickly to the COVID-19 pandemic, and this response varies over time depending on the stage of the outbreak.

Callender, Obuobi, Czerwicz, & Williams, (2020) investigated the pandemic COVID-19 is unavoidable. The pandemic's lived experience is personal, local, and global, limiting our everyday social and professional interactions, closing or physically dividing our neighbourhoods, and focusing our apprehensive concentration to regular updates on worldwide case and death figures. It's also a common experience that emphasises the social connections and behaviours that constitute the shared environment, thanks to the pandemic's widespread upheaval. One cultural response to the instability and uncertainty that happens during an infectious disease outbreak is the construction of what Priscilla Wald refers to as the "outbreak narrative," a formulaic storyline that serves to frame the shared awareness of a pandemic. Monica Lalanda, an emergency medicine physician who formerly worked in the United Kingdom, has created cartoons about her pandemic experience in Spain. Criticises "how health-care professionals were not only regarded but also used (and abused) by the health service" in her cartoons. In reaction to the "social misery" she noticed on social media, Lalanda created patient-oriented comics to fill a hole in patient information. She also made a comic out of crucial medical information

and sent it to people via social media. The graphical documentation of the pandemic in stories can help clarify the outbreak's invisibility, start creating personal narratives about the pandemic, provide public health education, and foster a sense of community around shared emotions and experiences caused by disruptions to social interactions, bodily integrity, and communal boundaries.

Timpka, T., & Nyce, J. M. (2021) explained during the times of public emergency, a door might be opened on the essential aspects that make up a society's social order. The Covid-19 pandemic has opened such a gateway in cultures all over the world. The researchers explain some of these social aspects in their commentary, as well as how they may have affected the use of face masks in the early stages of the pandemic. The goal is to broaden the scope of mechanisms that should be included in pandemic response strategy. The key features revealed that if latent aspects of the dominant culture and varied symbolic interpretations of actions are disregarded in strategic health plans, they can limit adherence to public health recommendations. Only 60% of respondents in the United States said they always wear face masks in a July 2020 survey, showing that there is a divide in opinion about mask use across the country. There was a nearly 30% difference in mask use between individuals who recently voted for Democrats and those who recently voted for Republicans. Seventy-five percent of Democrats say they always use a face mask, while only three percent say they never do. Republican voters responded with 46 percent and 12 percent, respectively. The research suggest that policymakers should consider underlying attitudes and beliefs that may impact population behaviour when deciding on interventions during pandemics. This will necessitate paying attention to cultural differences as well as the symbolic connotations of action.

Noel, (2020) investigated in the midst of the global COVID-19 pandemic, this post tries to analyse xenophobia and its global impact, particularly on persons of Asian. To combat xenophobia, it's critical to understand why specific diseases and socioeconomic conditions cause fear and discrimination, as well as to recognize stigmatisation of communities and population groups as a major barrier to global progress (Das, 2020). The commentary begins with an overview of COVID-19's economic and educational implications in the U.S. The article analyse

the global history of pandemic-induced xenophobia and its link to sensationalised media discourse, before concluding with suggestions to reconsider various areas of intercultural communication in regard to public health issues.

Iqbal, Manzoor, & Bhatti, (2021) explained the influence of COVID-19 on the volatility of Australian stock returns, as well as the impact of negative and positive news (shocks), is investigated, It examines the unequal nature of disturbances as well as the effect of leverage on volatility. The researchers used a (GARCH) model to represent asymmetry and asymmetric leverage, and then expanded the investigation using the exponential GARCH (EGARCH) model. The research consider news of COVID-19's detrimental impact on Australia's health system and economy to be bad news, whereas efforts done by governments to stimulate the economy through central bank and budget policies are considered good news. The S&P (ASX-200) index is used as a proxy for the Australian stock market, and valuation of returns of ASX-200 shares from January 27 to December 29, 2020 are used. As a sample, the study examined daily Australian stock (close) prices data from Yahoo Finance for two hundred stocks listed on the S&P/(ASX-200) from January 27, 2020 to December 29, 2020. The research chose January 26, 2020 is start of timeframe while the first case of COVID-19 infection in Australia was recorded on that day. The empirical findings reveal that the EGARCH model fits better in capturing asymmetry and leverage in evaluating the volatility of Australian stock returns than the GARCH model. However, as compared to its counterpart with news, the EGARCH model with volatility equation without news shows a bigger (smaller) leveraging effect of negative (positive) shocks on conditional volatility.

Onali, (2020) investigated the impact of Covid-19 cases and deaths on the US stock market (Dow Jones and S&P500 indices) is studied, with changes in trading volume and volatility expectations, as well as weekday effects, taken into account. The results were obtained using the GARCH(1,1) model. The findings show that, except the number of cases in China, fluctuations in the number of cases and fatalities in the United States and six other nations hugely influenced by the Covid-19 dilemma had no effect on US market returns from April 8, 2019 to April 9, 2020. The VIX is a 30-day forward-looking indicator of implied volatility for the S&P 500. The log returns on the S&P500 and the Dow Jones, on the

other hand, are quite closely connected (correlation rate equal to 0.99) during the sample period. Furthermore, data suggests that the conditional heteroscedasticity of Dow Jones and S&P500 returns has a positive impact in some countries. The number of deaths recorded in Italy and France has a negative impact on stock market returns but a positive impact on VIX returns, according to VAR models. Finally, Markov-Switching models predict that the VIX's adverse effects on market returns will have tripled by the end of Feb 2020.

Khan, Elahi, Ullah, & Khattak, (2020) investigated the goal of this study is to look at the impact of Covid-19 on the stock returns of three Pakistani indices: the KSE-100 index, the KSE-30 index, and the KMI-30 index. The research utilised an event analysis methodology to look at how the Covid-19 epidemic affected stock returns by firm. The study employed a 61-day event window, which included the event date, and a 160-day estimating period. Covid-19 had a negative substantial impact on stock returns in the post-event window. The stock returns show a significant negative correlation in the post-event window.

Ellahi, & Ahmad, (2021) explained since the world has reached the second phase of COVID 19, there has been minimal empirical research on the epidemic and its influence on financial market returns and liquidity. The study focuses on the influence of the COVID 19 outbreak on financial market returns, as well as the interaction between liquidity in the market and Pakistan's stock market performance, in an effort to close the gap. In six countries that were positively affected by the disease outbreak, including the United States, China, Italy, Spain, France, and India, the stock market impact of the COVID 19 outbreak was investigated, and evidence of a long-term negative relationship between the outbreak and the stock market was found. A lot of interesting findings arise from this mixed sample of Asian and European economies. COVID-19's direct and indirect effects on financial markets were explored by He et al. (2020). The COVID-19 expansion, according to the study, has a considerable detrimental influence on daily stock prices and volatility.

Madai, T. (2021) investigated the study's main goal is to look at the impact of the COVID-19 epidemic on stock market performance. This study used a causal comparative research methodology to look at how daily COVID-19 infection and

mortality cases affect stock market performance. . Daily changes in infected new cases, , have had a considerable effect on share prices in both the overall and cross-over stock markets. The influence of unlawful death from COVID-19, on the other hand, was shown to be detrimental, although generally inconsequential. The amount of the stock market's impact was determined to be quite little in categorical variables. A time series graphic and a regression model were used to assess the empirical evidence. The study period spanned 100 days after COVID-19 infected cases were discovered in the examined countries, which included 30 countries.

S. Ahmed (2020) investigated research is to how COVID-19 affects Pakistani stock market performance. The data for this study was compiled using COVID-19-related confirmed cases, deaths, and recoveries, as well as the PSX 100 index's 1st ending values. They aim to explain why COVID-19 trajectory infections fluctuate unexpectedly and predict US stock market returns. Based on a sample of 4, 070 enterprises listed in the U. S. and data from Yahoo Finance and Bloomberg, the parameter estimates suggest that rising predicted infections lowers aggregate US stock returns the next day, and vice versa. The outcomes of the study suggest that only COVID-19 recoveries affect the index's performance, whereas daily positive cases and fatalities have no consequence on the index's performance. Other cross-country characteristics such economic growth, inflation rate, interest rate, and , as well as COVID-19 related variables, could be incorporated in future research.

Liu, H., Manzoor, A., Wang, C., Zhang, L., & Manzoor, Z. (2020) investigated the impact of the coronavirus outbreak on 21 prominent stock market indexes in major affected nations such as Japan, Korea, Singapore, the United States, Germany, Italy, and the United Kingdom is assessed. Infectious disease has had far-reaching implications that have had a direct impact on stock markets around the world. findings, based on an event analysis method, show that stock prices in major afflicted countries and territories plummeted rapidly after the virus spread. In comparison to other countries, Asian countries had greater negative anomalous returns. During the period of crises, there was a substantial correlation across sample Asian countries, according to the daily stock returns for nine Asian markets from 1996 to 2003. Furthermore panel fixed effect regressions back up the negative

influence of COVID-19 confirmed cases on stock indices aberrant returns via an effective channel that combines investors' pessimism about future returns and fears of uncertainty.

Al-Awadhi, A. M., Alsaifi, K., Al-Awadhi, A., & Alhammadi, S. (2020) investigated the purpose of this study is to see if infectious diseases have an influence on the financial performance. The research utilise panel data regression analysis to quantify the influence of the COVID-19 virus, a contagious infectious disease, on the Chinese stock market as a natural experiment. Stock prices, market capitalization, and market-to-book ratio for the time period in question were taken from Bloomberg (1,579 stocks and 78,252 observations). The data show that daily increases in total confirmed cases and total deaths induced by COVID-19 have a significant negative impact on stock returns across the board.

Cepoi, C. O. (2020) explained recent years, the impact of public news emotion on stock returns has gotten a lot of attention. The researcher use a panel quantile regression approach because of the high market volatility during the COVID19 financial crisis. The research provides additional empirical data on the link between COVID19-related news and stock market returns in the top six pandemic-affected countries. Stock markets show asymmetric requirements on COVID-19-related information like bogus news, media attention, or epidemic, according to studies using a panel quantile regression model. The findings suggest that more intensive use of effective communication channels is required to relieve COVID19-related financial disruption. The influence of COVID19-related news on stock market return was studied using a balanced panel containing fifty working days, from 3 February 2020 to 17 April 2020. The DJIA, FTSE 100, DAX, CAC 40, IGBM, and MIB daily returns are included in the dependent variable.

Bogdan, D. I. M. A., DIMA, Ş. M., & Roxana, I. O. A. N. (2021) investigated information efficiency, this article explores the Chicago Board Option Exchange Volatility Index's ('VIX') response to the COVID-19 pandemic outbreak. Firstly, The research calculate an Efficiency Index for moving periods between 1995-01-03 and 2020-12-30, based on closing levels. Secondly, The research use the greatest Nonlinear exponent and sample, as well as permutation unpredictability, to check for the presence of chaotic systems in efficiency series. Furthermore, as examined

to the sample size, there are no significant differences in these statistics for the 2020 sub-sample is lower. However, in terms of deterministic chaos and irregular dynamics, The research do not find that these estimation methods provide convincing evidence of a significant shift in VIX's efficiency during 2020.

Yan, C. (2020) discussed in this study looks at how Chinese stock markets react to COVID-19 outbreaks during a fifty-day period, from January 20, 2020 to April 7, 2020. As of the end of 2019, the sample covers all companies listed on China's A-share market. The research have 3,511 observations after eliminating firms with missing values. The findings suggest that the coronavirus causes large price swings in stocks. Stock prices drop substantially in tandem with Wuhan's lockdown, but The research find that stock returns reverse every 10 trading days during the window period. Overreaction, regulatory responses, and the modern economy's interconnection through global supply chains may all play a role in the frequent reversals. Firm size, on the other hand, is a key factor in preventing return reversals. According to the findings, non-SOEs, businesses with higher corporate governance, and non-pilot securities margin trading firms all suffer more from the coronavirus epidemic. These findings, on the other hand, do not exist for the SARS pandemic in China between 2002 and 2003. The research adds to the body of knowledge about the influence of public health emergencies on stock prices.

Hoa, N. T., & Huy, D. T. N. (2021) investigated this study focuses on the effect of the COVID 19 outbreak on stock market returns, as well as the interaction between liquidity in the market and Pakistan's stock market performance, in an effort to close the gap. In six countries that were positively affected by the pandemic outbreak, including the United States, China, Italy, Spain, France, and India, the stock market impact of the COVID 19 outbreak was investigated, and evidence of a long-term negative relationship between the outbreak and the stock market was found. A lot of interesting findings arise from this mixed sample of Asian and European economies. COVID-19's direct and indirect effects on financial markets were explored by He et al. (2020). According to the analysis, the COVID-19 spread had a significant negative impact on daily stock market returns and liquidity. 3% of the 17-20 million visits from throughout the world were targeted (assessment of damage caused by the Covid-19 pandemic is 23 billion USD). The report also

recommends appropriate measures, such as implementing legislation to encourage tourism firms, such as tax incentives, government subsidies, and enterprises can develop quickly and pick the best course in the current climate.

Fitzpatrick, K. M., Drawve, G., & Harris, C. (2020) looked at COVID-19 reorganising our society, the new coronavirus is raising fear and concern about its impact on Americans' mental health. COVID-19. In the current study, fear, worries, and perceived danger are investigated in relation to social security breaches and mental health outcomes such as anxiety and depression symptoms. During the week of the 23rd of March, 2020, a national sample ($n = 10,368$) of U.S. adults was questioned using an internet platform. Based on population estimates for gender, race/ethnicity, income, age, and location, the sample was post-strata weighted to assure proper representation of the US population. Rather than being uniformly dispersed across the country, fear and anxiety are clustered in locations with the largest number of confirmed COVID-19 cases. Furthermore, the findings suggest that groups with differing social vulnerabilities have significantly different subjective discomfort judgments. Females, minorities, Asians, families with children under the age of 18, and foreign-born participants had previously reported higher degrees of psychological anxiety and fear than men. Finally, including after controlling for socially exposed, individual perceptions of discomfort were positive and strongly linked to mood and anxiety symptoms; earlier health-related research from China and Europe backs up what has been established in the United States.

Asmundson, G. J., & Taylor, S. (2020) explained in epidemic of 2019-nCoV, a novel coronavirus, has made international headlines. According to current public opinion polls, 2019-nCoV has a substantial psychological impact. One-third of 1,354 Canadians polled by Angus Reid in early February 2020 expressed fear about the virus, with 7% expressing "extreme anxiety" about contracting it (Angus Reid Institute, 2020). Many respondents (33%) were unsure whether their community's healthcare system was ready to handle additional coronavirus infections, which is similar to prior epidemics and pandemics (Taylor, 2019). Fears about the consequences of disease are likely to arise as a result of distrust in the healthcare system. While the exact nature of 2019-nCoV and its influence on mental diseases is unclear, there are several suggestions in the literature that may help us predict what

to expect. Health-related fears and phobias have been shown to be generated by a lack of knowledge and ignorance, which is often fed by sensationalised popular media stories (Taylor & Asmundson, 2004). Coronaphobia may be caused by one or more of these reasons. Not just for 2019-nCoV, but also for future viral outbreaks, this is crucial. Virologists predict that, regardless of whether 2019-nCoV becomes a pandemic, the next severe pandemic will emerge in the coming years (Taylor, 2019).

Frey, C. B., Chen, C., & Presidente, G. (2020) looked at autocratic governments, it is widely believed, have been more effective in limiting people's travel in order to prevent the spread of Covid-19. The research found that authoritarian regimes enforced more strict lockdowns and relied more on contact tracing, combining the Oxford COVID-19 Government Response Tracking device (OxCGRT) and a real-time dataset of daily transportation and movement data from 111 nations. The study found no evidence that increasingly authoritarian governments were still more effective in reducing travel, and verifiable evidence that countries with directly democratically elected governments implemented fewer restrictions, but were 20% more effective in reducing geographic mobility at the same level of policy intellectual rigour. Furthermore, based on a large literature on cross-cultural psychology, researchers indicate that countries with more obedient and collectivist cultural traits suffered higher losses in geographical mobility than their more individualistic counterparts for the same policy consistency. According to the findings, collectivist and democratic countries have implemented several beneficial Covid-19 remedies in terms of reducing mobility.

Hoang, H. V., Nguyen, C., & Nguyen, D. K. (2022) investigated due to their financial insecurity, small and medium-sized businesses, particularly startups, are particularly vulnerable to the COVID-19 pandemic. The research explore whether a startup's pre-COVID-19 capacity can generate corporate immunity to overcome the impact of the COVID-19 pandemic, as measured by stock performance, using a sample of listed companies from four countries. The research find that increasing the number of confirmed COVID-19 cases lowers stock returns, but that the negative effect is mitigated if companies are larger, have minimal debt, a big board of directors, and have CEO duality. Furthermore, the association between stock

returns and COVID-19 is strongly moderated by country cultural characteristics. In civilizations where persons are more collectivistic and cooperative, less tolerant of uncertainty, and also more long-term focused, the detrimental impact of COVID-19 is reduced. Therefore, findings confirm the consolidation of corporate capabilities & advise that while creating COVID-19 or comparable infectious pandemic measures, policymakers address national culture.

Kitayama, S., Camp, N. P., & Salvador, C. E. (2022) investigated the (COVID-19) outbreak has claimed thousands of lives around the world. The United States, being the world's greatest economy, is remarkable because it experienced a massively higher number of deaths than any other countries during the pandemic's first year. A thorough examination may give new light on the complex processes that contributed to this failure, allowing us to better prepared ourselves to avoid repeating the same mistakes in the future. By stressing mutually reinforcing relationships across social, cultural, and psychological elements, cultural psychology provides new insights. It evaluate the evidence and propose that multiple factors at these many levels converged to develop an independent mechanism of action, that also, in effect, hampered efficient infection control. The country's poor situation was disturbed by a lack of effective current elite. Researchers address many recommendations regarding at the social, cultural, and behavioral levels based on this approach.

Tran, & Tran, (2021) investigated if uncertainty avoidance culture and policy response efficiency play an important role as in stock market's reaction to coronavirus outbreak in 2019. The study concludes that investors' reactions to the epidemic will be affected not only by their natural sensitivity to uncertainty, but also by their expectations for the efficiency of government responses. The fear aversion culture promotes irrational investors' behaviour. Government responses, on the other hand, will smother this effect. Strict government actions also give a negative message in market about the virus's scope and damages to the economy that anti-COVID activities will create. To maintain market confidence, governments must be balanced when imposing anti-COVID policies. Previous research has looked into whether emerging markets equity market instability is driven by two factors at the same time: the country's investor culture of uncertainty aversion

and the government's pandemic reaction intensity. The researchers conducted an empirical inquiry on a sample size of 20 emerging countries between January 2020 to March 2021. They discovered that nationwide uncertainty avoidance increases investors' irrational behaviour during a crisis. Government responses, on the other hand, suppressed this effect. Investors' responses to the outbreak would be influenced not just by their inherent aversion to uncertainty, but also by their expectations for the effectiveness of government measures. While strong government responses can help to calm investor anxieties in countries where uncertainty is high, they can also convey a negative information to the market more about pandemic's scope and the economic consequences of anti-COVID measures.

Kharbanda, V., & Jain, R. (2021) looked at the impact of reported COVID cases and deaths on stock market returns and volatility in BRIC countries. Over all 4 BRIC countries, data was collected from 1 June 2019 through 31 May 2020. The COVID 19 crisis had a detrimental influence on equity markets, according to the results of the GARCH (1,1) model. Moreover, the findings contribute to a negative relationship between stock market return and volatility indexes. The results are strong, as the VAR-X model also shows that COVID cases in the world have a negative impact on the turnover of BRIC stock markets. According to the study, investors are negative as a result of COVID, as seen by BRIC stock market performance. Overall, the findings show how COVID has affected financial markets around the world.

Perach, & Limbu, (2022) investigated the facemasks are becoming a necessity in modern life. it propose that wearing facemasks with such an equality cultural symbol can activate cultural qualities like mutual trust and boost interpersonal perceptions, boosting collective resistance in the Covid-19 epidemic. Researchers investigated whether wearing masks with an unity cultural symbol predicts favourable interpersonal views, and whether this is dependent on mortality awareness, in three experiments (two of which were preregistered). Facemasks with a cultural symbol (either the pride flag or the Nhs) increased positive interpersonal impressions, a measure of togetherness, in persons whom this symbol reflects a meaningful social identification in many studies. Whether participants were reminded of mortality, had a neutral experience, or had a negative experience, this was discovered.

Furthermore, whenever death consciousness was high, exposure to facemasks with an equality cultural symbol (vs. surgical) resulted in larger improvements in favourable interpersonal perceptions. These findings imply that wearing masks with an unity cultural sign can be used to shape people's personality opinions of others. The use of facemask choice to activate people's social identity in order to increase collective resistance in the Covid-19 epidemic is discussed.

Sun, Y., Wu, M., Zeng, X., & Peng, Z. (2021) used an event study to look into the impact of COVID-19 on the Chinese stock market, as well as the impact of investor opinion on returns. During the post-event window, the outbreak has an overall negative effect on the stock market that cannot be explained by actual losses. Companies with an A-share market capitalization are used as samples. Individual investor attitude and stock returns have a stronger positive link than usual. Individual investor sentiment has a significant impact on stock returns for companies with the highest PB, PE, and CMV, low net asset, and low institutional shareholding. Only seven industries, including pharmacy, digitalization, and agriculture, have seen a growth.

Hassan, S., & RiverosGavilanes, J. M. (2021) investigated the worldwide economy has been severely impacted by the COVID 19 epidemic. Stock markets was the first one to respond, with decline rates comparable to those seen during the global financial crisis of 2008. This study analyses daily data to estimate the dynamics impact of the COVID 19 pandemic on stock market indexes and global commodity markets in the first affected countries. Using a sample of the first six countries to be affected. The findings of the panel least squares Vector Auto-Regressive (VAR) estimates confirm the negative and short-term impact on stock market indexes returns. The spread rate is also useful in explaining fluctuations in silver, platinum, Brent, and West Texas Intermediate (WTI), crude oil prices.

Liu, K. (2021) studied disease cause by the novel SARS-CoV-2, Coronavirus Disease 2019 (COVID-19), has had a significant impact on financial markets, economies, and cultures and societies. The focus of this research is on the Chinese stock markets. This study reveals that the higher uncertainty caused by the COVID-19 disease outbreak is significantly associated with the decrease in China's composite index, but the different ways by sector, based on Search Patterns data

from 1 January 2020 to 12 April 2020 and the increasing (EGARCH) model. Likewise, the increased uncertainty caused by COVID-19 is related with higher stock return volatility for both the composite and sector indices.

Farooq , Nasir , Bilal , & Quddoos , (2021) analyzed the abnormal stock returns of 958 insurance firms from the United States, Germany, Australia, Canada, the United Kingdom, India, Brazil, and Indonesia under COVID-19 case. To use the event study technique, the effects of COVID-19 on stock returns with in short and long term are explored in this research. During 1 January 2019 through 15 April 2020, it pulls daily stock price data for all selected firms. Over the duration of this time, 325 trade days are covered on average. From 1 January 2019 until 15 days before the first corona case is reported in the relevant country, a GARCH model is employed to calculate the expected returns. According to the research, COVID-19 has a detrimental impact on overall returns, particularly for insurance firms in developing countries. Umar, Z., Manel, Y., Riaz, Y., &Gubareva, M. (2021) investigated through accounting for market sentiment reflected by the media coverage index, research explore the returns as well as volatility spillovers among emerging markets or US government bonds during Covid-19 pandemic. A TVP-VAR technique is used to investigate dynamic spillovers. The findings reveal a significant increase in the dynamic connection between coverage in the media, emerging market fixed income securities, and US bonds, and also the associated volatilities, particularly during the early stages of the Covid-19 outbreak, with the greatest values in March 2020. Emerging market bonds seem to be net transmitters and leaders in the system, while the US bond market seems to be the net receiver. The sample period starts from January 1, 2020 through December 31, 2020. These findings suggest that, in comparison to the fixed-income marketplaces of developing countries, the US bond market is less expose and more resilient to market changes sentiment during a pandemic.

2.3 Impact of Exchange Rate and Interest Rate on Stock Return and Volatility

Muktadir-al-Mukit, D. (2012) explored the influence of currency rates and interest rates on stock market performance by using monthly time series data for the economy of Bangladesh from 1997 to 2010. The idea of Cointegration and Error Correction Model, as well as analysis of Variance Decomposition, are used in this study to measure the long and short term relationship between variables. The Granger causality test was used to analyse causal links. Using the Cointegration technique, it was discovered that in the long run, a 1% increase in the exchange rate and a 1% increase in the interest rate contribute to a 1.04% increase and a 1.71 percent fall in the market index, respectively. In the short run, the projected error correction coefficient suggests that 7.8% of stock returns are adjusted. Finally, Granger causality analysis reveals that there is a unidirectional correlation between the market index and the exchange rate, as well as between the market index and the interest rate.

Suriani, S., Kumar, M. D., Jamil, F., & Muneer, S. (2015) studied the two most important financial markets in the world are the exchange rate and the stock market. These two markets play an a crucial role in international trade around the world. It is vital to comprehend the relationship between the two markets, so that investors may invest more effectively while assuming the least amount of risk. The relationship between Pakistan's stock market and exchange market is investigated. The KSE-100 index is used to replace stock prices, while the currency rate of the Pak Rupee against the US Dollar (Rs/US&) is utilised to calculate exchange rate risk. The data is collected on a monthly basis and spans the years of January 2004 to December 2009. The study's findings show that there is no correlation between exchange rate and stock price, and that both factors are independent of one another.

Khalid, W. (2017). attempted to objectively measure the economic impact of interest rate and currency rates on equity market valuation using annual data for Pakistan from 1990 to 2017. The main purpose of this research is to look at the short- and long-term relationships between aggregate market capitalization and macroeconomic factors utilising econometric tools like the Johansen approach, the Error Correction Model (ECM), and finally a Variance Decomposition analysis. Finally, the Granger-Causality test was used to investigate causal relationships.

The full set of data is discovered to be founder using the Johansen Jeselius technique, indicating long-term interrelationships. Up until 2012, data on the average exchange rate was obtained from the State Bank of Pakistan's Statistics and Data Warehouse Department, and the remaining sample values were obtained from other State Bank of Pakistan departments (2017). According to the long-term coefficient, a 1% increase in the interest rate and exchange rate results in a 0.23 percent decrease in market capitalization and a 3.17 percent increase in market valuation, respectively. The computed ECM delayed value shows that 22.07 percent of market capitalization volatility is adjusted every year in a short length of time to achieve steady-state. according to the Granger-causality tool, there is a unidirectional causality from the foreign exchange rate to the interest rate. This report recommends that the bank rate be reduced further in the economy to help the financial sector flourish and to stimulate investment levels both nationally and globally.

Singhal, S., Choudhary, S., & Biswal, P. C. (2019) investigated the dynamic relationship between international oil prices, international gold prices, the exchange rate, and the stock market index in Mexico is investigated. Mexico exports a lot of oil and gold, while it imports a lot of oil products. The ARDL Bound testing cointegration technique was used on daily data from Jan 2006 to April 2018. The study's findings imply that international gold prices have a beneficial impact on Mexico's stock price, while oil prices have a negative impact. Oil prices have a long-term negative impact on the exchange rate, but gold prices have no meaningful impact. Given the pressure crude oil prices exert on stock markets and exchange rates, the findings of this study have significant consequences and provide some signals to monetary and fiscal authorities.

Khan, M. K. (2019) investigated the impact of exchange rates on the stock returns of the Shenzhen stock exchange from January 2008 to December 2018 was investigated using the ARDL model to assess the short and long run relationship between the study variables. Using a sample of 26 countries, Fisher hypothesised. the exchange rate has a significant and negative impact on Shenzhen stock exchange stock market returns. The effects of interest rates and inflation on stock returns are negative and statistically significant. Based on the estimated findings

of this study, policymakers at the central bank should implement measures that aid in the stabilisation of the exchange rate.

Kasman, S., Vardar, G., & Tunç, G. (2011) investigated the impact of interest rate and foreign exchange rate variations on Turkish bank stock returns using the OLS and GARCH estimating models. The main purpose is to examine the sensitivities of a sampling of Turkish bank stock returns to interest rate and exchange rate variations over the period 1999–2009 using both the traditional OLS method and the GARCH model. Interest rate changes and currency exchange rates have a negative and significant impact on the conditioned bank stock return,. Furthermore, market return sensitivity is found to be higher than interest and exchange rate sensitivity, indicating that market return is a crucial component in determining the dynamics of bank stock conditional returns. The data also suggest that the two most important drivers of contingent bank equity return volatility are interest rate and exchange rate instability.

Okoli, M. N. (2012) used the All-share index as a proxy for the Nigerian Stock Market to analyse the impact of exchange rate and interest rate on the market. From January 2009 to December 2011, the monthly closing returns of the All-share index, exchange rates, and interest rates were used for a thirty-year span. This association was established using ordinary least square models. The study's aim was to objectively assess the predictive power of exchange rates and interest rates on stock market performance. The results demonstrated a considerable, but negative, link with the exchange rate. As a result of this, an increase in the exchange rate lowers stock market returns, depressing market activity. On a sample of fourteen sectors, a bivariate GJP – GARCH model was used. The interest rate exhibited a negative association as well, but it was insignificant at the 5% level of significance. Policymakers should put in place measures to create a stable macroeconomic environment, , because an unstable macroeconomic climate might put off investors and cause them to lose faith in the system. For attracting capital, particularly foreign direct investment, a stable exchange and interest rate regime is required.

Wasiaturrahma, W., Putri, D. N., & Ajija, S. R. (2020) investigated the stock market price is one indicator of a country's economic performance. Exchange rate fluctuations as a representation from the foreign exchange market are an example

of variations in stock values, which include a variety of reasons. The volatility of the stock price is also influenced by the altering exchange rate price. Furthermore, various levels of volatility in the high and low regimes will have a distinct influence on the result of relationship changes. The goal of the study is to investigate the prevalence of asymmetric volatility and its implications on the volatility of LQ45 stock returns, as well as changes in Rupiah-USD exchange rates between 1997 and 2017. The results of this research, which employed the Augmented Markov Switching EGARCH approach, reveal that LQ45 stock returns have asymmetric volatility. Low volatility regimes outweigh high volatility regimes in terms of lifespan, while high volatility regimes are more dependant and unstable. The influence of good and negative news on the volatility of LQ45 stock returns and exchange rate fluctuations is complex. Furthermore, when it comes to dealing with exchange rate swings, unstable countries will react faster than stable economies.

Jabeen, M., Rashid, A., & Ihsan, H. (2022) investigated the impact of macroeconomic news on the value of the Pakistani rupee. It accomplished it by applying GARCH models and real-time macroeconomic news including exchange rates. The findings show that the daily movements of the Pakistani rupee are linked to macroeconomic factors. Domestic and international macroeconomic news releases have a substantial impact on the value of the Pakistani rupee. Most international and domestic macroeconomic news instantly adjusts the exchange rate returns as well as volatility of the Pakistani rupee. When compared to the influence of other foreign and local macroeconomic news on Pak rupee exchange rates, the majority of US and PAK domestically macroeconomic news has an immediate impact on PKR/USD exchange rates. Although, during period of analysis, there were a total of 6,072 announcements. There are 1,320 news out from United States, the United Kingdom, and Japan, as well as 1,056 news out from Europe and Pakistan. Furthermore, the post shows that Pak rupee exchange rate returns and volatilities are affected by domestic and international macroeconomic news announcements to different degrees of all major currencies. The data imply that the behaviour of the Pakistani rupee exchange rate is compatible with conceptions of exchange rate determination as well as the reaction of such monetary authority.

Sreenu, N., Rao, K. S., & Naik, S. (2022) investigated in India, market returns are

variable due to a variety of causes. The current research looks into how inflation rates and currency exchange rates affect the instability of Indian stock market performance. The current study relied on average increases and data out from RBI on currency exchange rates. The market returns were calculated using data from the Indian stock index from January 2000 to June 2020. The influence on Indian stock market returns was investigated using the autoregressive distributed lag (ARDL) co-integration technique, as well as the error correction parameterization of the ARDL model. This research was also using GARCH and the associated Error Correction Model (ECM) to investigate the long- and short-run link between India stock market returns and exchange rates, as well as the relationship between India stock market returns and rate of inflation. The study's findings reveal that only significant long-term relationships exist. The finding also indicates that the NSE returns as well as the currency rate of exchange have a significant long-term link. The variable being studied has negative implications on stock market performance in the near run. Long memory was examined in the variables, and it was discovered that this attribute indeed present in these variables, making it an attractive quality for investors to take advantages of it. This is because the long-run influence of exchange rate volatility on stock market returns in India has been established.

Zhang, F., & Zhang, Z. (2022) investigated the accuracy of forecasting realised volatility of Group of seven exchange rate market fluctuations using daily data from January 1, 2000 through October 31, 2020. The realised volatility of the stock market, according to the empirical findings, is an essential element in predicting the realised volatility of the exchange rate market in all Countries G7. The findings also show consistent differences in predictive performance among the Countries, ranging from stock market volatility to exchange rate volatility.

Jawaid, S. T., & UIHaq, A. (2012) studied the impacts of the exchange rate, interest rates, and their volatilities on the stock prices of Pakistan's banking industry. The results of serial correlation imply that the exchange rate and short-term interest rate have a significant negative long-run relationship with stock values. On the other hand, there is a positive and significant relationship between exchange rate and interest rate volatility and stock prices. The bidirectional causality between

the exchange rate and stock prices is confirmed by causality analysis. Unidirectional causality, on the other side, runs from short-term interest rates to stock values. The results are robust, according to a sensitivity analysis. When interest rates and exchange rates are extremely volatile, it is recommended that investors invest in stocks in the banking sector. The findings also support up the idea that the exchange rate and interest rate can be used as indicators for making investing decisions in banking stocks.

Olugbenga, A. A. (2012) used the Johansen cointegration tests, this study explores the long- and short-run effects of exchange rate on stock market growth in Nigeria from 1985 to 2009. In the short run, a significant positive stock market performance to exchange rate was observed, but in the long run, a significant negative stock market performance to exchange rate was observed. The Granger causality test reveals substantial evidence that the causation goes from exchange rate to stock market performance, showing that exchange rate volatility explains variances in the Nigerian stock market.

2.4 Summary of Hypothesis of the Study

The review of different studies helps to develop the following hypothesis.

H1: National culture has an impact on stock return and volatility

H2: National culture has an impact stock on returns and volatility during covid 19

Chapter 3

Data Description and Methodology

The variables studied, as well as the sample size, sample period, and methodology used to evaluate the impact of national culture on stock market returns and volatility during COVID-19, are all covered in this chapter.

3.1 Population and sample of study

The population and sample of the study consist of 16 countries, which are from (6) emerging markets, (6) developed markets, and (4) frontier on the basis of national culture differences. This study uses daily data of stock markets. The sample period is from 1st January 2011 to 31st December 2021. These 16 countries data gathering through investing.com.

TABLE 3.1: Population and sample

Emerging Markets	Developed Markets	Frontier Markets
Brazil	United States	Sri Lanka
Russia	Singapore	Morocco
India	Australia	Kenya
China	Canada	Vietnam
South Africa	Japan	
Pakistan	Austria	

3.2 Econometric Model

Impact of National Culture on Stock Market's Returns and Volatility during COVID-19 is estimated by using panel regression model is define as:

$$\begin{aligned} \text{Return}_t = \beta_0 + \beta_1 \text{National Culture}_t + \beta_2 \text{COVID}_t + \beta_3 \text{Exchange rate}_t + \\ \beta_4 \text{Intereste rate}_t + \varepsilon \end{aligned} \quad (3.1)$$

$$\begin{aligned} \text{Volatility}_{it} = \beta_0 + \beta_1 \text{National Culture}_{it} + \beta_2 \text{COVID}_{it} + \beta_3 \text{Exchange rate}_{it} + \\ \beta_4 \text{Intereste rate}_{it} + \varepsilon \end{aligned} \quad (3.2)$$

3.3 Description of Variables

TABLE 3.2: Description of Variables

	Variables	Description
Dependent Variables	Return	$R = \ln(P_t / P_{t-1})$ Where p_t is the return for the day and p_{t-1} is the return for the previous day
	Volatility	Volatility is forecast from EGARCH Model Calculate index from Hofstede's culture indices
Independent Variable	National Culture	Power Distance (PDI), Individualism versus Collectivism (IDV), Masculinity versus Femininity (MAS), Uncertainty Avoidance (UAI), Long-Term Orientation (LTO), and Indulgence versus Restraint (IVR)
Dummy variable	COVID-19	Dummy variable where $D= 1$ it means that the covid-19 exist in that period otherwise 0
Control Variables	Exchange Rate	Exchange rate from historical X-rate in PRs /\$
	Interest Rate	Interest rate formula $I/P_t = r$ data gathered from investing.com

Chapter 4

Results and Discussions

This chapter presents the findings of several tests on the impact of national culture on stock market return and volatility during COVID-19.

4.1 Descriptive Statistics

Descriptive statistics are a tool for data analysis that looks at how data behaves statistically. The data's location, a measure of central tendency, and a measure of dispersion are the three components. The data's kurtosis and skewness can be used to determine its position. In addition to the mean and standard deviation, Table 4.1 shows the maximum, minimum, skewness, and kurtosis. From January 1, 2011 to December 31, 2021, the behaviour of data for all variables in the study model was examined. The mean and median are two central trend indicators. The standard deviation of the data, which is a measure of dispersion, shows the average risk per day.

The descriptive statistics of all variables utilised in this results are shown in Table 4.1. The table's statistics show that the average COVID return is 0.0192%. The maximum profit for the day is 0.148%. It represents the day's highest COVID return. The maximum loss each day is 0.00%. The average variation is 0.045%. At 2.218, the return is positively skewed, indicating a leptokurtic and lower return. Because the kurtosis 6.46 value is more than 3, the behaviour is leptokurtic, and the research conclude that the data is peaked in nature.

TABLE 4.1: Descriptive Statistics

	Mean	Max	Mini	Std. Dev.	Skew	Kurt	Obs
ER	0.0016	0.0032	0.0005	0.0009	0.475	1.679	176
COVID_19	0.019	0.148	0.00	0.0447	2.22	6.467	176
CULTURE	50.86	69.00	36.00	8.21	0.173	2.67	176
IDV	45.63	91.00	14.00	24.23	0.599	2.23	176
IR	0.093	0.97	0.00078	0.28	2.85	9.098	176
IVR	39.22	71.00	0.00	24.56	-0.26	1.74	176
LTO	50.069	88.00	14.00	22.26	0.28	2.061	176
MAS	55.426	95.00	10.00	17.29	-0.063	4.328	176
PDI	60.43	93.00	11.00	20.35	-0.703	3.0023	176
SR	0.00497	0.00699	0.0037	0.000975	0.503	2.448	176
SV	0.126	0.201	0.091	0.029	1.301	4.525	176

The average cultural return, according to the table's statistics, is 50.86%. For the day, the maximum profit is 69.00%. It indicates the highest cultural return of the day. Each day, the maximum loss is 36.00%. 8.21% is the average variation. The return is positively skewed at 0.172510, indicating a leptokurtic and lower return. The return data's kurtosis 2.67 value is less than 3, which means that the data is flat.

According to the table's statistics, the average individualism (IDV) return is 45.63%. The maximum profit for the day is 91.00%. It represents the day's highest individualism (IDV) return. The maximum loss per day is 14.00%. The average variation is 24.23%. At 0.59%, the return is positively skewed, implying a leptokurtic and lower return. The kurtosis (2.23) value of the return data is less than 3, indicating that the data is flat.

In table's statistics, the average uncertainty avoidance (UAI) return is 54.38%. The high profit for the day is 95.00%. It's the day's UAI uncertainty avoidance return. The maximum loss per day is 8.00%. The average variance is 22.41%. At 0.038, the return is positively skewed, indicating that it is leptokurtic and lower. Because the return data's kurtosis 2.63 value is less than 3, it indicates that the data is flat.

The average long-term orientation (LTO) return is 50.068. The day's high profit is 88.00%. It's the end of the day's long-term orientation (LTO). The daily maximum loss is 14.00%. The standard deviation is 22.26%. The return is positively skewed at 0.28, indicating leptokurtic and lower. The kurtosis 2.06 value of the return

data is less than 3, which means that the data is flat.

According to the table's statistics, the average masculinity versus femininity (MAS) return is 55.43%. The day's maximum profit is 95.00%. It's the day's greatest masculinity vs. femininity (MAS) rematch. The maximum loss per day is 10.00%. The average variation is 17.29%. At -0.063, the return is negatively skewed, signifying a leptokurtic and lower return. Because the kurtosis (4.328) value of the return data is greater than 3, the behaviour is leptokurtic, and the research conclude that the data has peaked.

The average power distance (PDI) return is 60.43 percent, according to the table's statistics. 93.00% is the greatest profit for the day. It's the PDI rematch of the day. Per day, the maximum loss is 11.00%. 20.35% is the average deviation. The return is negatively skewed at -0.703129, indicating that the return is leptokurtic and lower. The research conclude that the data has peaked because the kurtosis (3.0023) value of the return data is greater than 3.

The average indulgence versus restraint (IVR) return is 39.22%, according to the table's statistics. The day's maximum profit is 71.00%. It's the greatest indulgence versus restraint (IVR) return of the day. The maximum daily loss is 0.00%. 24.56% is the average variation. The return is negatively skewed at -0.26, implying a leptokurtic and lower return. The return data's kurtosis (1.73) value is less than 3, suggesting that the data is flat.

The table's statistics show that the average exchange rate return is 0.0016%. The day's maximum return is 0.0032%. It denotes the highest exchange rate return of the day. The daily maximum loss is 0.00052%. The average variation is 0.00094%. The return is favourably skewed at 0.474975, indicating a leptokurtic and a lower return. The kurtosis 1.679 value of the return data is less than 3, indicating that the data is flat in nature.

The average interest rate return (IR) is 0.093%. The highest profit of the day is 0.97%. It's the high interest rate at the end of the day (IR). The maximum loss per day is 0.000786. 22.26% is the standard deviation. At 0.279, the return is favourably skewed, indicating leptokurtic and lower. The research infer that the data is peaked because the kurtosis 9.0979 value of the return data is greater than 3.

According to this table, the average stock return (SR) is 0.0049%. The largest profit of the day is 0.0069%. It's all about having the highest stock return at the end of the day (SR). The maximum loss per day is 0.0037%. 0.00097% is the standard deviation. At 0.503, the return is positively skewed, indicating leptokurtic and lower. Because the return data's kurtosis (2.448) value is less than 3, the research can ensure that the data is flat. According to this table, the mean stock volatility (SV) is 0.126%. The day's highest profit is 0.2012%. At the end of the day, it's the highest stock volatility (SV). The maximum daily loss is 0.0909%. The standard deviation is 0.029%. The return is positively skewed at 1.301, indicating leptokurtic and lower. Because the kurtosis 4.525 value of the return data is greater than 3, the research deduce that the data has peaked.

4.1.1 Descriptive Statistics According to Different Countries

4.1.1.1 Pakistan

TABLE 4.2: Descriptive of Pakistan

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	38.000	0.000	0.000	0.000	38.000	38.000	11.000
IDV	14.000	0.000	0.000	0.000	14.000	14.000	11.000
MAS	61.000	0.000	0.000	0.000	61.000	61.000	11.000
UAI	51.000	0.000	0.000	0.000	51.000	51.000	11.000
LTOVST	21.150	3.730	0.000	0.000	21.150	21.150	11.000
IVR	71.430	1.490	0.000	0.000	0.000	0.000	11.000
Average	40.000	7.54E-15	-2.500	1.160	40.000	40.000	11.000
Stock Return	0.005	0.001	-0.086	1.165	0.005	0.007	11.000
Stock Volatility	0.136	0.030	3.375	1.516	0.091	0.201	11.000
Covid-Dummy	0.020	0.047	6.612	2.586	0.000	0.148	11.000
Exchange Rate	0.005	0.001	-1.387	0.554	0.001	0.003	11.000
Interest Rate	0.074	0.292	10.996	3.316	0.004	0.975	11.000

In a calendar day, average Pakistan's power distance (PDI) return are only 38. In a calendar day, the average Pakistani individualism (IDV) return, are all 90. The average Masculinity versus Femininity (MAS) return, in Pakistan are 61 per day. Pakistan's uncertainty audience (UAI) has an average return of 51 in a calendar day. Because of their consistent values, the SD, Kurtosis, and Skewness values

of the PDI, IDV, MAS, and UAI are the same. After decades, the values of the culture dimension have changed. The LTOVST return average is 21.15869. The daily maximum profit is 21.15869, while the daily minimum loss is 21.15869. The standard deviation of the LTOVST is 3.72612. At 1.16534, the return is positively skewed, implying leptokurtic and lower. The return data's Kurtosis -2.5 value is less than 3, indicating that the data is flat. Indulgence versus restraint (IVR) returns, in per day in Pakistan average 71.42857. IVR's standard deviation is 1.49045. At -1.16534, the return is negatively skewed, indicating leptokurtic and below. The return data's Kurtosis -2.5 value is less than 3, indicating that the data is flat. IVR has a higher value than other dimensions, indicating that culture is more prominent in IVR than other variables.

4.1.1.2 Australia

TABLE 4.3: Descriptive of Australia

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	55	0	0	0	55	55	11
IDV	14	0	0	0	14	14	11
MAS	50	0	0	0	50	50	11
UAI	70	0	0	0	70	70	11
LTOVST	49.87	0	0	0	49.87	49.87	11
IVR	0	0	0	0	0	0	11
Average	39.8	7.45E+00	-2.5	1.16	39.8	39.8	11
Stock Return	0.0049	0.001	-0.086	0.5862	0.0037	0.0069	11
Stock Volatility	0.12601	0.0304	3.374	1.516	0.0909	0.20124	11
Covid-Dummy	0.0192	0.0467	6.6122	2.5858	0	0.1482	11
Exchange Rate	0.0016	0.0009	-1.3671	0.553	0.0005	0.0031	11
Interest Rate	0.0934	0.2922	10.996	3.3159	0.0007	0.9747	11

In per day, average Australia's power distance (PDI) return are all 55. In a calendar day, the average return, Australia's individuality (IDV) are 14. Each day, the average return, minimum loss, and maximum profit for Australia's Masculinity vs Femininity (MAS) are same. The biggest profit, smallest loss, and average return of Australia's uncertainty avoidance (UAI) in a calendar day are all 70. The average LTOVST return, the highest profit of the day, and the lowest loss of the day are all 49.87. Because of their consistent values, the SD, Kurtosis, and Skewness values of the PDI, IDV, MAS, and UAI are the same. After decades, the values of the culture dimension has changed. Because of their consistent values, all

IVR values are the same. After decades, the values of the culture dimension have changed. UAI has a higher value than other dimensions, indicating that culture is more important in UAI than other dimensions.

4.1.1.3 Austria

TABLE 4.4: Descriptive of Austria

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	11	0	0	0	11	11	11
IDV	55	0	0	0	55	55	11
MAS	79	0	0	0	79	79	11
UAI	70	0	0	0	70	70	11
LTOVST	60.45	1.49	-2.5	1.16	60.45	60.45	11
IVR	62.72	1.49	-2.5	1.165	62.72	62.72	11
Average	56	0.00E+00	0	0	56	56	11
Stock Return	0.0075	0.002	0.3493	1.0081	0.0051	0.0115	11
Stock Volatility	0.1976	0.0808	-0.178	1.0502	0.1165	0.3425	11
Covid-Dummy	0.04247	0.0982	4.3144	2.2454	0	0.2938	11
Exchange Rate	0.0006	0.0003	0.7252	1.28377	0.00032	0.00118	11
Interest Rate	0.2906	0.3398	-1.1959	0.8669	0.0308	0.8759	11

The average Austria's power distance (PDI) return in a calendar day are 11. The average Austria's individualism (IDV) return, in a calendar day are 55. In each day, the average Austria's Masculinity versus Femininity (MAS) return are 79. The average return in a calendar day of Austria's uncertainty audience (UAI) are 70. SD, Kurtosis and Skewness values are same of PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 60.4534. The day's high profit and daily minimum loss is 60.4534. The average Austria's indulgence versus restraint (IVR) return, maximum profit and minimum loss in a calendar day are 62.72321. Standard deviation of IVR and LTOVST is 1.49045. The return is positively skewed at 1.16534 in both dimension LTOVST and IVR, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat in both dimension LTOVST and IVR. The value of MAS is higher than others.

4.1.1.4 Brazil

The average Brazil's individualism (IDV) return, in a calendar day are 38. In

TABLE 4.5: Descriptive of Brazil

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	69	0	0	0	69	69	11
IDV	38	0	0	0	38	38	11
MAS	49	0	0	0	49	49	11
UAI	76	0	0	0	76	76	11
LTOVST	43.82	7.45	-2.5	-1.16	43.82	43.83	11
IVR	59.15	0	0	0	59.15	59.15	11
Average	56	0.00E+00	0	0	56	56	11
Stock Return	0.0113	0.0024	4.5675	1.7897	0.0085	0.0177	11
Stock Volatility	0.15871	0.06342	8.655518	2.830656	0.109814	0.341744	11
Covid-Dummy	0.08204	0.19208	4.91685	2.33303	0	0.58495	11
Exchange Rate	0.00665	0.00261	1.79473	-0.79271	0.000796	0.01036	11
Interest Rate	0.00856	0.00658	4.33333	2.14896	0.00377	0.02551	11

each day, the average Brazil's Masculinity versus Femininity (MAS) return, are 49. The average Brazil's power distance (PDI) return in a calendar day are 38. The maximum profit, the minimum loss and average return in a calendar day of Brazil's uncertainty audience (UAI) are 76. The average Brazil's indulgence versus restraint (IVR) return is 60.4534. The day's high profit and daily minimum loss is 59.15179. SD, Kurtosis and Skewness values are same of all dimensions except LTOVST because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 43.82872. The day's high profit and daily minimum loss is 43.82872. The LTOVST's standard deviation is 7.45E-15. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of UAI is higher than other dimensions which shows that culture is more in UAI than others.

4.1.1.5 Canada

In each day, the average Canada's Masculinity versus Femininity (MAS) return, are 52. The average Canada's power distance (PDI) return in a calendar day are 39. The average Canada's individualism (IDV) return, in a calendar day are 80. The average return in a calendar day of Canada's uncertainty audience (UAI) are 48. The average LTOVST return is 36.02015. The day's high profit and daily minimum loss is 36.02015. SD, Kurtosis and Skewness values are same of all dimensions except IVR because of their consistent values. Culture dimension

TABLE 4.6: Descriptive of Canada

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	39	0	0	0	39	39	11
IDV	80	0	0	0	80	80	11
MAS	52	0	0	0	52	52	11
UAI	48	0	0	0	48	48	11
LTOVST	36.02015	0	0	0	36.02015	36.02015	11
IVR	68.3	1.49	-2.5	-1.16	68.3	68.3	11
Average	54	0.00E+00	0	0	54	54	11
Stock Return	0.00589	0.00233	2.32762	1.55953	0.00355	0.01139	11
Stock Volatility	0.0954	0.0638	7.7147	2.6259	0.0458	0.2759	11
Covid-Dummy	0.05742	0.13375	4.67137	2.2972	0	0.40442	11
Exchange Rate	0.0033	0.00124	2.84703	-1.3212	0.0003	0.00473	11
Interest Rate	0.36059	1.12395	10.9909	3.31475	0.0058	3.7489	11

values changed after decades. The average Canada's indulgence versus restraint (IVR) return, maximum profit and minimum loss in a calendar day are 68.30357. IVR's standard deviations is 1.49E-14. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of IDV is higher at 80 than other dimensions which shows that culture is more in IDV than others.

4.1.1.6 China

TABLE 4.7: Descriptive of China

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	80	0	0	0	80	80	11
IDV	20	0	0	0	20	20	11
MAS	66	0	0	0	66	66	11
UAI	30	0	0	0	30	30	11
LTOVST	87.41	1.49	-2.5	1.16	87.41	87.41	11
IVR	23.66	3.73	-2.5	-1.16	23.66	23.66	11
Average	51	0.00E+00	0	0	51	51	11
Stock Return	0.0115	0.0045	3.6865	0.8886	0.0035	0.0225	11
Stock Volatility	0.164061	0.06471	0.980799	0.335621	0.048613	0.291495	11
Covid-Dummy	0.07601	0.17944	5.31132	2.39099	0	0.55223	11
Exchange Rate	0.001243	0.00055	-0.95362	0.235619	0.000439	0.00218	11
Interest Rate	0.01205	0.00702	0.96932	1.25866	0.00514	0.0276	11

The average China's power distance (PDI) return in a calendar day are 80. The average China's individualism (IDV) return, in a calendar day are 20. In each day, the average China's Masculinity versus Femininity (MAS) return, are 66. The average return in a calendar day of China's uncertainty audience (UAI) are 30.

SD, Kurtosis and Skewness values are same of PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 87.40554. The day's high profit and daily minimum loss is 87.40554. Standard deviations of LTOVST is 1.49E-14. The return is positively skewed at 1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The average China's indulgence versus restraint (IVR) return, maximum profit and minimum loss in a calendar day are 23.66071. Standard deviations of IVR is 3.73E-15. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of LTOVST at 87.40554 is higher than other dimensions which shows that culture is more in LTOVST than others.

4.1.1.7 India

TABLE 4.8: Descriptive of India

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	77	0	0	0	77	77	11
IDV	48	0	0	0	48	48	11
MAS	56	0	0	0	56	56	11
UAI	40	0	0	0	40	40	11
LTOVST	50.88	0	0	0	50.88	50.88	11
IVR	26.12	7.45	-2.5	1.16	26.12	26.12	11
Average	50	0.00E+00	0	0	50	50	11
Stock Return	0.00543	0.00203	1.87604	1.49992	0.00302	0.01	11
Stock Volatility	0.13006	0.05125	5.63703	2.09588	0.07022	0.26713	11
Covid-Dummy	0.02617	0.06067	4.41049	2.25932	0	0.18197	11
Exchange Rate	0.003026	0.00101	0.78585	1.20578	0.00185	0.00511	11
Interest Rate	0.007178	0.00338	-0.5825	0.953848	0.00397	0.01312	11

The average India's power distance (PDI) return in a calendar day are 77. The average India's individualism (IDV) return, a calendar day are 48. In each day, the average India's Masculinity versus Femininity (MAS) return, are 56. The average return in a calendar day of India's uncertainty audience (UAI) are 40. The average LTOVST return is 50.88161. The day's high profit and daily minimum loss is 50.88161. SD, Kurtosis and Skewness values are same of all dimensions except IVR because of their consistent values. Culture dimension values changed after decades. The average India's indulgence versus restraint (IVR) return, in a

calendar day are 26.11607. Standard deviation of IVR is 7.45E-15. The return is positively skewed at 1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of IVR is higher than other dimensions which shows that culture is more in IVR than others.

4.1.1.8 Japan

TABLE 4.9: Descriptive of Japan

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	54	0	0	0	54	54	11
IDV	46	0	0	0	46	46	11
MAS	95	0	0	0	95	95	11
UAI	92	0	0	0	92	92	11
LTOVST	87.91	3E-14	-2.5	-1.16	87.91	87.91	11
IVR	41.74	7.5E-15	-2.5	1.16	41.74	41.74	11
Average	69	0.00E+00	0	0	69	69	11
Stock Return	0.0092	0.0022	0.0773	-0.3195	0.0051	0.01287	11
Stock Volatility	0.1379	0.0392	-1.1263	0.0005	0.0786	0.1967	11
Covid-Dummy	0.05005	0.11449	3.71171	2.15876	0	0.33479	11
Exchange Rate	0.00378	0.00105	0.6359	1.10229	0.00252	0.00572	11
Interest Rate	0.07348	0.08473	1.00276	1.4865	0.00924	0.2583	11

The average Japan's power distance (PDI) return in a calendar day are 54. The average Japan's individualism (IDV) return, in a calendar day are 46. In each day, the average Japan's Masculinity versus Femininity (MAS) return, are 95. The average return in a calendar day of Japan's uncertainty audience (UAI) are 92. SD, Kurtosis and Skewness values are same of PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 87.90932. The day's high profit and daily minimum loss is 87.90932. LTOVST's standard deviation is 2.98E-14. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The average Japan's indulgence versus restraint (IVR) return, in a calendar day are 41.74107. The return is positively skewed at 1.16534, indicating leptokurtic and lower. Standard deviation of IVR is 7.45E-15. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of MAS at 95 is higher than other dimensions which shows that culture is more in MAS than others.

4.1.1.9 Kenya

TABLE 4.10: Descriptive Statistics of Kenya

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	70	0	0	0	70	70	11
IDV	25	0	0	0	25	25	11
MAS	60	0	0	0	60	60	11
UAI	50	0	0	0	50	50	11
LTOVST	34	0	0	0	34	34	11
IVR	0	0	0	0	0	0	11
Average	40	0.00E+00	0		40	40	11
Stock Return	0.004825	0.000664	1.240398	0.291778	0.003708	0.006191	11
Stock Volatility	0.077004	0.023933	2.069531	1.498995	0.049274	0.131968	11
Covid-Dummy	0.08159	0.184558	3.067927	2.067243	0	0.52325	11
Exchange Rate	0.006558	0.016077	10.84064	3.284699	0.00074	0.0549	11
Interest Rate	0.125691	0.323218	10.67155	3.252537	0.00536	1.0948	11

The average Kenya's power distance (PDI) return in a calendar day are 70. The average Kenya's individualism (IDV) return, in a calendar day are 25. The average LTOVST return is 34. The day's high profit and daily minimum loss is 34. In each day, the average Kenya's Masculinity versus Femininity (MAS) return, are 60. The average return in a calendar day of Kenya's uncertainty audience (UAI) are 50. SD, Kurtosis and Skewness values are same of all dimensions because of their consistent values while IVR's average return, maximum profit and minimum loss show the 0 values in the above table. Culture dimension values changed after decades. The value of PDI is higher than other dimensions which shows that culture is more in PDI than others.

4.1.1.10 Morocco

The average Morocco's power distance (PDI) return in a calendar day are 70. The average Morocco's individualism (IDV) return, in a calendar day are 46. In each day, the average Morocco's Masculinity versus Femininity (MAS) return, are 53. The average return in a calendar day of Morocco's uncertainty audience (UAI) are 68. SD, Kurtosis and Skewness values are same of PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 14.10579. The day's high profit and daily minimum loss is 14.10579. The average Morocco's indulgence versus restraint (IVR) return, in a calendar day are 25.44643. Standard deviation of both dimensions (LTOVST

TABLE 4.11: Descriptive Statistics of Morocco

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	70	0	0	0	70	70	11
IDV	46	0	0	0	46	46	11
MAS	53	0	0	0	53	53	11
UAI	68	0	0	0	68	68	11
LTOVST	14.11	3.73E-15	-2.5	1.165	14.11	14.11	11
IVR	25.44	3.73E-15	-2.5	1.16	25.44	25.44	11
Average	46	0.00E+00	0	0	46	46	11
Stock Return	0.0045	0.0012	2.2509	1.521	0.0033	0.0073	11
Stock Volatility	0.0702	0.0339	6.96516	2.49425	0.04478	0.16449	11
Covid-Dummy	0.08394	0.19114	3.45429	2.12204	0	0.55271	11
Exchange Rate	0.0027	0.0009	0.5183	0.9506	0.0016	0.0046	11
Interest Rate	3.093448	0.530695	-0.40128	0.891241	2.5089	4.1512	11

and IVR) is 3.73E-15. The return is positively skewed of LTOVST and IVR at 1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat of both dimensions (LTOVST and IVR). The value of PDI at 70 is higher than other dimensions which shows that culture is more in PDI than others.

4.1.1.11 Russia

TABLE 4.12: Descriptive Statistics of Russia

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	93	0	0	0	93	93	11
IDV	39	0	0	0	39	39	11
MAS	36	0	0	0	36	36	11
UAI	95	0	0	0	95	95	11
LTOVST	81.36	1.49E-14	-2.5	-1.165	81.36	81.36	11
IVR	19.86	3.73E-15	-2.5	1.16	19.86	19.86	11
Average	61	0.00E+00	0	0	61	61	11
Stock Return	0.008644	0.002031	-0.5952	0.334429	0.005582	0.012305	11
Stock Volatility	0.1261	0.0406	-0.7287	0.5506	0.0689	0.1936	11
Covid-Dummy	0.0084	0.0195	4.7511	2.3088	0	0.0592	11
Exchange Rate	0.0064	0.0025	0.6095	1.0336	0.0036	0.0121	11
Interest Rate	0.01372	0.00675	2.06952	1.30519	0.00667	0.0296	11

The average Russia's power distance (PDI) return in a calendar day are 93. The average Russia's individualism (IDV) return, in a calendar day are 39. In each day, the average Russia's Masculinity versus Femininity (MAS) return, are 36. The maximum profit, the minimum loss and average return in a calendar day of Russia's uncertainty audience (UAI) are 95. SD, Kurtosis and Skewness values are same of

PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 81.3602. The day's high profit and daily minimum loss is 81.3602. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. LTOVST's standard deviation is 1.49E-14. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The average Russia's indulgence versus restraint (IVR) return, in a calendar day are 19.86607. The return is positively skewed at 1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of UAI at 95 is higher than other dimensions which shows that culture is more in UAI than others.

4.1.1.12 Singapore

TABLE 4.13: Descriptive Statistics of Singapore

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	74	0	0	0	74	74	11
IDV	20	0	0	0	20	20	11
MAS	48	0	0	0	48	48	11
UAI	8	0	0	0	8	8	11
LTOVST	71.54	1.49E-14	-2.5	-1.16	71.54	71.54	11
IVR	45.54	0	0	0	45.54	45.54	11
Average	45	0.00E+00	0	0	45	45	11
Stock Return	0.0043	0.0013	0.3203	0.9692	0.0027	0.0069	11
Stock Volatility	0.1727	0.1999	9.7523	3.067	0.0669	0.7624	11
Covid-Dummy	0.0715	0.1621	3.1309	2.0761	0	0.4611	11
Exchange Rate	0.002338	0.000627	-0.48753	0.64593	0.00144	0.003451	11
Interest Rate	0.020572	0.014529	0.083792	1.014793	0.005874	0.05083	11

The average Singapore's power distance (PDI) return in a calendar day are 74. The average Singapore's individualism (IDV) return, in a calendar day are 20. In each day, the average Singapore's Masculinity versus Femininity (MAS) return, are 48. The average return in a calendar day of Singapore's uncertainty audience (UAI) are 8. The average Singapore's indulgence versus restraint (IVR) return, in a calendar day are 45.53571. SD, Kurtosis and Skewness values are same of all dimensions except LTOVST because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 71.53652. The day's high profit and daily minimum loss is 71.53652. The LTOVST's standard deviation is 1.49E-14. The return is negatively skewed at -1.16534, indicating leptokurtic and

lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. The value of PDI is higher at 74 than other dimensions which shows that culture is more in LTOVST than others.

4.1.1.13 Sri Lanka

TABLE 4.14: Descriptive Statistics of Sri Lanka

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	77.81	3.73	-0.76	-1.18	72	80	11
IDV	33.09	3.26	-0.76	-1.18	28	35	11
MAS	16.81	11.67	-0.76	1.18	10	35	11
UAI	47.18	3.73	-0.76	1.18	45	53	11
LTOVST	46.09	1.86	-0.76	1.18	45	49	11
IVR	17.45	29.89	-0.76	1.18	0	64	11
Average	39.81	6.54E+00	-0.76	1.189	36	50	11
Stock Return	0.0052	0.0025	0.4973	1.2004	0.0028	0.0108	11
Stock Volatility	0.0817	0.0405	-0.261	1.0571	0.0409	0.1565	11
Covid-Dummy	0.089	0.249	9.932	3.121	0	0.828	11
Exchange Rate	0.0013	0.0007	0.189	0.6969	0.0002	0.0028	11
Interest Rate	0.007977	0.00436	1.208028	1.348082	0.00321	0.01757	11

The average Sri Lanka's power distance (PDI) return is 77.81818 percent, according to the table statistics. 80% is the greatest profit for the day. Per day, the minimum loss is 72%. Standard deviation of PDI is 3.736795. The average Sri Lanka's individualism (IDV) return is 33.09091 in a calendar day. Per day, maximum profit is 35%. Minimum loss in a calendar day is 28%. IDV's standard deviation is 3.269696. The return is negatively skewed at -1.18937, indicating leptokurtic and lower in both dimensions e.g. PDI, IDV. In each day, the average Sri Lanka's Masculinity versus Femininity (MAS) return is 16.81818. 35% is the greatest profit for the day. Per day, the minimum loss is 10%. Standard deviation of MAS is 11.67748. The average return in a calendar day of Sri Lanka's uncertainty audience (UAI) is 47.18182%. 53% is the greatest profit in a calendar day. In each day, minimum loss is 45%. Standard deviation of UAI is 3.736795.

The average LTOVST return is 46.09091 percent, according to the table statistics. 49% is the greatest profit for the day. Per day, the minimum loss is 45%. Standard deviation of LTOVST is 1.868397. In each day, the average Sri Lanka's indulgence versus restraint (IVR) return is 17.45455. 64% is the greatest profit for the day. Per day, the minimum loss is 0%. Standard deviation of IVR is 29.89436. The return

is positively skewed at 1.18937, indicating leptokurtic and lower in all dimensions except PDI and IDV. The Kurtosis -0.76389 value of the return data is less than 3, which means that data is flat in all dimensions. The value of PDI is higher than other dimensions which shows that culture is more in PDI than others.

4.1.1.14 South Africa

TABLE 4.15: Descriptive Statistics of South Africa

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	49	0	0	0	49	49	11
IDV	65	0	0	0	65	65	11
MAS	63	0	0	0	63	63	11
UAI	49	0	0	0	49	49	11
LTOVST	34	0	0	0	34	34	11
IVR	63	0	0	0	63	63	11
Average	54	0.00E+00	0	0	54	54	11
Stock Return	0.0059	0.0018	1.2934	1.3314	0.0038	0.01	11
Stock Volatility	0.135894	0.047188	5.29369	2.00458	0.084739	0.26098	11
Covid-Dummy	0.064086	0.149025	4.582255	2.284238	0	0.449395	11
Exchange Rate	0.007567	0.001311	0.36209	0.528881	0.00555	0.01022	11
Interest Rate	8.2038	0.9665	0.05121	-0.06952	6.5367	9.92429	11

The average South Africa's power distance (PDI) return in a calendar day are 49. The average South Africa's individualism (IDV) return, in a calendar day are 65. In each day, the average South Africa's Masculinity versus Femininity (MAS) return, are 63. The average return in a calendar day of South Africa's uncertainty audience (UAI) are 49. The average LTOVST return is 21.15869. The day's high profit and daily minimum loss is 34. The average South Africa's indulgence versus restraint (IVR) return, in a calendar day are 63. SD, Kurtosis and Skewness values are same of all dimensions because of their consistent values. Culture dimension values changed after decades. The value of IDV is higher than other dimensions which shows that culture is more in IVR than others.

4.1.1.15 USA

The average U.S.A's power distance (PDI) return in a calendar day are 40. The average U.S.A's individualism (IDV) return, in a calendar day are 91. In each day, the average U.S.A's Masculinity versus Femininity (MAS) return, are 62.

TABLE 4.16: Descriptive Statistics of USA

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	40	0	0	0	40	40	11
IDV	91	0	0	0	91	91	11
MAS	62	0	0	0	62	62	11
UAI	46	0	0	0	46	46	11
LTOVST	25.69	7.45E-15	-2.5	-1.16	25.69	25.69	11
IVR	68.08	0	0	0	68.08	68.08	11
Average	55	0.00E+00	0	0	55	55	11
Stock Return	0.0067	0.0029	3.3575	1.6486	0.0031	0.0141	11
Stock Volatility	0.107514	0.066674	6.404524	2.373361	0.045929	0.290295	11
Covid-Dummy	0.022496	0.052287	4.559089	2.280872	0	0.157564	11
Exchange Rate	0.003785	0.001102	0.554371	1.007795	0.00235	0.00587	11
Interest Rate	0.0274	0.0161	-1.688	-0.104	0.0046	0.0481	11

The average return in a calendar day of U.S.A's uncertainty audience (UAI) are 46. The average U.S.A's indulgence versus restraint (IVR) return, in a calendar day are 68.08036. SD, Kurtosis and Skewness values are same of PDI, IDV, MAS, UAI and IVR because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 25.6927. The day's high profit and daily minimum loss is 25.6927. The return is negatively skewed at -1.16534, indicating leptokurtic and lower. The Kurtosis -2.5 value of the return data is less than 3, which means that data is flat. Standard deviation of LTOVST is 7.45E-15. The value of IDV is higher than other dimensions which shows that culture is more in IDV than others.

4.1.1.16 Vietnam

TABLE 4.17: Descriptive Statistics of Vietnam

	Mean	Std	Kurt	Skew	Mini	Max	Count
PDI	70	0	0	0	70	70	11
IDV	20	0	0	0	20	20	11
MAS	40	0	0	0	40	40	11
UAI	30	0	0	0	30	30	11
LTOVST	57.17	1.3E-14	5	-2.73	57.17	57.178	11
IVR	35.49	1.4E-14	1.515	2.016	35.49	35.49	11
Average	42	0.00E+00	0	0	42	42	11
Stock Return	0.0057	0.0012	-1.305	-0.36	0.0036	0.0074	11
Stock Volatility	0.1415	0.039	-1.215	-0.013	0.0875	0.1993	11
Covid-Dummy	0.1172	0.2608	2.0383	1.9228	0	0.6486	11
Exchange Rate	0.0006	0.0003	0.7628	1.3026	0.0003	0.0012	11
Interest Rate	0.0128	0.0099	0.5987	1.3561	0.0036	0.0321	11

The average Vietnam's power distance (PDI) return in a calendar day are 70. The average Vietnam's individualism (IDV) return, in a calendar day are 20. In each day, the average Vietnam's Masculinity versus Femininity (MAS) return, are 40. The average return in a calendar day of Vietnam's uncertainty avoidance (UAI) are 30. SD, Kurtosis and Skewness values are same of PDI, IDV, MAS and UAI because of their consistent values. Culture dimension values changed after decades. The average LTOVST return is 57.17884. The day's high profit and daily minimum loss is 57.17884. The return is negatively skewed at -2.73297, indicating leptokurtic and lower. The LTOVST's standard deviation is 1.27E-14. The Kurtosis 5 value of the return data is more than 3, which means that data is not flat. The average Vietnam's indulgence versus restraint (IVR) return, in a calendar day are 35.49107. The return is positively skewed at 2.016949, indicating leptokurtic and lower. Standard deviation of IVR is 1.44E-14. The Kurtosis 1.515467 value of the return data is less than 3, which means that data is flat. The value of LTOVST is higher at 57.17884 than other dimensions which shows that culture is more in LTOVST than others.

4.2 Panel Regression Model

Three models in the panel regression model: the fixed effect model, the random effect model, and the common effect model and which model to proceed with based on the results.

4.2.1 Stock Returns

4.2.1.1 Redundant Fixed Effects Tests-Likelihood

In a panel data framework, the effect of national culture on the return of different countries is explored. On the basis of the likelihood test, the best model is chosen. The likely results are listed below in Table no 4.18.

The appearance of insignificant results suggests that the Fixed Effect model is ineffective.

TABLE 4.18: Redundant Fixed Effects. Tests-Likelihood.

Effects Test	Statistic.	d.f.	Prob.
Cross-section F.	0.00585	-15,156	1.0000
Cross-section Chi-square.	0.09903	15	1.0000

4.2.1.2 Hausman Test

In a panel data framework, The research examines the impact of national culture on the return of different countries. The appropriate model is chosen using the Hausman test. The results of the Hausman test are presented in the table 4.19 below.

TABLE 4.19: Correlated Random Effects (Hausman Test)

Test Summary.	Chi-Sq. Stat.	Chi-Sq. d.f.	Prob.
Cross-section random.	0.00	4.00	1.00

The hausman test is not appropriate, because probability is 1.00. There are insignificant outcomes, the random effect model is suitable. So, that's why There searchuse the common effect model to interpret our results.

4.2.1.3 Common Effect Model

TABLE 4.20: Method: Panel Least Squares- (Common)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.00401	0.000294	13.61608	0
CULTURE	-3.28E-07	5.47E-06	-0.059911	0.9523
COVID_19__DUMMY__	-0.004828	0.001133	-4.262901	0
EXCHANGE_RATE	0.579943	0.058549	9.905205	0
INTEREST_RATE	0.001556	0.000186	8.356311	0
R-squared.	0.636954	Akaike info criterion.	-11.99131	
Adjusted R-squared.	0.628461	Schwarz criterion.	-11.90124	
F-stat.	75.00358	Hannan-Quinn criter.	-11.95478	
Prob(F-stat.).	0			

Because the probability is 0.9523 and the coefficient is -3.248, the findings suggest that culture has a negative, insignificant impact on stock returns. The COVID dummy significantly reduces stock returns. COVID situations cause people to

feel scared and frightened, which explains the reasoning. The majority of business transactions in the country have come to a stop. The impact of the control variable exchange rate on stock returns is significant. As a result, fluctuations in exchange rates have a direct impact on stock return prices. Stock results are strongly influenced by interest rates. This is because investors become more interested in stock market investment as the government implements monetary policy and interest rates decrease. The availability of an F-statistics value larger than 2 shows that the model is well-defined and valid. The model has 62% explanatory power. Explanatory power is 62%.

TABLE 4.21: Dependent Variable: Stock Return (Common Effect)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004014	1.38E-05	290.6969	0.000
IDV	4.32E-07	3.47E-07	1.245037	0.2149
PDI	-2.22E-07	1.75E-07	-1.267395	0.2068
MAS	-1.93E-07	8.35E-08	-2.315607	0.0218
IVR	-5.09E-07	4.02E-07	-1.267286	0.2068
LTO	2.15E-07	1.75E-07	1.228158	0.2211
UAI	-1.18E-07	1.44E-07	-0.816006	0.4157
COVID_19__DUMMY__	-0.004831	5.80E-06	-832.4967	0.0000
EXCHANGE_RATE	0.579694	0.000473	1225.775	0.0000
INTEREST_RATE	0.001556	1.96E-07	7920.669	0.0000
R-squared	0.63701	Akaike info criterion	-11.9347	
Adjusted R-squared	0.61733	Schwarz criterion	-11.7545	
F-statistic	32.36817	Hannan-Quinn criter.	-11.8616	
Prob(F-statistic)	0.0000			

Indivisualism (IDV)

The basic problem addressed by this dimension in the table no 4.21 is the level of connectedness that a society maintains between its members. It's more about whether persons use the words "I" and "We" to describe themselves. Individualistic societies indicate that individuals are only concerned with themselves and their close family. In collectivist societies, people who belong to "in groups" look after them in exchange for their loyalties. The IDV coefficient is 4.32E-07 with a probability of 0.2149, indicating that the IDV is insignificant. The results are calculated using the common effect model. There is no effect on the stock return. This is indicates by a member's long-term, strong allegiance to his or her "group,"

whether this is a family, entire family, or other connections. In a collectivist culture, loyalty gets priority over all other group standards, principles, and rules. The members of the organisation are allowed to form strong relationships, with each person bearing responsibility for the other group members. In collectivist civilizations, offence leads to shame and public humiliation. In these civilizations, employer-employee interactions are viewed as ethically similar to family ties, and selection and employment decisions take into account the employee's in-group as well as management groups.

Power Distant (PDI)

This component underlines the fact that not everybody in a society is similar; it shows the culture's perspective toward social inequity. Power distance refers to the extent to which less powerful members of organisations and institutions within a community simply accept an imbalance of power distribution. The results are determined using the common effect model, and the PDI coefficient is $-2.22E-07$ with a probability of 0.2068, showing that the PDI is negatively insignificant and has no effect on stock return, and therefore, declaring a preference for all countries in this dimension is not possible.

Masculinity Versus Femininity (MAS)

A top score here on dimension (masculine) indicates that competitiveness, achievement, and success will motivate society, with the goal of being a champion/best in field and instilling a sense of integrity and ethics in students that spreads across the organization's culture. A bad score (feminine) on the dimension implies that the most crucial aspects in society are care for others and life quality. In a feminine society, having an acceptable quality of life is a measure of success, and deviating from the standard is looked upon. Individuals are motivated by two desires: the need to concentrate (masculine) or the desire to enjoy what they can do (feminine). According to the common effect model, the MAS coefficient is $1.93E-07$ with a probability of 0.0218, indicating that the MAS is negatively significant. MAS motivates people and improves their quality of life. Family success is an important part of the MAS, which is seen in almost all 16 countries.

Indulgence Versus Restraint (IVR)

The degree to which young children are raised has been an issue for humanity in the past, and it continues to be a problem today. The research does not become "human" without socialisation. People in this dimension struggle to control their impulses and emotions as a natural outcome of their environment. The terms "indulgence" and "restraint" refer to a lack of control and a strong level of constraint, respectively. As a result, civilizations might be classified as either lavish or restrained. The IVR coefficient is $-5.09E-07$ with a probability of 0.2068, showing that the IVR is negatively insignificant and has no effect on stock return, as determined by the common effect model. It indicates that humans are powerless over their desires. It suggests that people lack control over their desires and are not as self-aware as they should be, which is why problems exist.

Long-term Orientation (LTO)

A specific dimension reveals how, despite challenges and opportunities, every society must maintain certain linkages with its past, and societies prioritise these two conceptual purposes in different ways. Because they want to keep long-standing traditions but are afraid of changes in society, socially constructed cultures score low on this aspect. On the other side, those that live in a high-scoring culture take a more practical approach, emphasising discipline and investing in modern education with the aim of future preparation. The LTO coefficient was calculated using the common effect model, and it is $0.215E-07$ with a probability of 0.2211, indicating that the LTO is insignificant. This argues that stock returns have nothing to do with society, traditions, or values and standards.

Uncertainty Avoidance (UAI)

Uncertainty is a factor to consider. The way a society cope with the awareness that the future can never be foretold is referred to as avoidance. Should this study attempt to alter the future or simply accept it as it is? Uncertainty produces anxiety, which many societies have figured out how to deal with it in a variety of ways. The UAI score reveals how afraid people in a culture are of uncertain or

unclear situations and how people have constructed beliefs and structures to prevent them. The UAI coefficient is $-1.18E-07$ with a probability of 0.4157 according to the common effect model, showing that the UAI is negative and insignificant. There is an underlying desire for values among these groups (even though the rules seem to never work). Human have a natural drive to be active and work hard; correctness and regularity are expected; invention may be prohibited; and safety is a major motivator for people.

COVID-19 (Dummy)

COVID is a dummy variable with a -0.004801 coefficient and a probability value of 0.00%, indicating that it has a direct effect. The rationale for this is that the stock market's return decreases as the number of cases increases. Fear and uncertainty are created by COVID cases. No one can invest because everyone is in a panic. Because fear and uncertainty exist in the market, major negative outcomes reveal that the return decreases as the number of incidents increases. Fear of information has an impact on investors' judgments. As a result, the market reports poor returns. COVID-19 has a negative significant effect on stock returns during a pandemic.

Exchange Rate and Interest Rate

The exchange rate has a big impact on stock returns. The reason for this is that when the currency rate rises, foreign investors profit more and more. The impact of interest rates on stock returns is enormous. Because when new monetary policies are introduced and interest rates fall, investors become more interested in investing in the stock market. The fact that the F-statistics value is greater than 2 indicates that the model is accurately described and valid. The model's explanatory power is 61%.

4.2.2 Stock Volatility

4.2.2.1 Redundant Fixed Effects Tests-Likelihood

The impact of national culture on the volatility of different countries is investigated using panel data analysis. The best model is chosen based on the likelihood test. The possible results are mentioned below in Table no 4.22.

TABLE 4.22: Redundant Fixed Effects Tests

Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.014	(15156)	1.000
Cross-section Chi-square	0.229	15.000	1.000

The redundant fixed effect test is not appropriate, because probability is 1.000. The presence of statistically insignificant results shows that the Fixed Effect model is ineffective.

4.2.2.2 Hausman Test

This study uses a panel data approach to investigate the impact of national culture on a country's volatility. The Hausman test is used to select a suitable model. The Hausman test results are provided in the table no 4.23 below.

TABLE 4.23: Correlated Random Effects (Hausman Test)

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000	4.000	1.000

Because the probability is 1.000, the hausman test is ineffective. The random effect model is inappropriate when there are insignificant effects. As a result, the research interpret our findings using the common effect model.

Because the probability is 0.9275, and $-1.24E-05$, coefficient the findings show that culture has an impact on stock volatility. The COVID dummy significantly reduces stock returns. COVID occurrences cause people to feel uneasy and apprehensive, which explains why. The majority of business transactions in the country have ground to a stop. Stock volatility is significantly impacted by the exchange rate. This is because, as the exchange rate rises, foreign investors profit more and more. Interest rates have a huge impact on stock returns. Because investors become more interested in investing in the stock market when new monetary policies are

TABLE 4.24: Dependent Variable: Stock Volatility (Common Effect)

Variable.	Coefficient	S. E	t-Stat.	Prob.
C	0.105459	0.00733	14.39311	0
CULTURE	-1.24E-05	0.00014	-0.09118	0.9275
COVID_19__DUMMY__	-0.098031	0.02818	-3.47922	0.0006
EXCHANGE_RATE	10.06178	1.45669	6.907312	0
INTEREST_RATE	0.073492	0.00463	15.85857	0
R-squared.	0.746803	Akaike info criterion	-5.5632	
Adjusted R-squared.	0.74088	Schwarz criterion	-5.4731	
F-stat.	126.091	Hannan-Quinn criter	-5.5267	
Prob(F-stat).	0			

in place and interest rates fall, The existence of an F-statistics value larger than 2 shows that the model is well-defined and valid. The model has 73% explanatory power.

TABLE 4.25: Dependent Variable: Stock Volatility (Common Effect)

Variable.	Coefficient	S. E	t-Stat.	Prob.
C	0.105603	0.01029	10.26349	0
IDV	1.64E-05	8.75E-05	0.187041	0.8519
PDI	-8.39E-06	9.05E-05	-0.09269	0.9263
MAS	-7.32E-06	8.99E-05	-0.08147	0.9352
UAI	-4.45E-06	5.52E-05	-0.08062	0.9358
LTOVST	8.13E-06	7.16E-05	0.113532	0.9097
IVR	-1.93E-05	7.90E-05	-0.24424	0.8073
COVID_19__DUMMY__	-0.098147	0.0286	-3.43218	0.0008
EXCHANGE_RATE	10.05235	1.47869	6.798137	0
INTEREST_RATE	0.073488	0.0047	15.62691	0
R-squared.	0.746895	Akaike info criterion	-5.50675	
Adjusted R-squared.	0.733172	Schwarz criterion	-5.32661	
		Hannan-Quinn criter.	-5.43369	

Indivisualism (IDV)

The basic issue addressed by this dimension in this table is a society's degree of connectedness among its members. It's to do with whether people use different terms to describe their self-image. Individualistic civilizations assume that people only care about themselves and their immediate families. In collectivist cultures, people are assigned to "in groups" that look after them in exchange for their loyalty. The results are calculated using the common effect model, and the IDV

coefficient is $1.63E-05$, with a probability of 0.8519, indicating that there is no effect on stock volatility. This is demonstrated by a member's significant, long-term devotion to their "group," whether that group is their direct family, wider family, or wider relationships. Most other societal rules and regulations take a back seat to loyalty in a collectivist culture. Employees of the group are allowed to develop close connections with each other, with each team member bearing responsibility for one of the other group members. In collectivist civilizations, offence leads to shame and loss of face. In these cultures, employees relationships are morally regarded (equivalent to a familial bond), and selection and employment decisions consider the company's in-group as well as management groups.

Power Distant (PDI)

This component indicates that not everybody in a society is treated equally and reflects the culture's perspective on unfairness. Power distance refers to the extent to which low important institutions and organizations inside a society assume unequal power distribution. The results are determined using the common effect model, and the PDI coefficient is $-8.39E-06$, with a probability of 0.9263, indicating that the PDI is negatively insignificant and has no effect on stock volatility, and that declaring a preference for all countries in this dimension is not possible.

Masculinity Versus Femininity (MAS)

A high rating (masculine) indicates that competitive rivalry, achievement, and success will keep driving society, with success explained by the title holder in field and a sense of right and wrong that begins in institution and expanded all throughout organization's culture. A lower value (feminine) implies that the prevailing values in culture will be caring for others and living a good life. In a feminine society, living a pleasant life is a measure of success, and deviating from the standard is looked upon. The primary question is whether people are motivating by the desire to success (masculine) or a desire to enjoying what they're doing (feminine). According to the common effect model, the MAS coefficient is $-7.32E-06$ with a probability of 0.9352, indicating that the MAS is negative and

insignificant. MAS encourages people and improves their quality of life. Family success is an important part of the MAS, which is found in all 16 countries.

Indulgence Versus Restraint (IVR)

The degree to which young kids are socially formed has been a concern for humanity in the past and continues to be a problem today. The research does not become "human" without socialisation. As a result of their upbringing, people in this dimension struggle to manage their desires and emotions. The terms "indulgence" and "restriction" refer to a lack of control and a lot of constraint, respectively. As a result, civilizations might be classified as either lavish or restrained. The common effect model is used to calculate the IVR coefficient, which is $-1.93E-05$ with a probability of 0.8073, showing that the IVR is negatively insignificant and has no effect on stock volatility. It implies that humans are powerless over their desires. It suggests that people lack control over their wants and are not as socialised as they should be, which is why problems exist.

Long-term Orientation (LTO)

Another key component highlights how, regardless current and future challenges, every community must maintain some connections from its past, and societies prioritise these two conceptually different purposes. Social constructed cultures perform badly in this category, even though they prefer to stick to lengthy customs and traditions and are still fearful of social transformation. Some who live in a high-scoring culture, from the other side, take a rather more practical approach, emphasising caution and investing in higher education is the way of planning for the future. The LTO coefficient was calculated using the common effect model, and it is $8.13E-06$ with a probability of 0.9097, indicating that the LTO is insignificant. This shows that market volatility has nothing to do with culture, traditions, or values.

Uncertainty Avoidance (UAI)

Uncertainty is a factor to consider. The principle of avoidance refers to a society's

response to the knowledge that the future cannot be predicted. Should this research attempt to change the future, or should it simply accept it as it is? This ambiguity produces anxiety, which many communities have figured out how to deal with in various ways. The UAI score represents a culture's fear of unclear or confusing situations, as well as how it has constructed beliefs and structures to prevent them. The UAI coefficient is $-4.45E-07$ with a probability of 0.9358 according to the common effect model, showing that the UAI is negative and insignificant. In some of these communities, there is a psychological demand for standards (right and wrong) even though the guidelines seem to not work. People have a natural desire to be creative and energetic at work; accuracy and punctuality are required; creativity may be rejected; and safety is an important aspect of human motivation.

COVID-19 (Dummy)

COVID is a dummy variable with a -0.098147 coefficient and a probability value of 0.0008, indicating that it has a negative direct effect. The rationale for this is that the stock market's return decreases as the number of cases increases. COVID cases expand fear and uncertainty. No one can invest because everyone is in a panic. Because fear and uncertainty exist in the market, major unfavourable outcomes demonstrate that the return declines as the frequency of incidents increases. Fear of information has an impact on investors' judgments. As a result, the market reports poor profits. Throughout a pandemic, COVID-19 has a significant negative impact on stock volatility.

Exchange Rate and Interest Rate

Stock volatility is significantly impacted by the exchange rate. This is because, as the exchange rate rises, foreign investors profit more and more. Interest rates have a huge impact on stock returns. Because investors become more interested in investing in the stock market when new monetary policies are in place and interest rates fall, The existence of an F-statistics value larger than 2 shows that the model is well-defined and valid. The model has 73% explanatory power.

Chapter 5

Conclusion

National culture is the most debatable topic. The main aim of the research is to look into the impact of national culture on stock market returns and volatility during COVID-19. The research focuses on the impact of national culture on the stock market and volatility at the country's level during COVID-19. Australia, Austria, Brazil, Russia, India, China, South Africa, Pakistan, the United States, Sri Lanka, Singapore, Morocco, Kenya, Canada, Japan, and Vietnam are among the 16 sample countries. In panel estimates, daily data for the last 11 years (2011–2021) of relative financing through markets for these 16 countries is used. Panel data regression analysis was used in this study to investigate the impact of the variables of interest individually and jointly. For the first time, the national culture with its six dimensions (PDI, UAI, MAS, LTO, IDV, and IVR), the COVID cases, and two control variables, the interest rate and exchange rate, are used to examine the impact on stock return and volatility in 6 emerging countries, 6 developed countries, and 4 frontier countries.

The impact of national culture on returns from all 16 countries is insignificant. In national culture dimension only MAS has significant impact on return and the rest has negative results. The MAS showing negatively significant according to the common effect model. People are motivated and their quality of life increases as a result of MAS. The MAS, which can be seen in almost all 16 countries, places a strong emphasis on family success. Using Covid-19 cases reported and stock market returns from 16 countries on a daily basis. COVID cases have a significant negative impact on returns in all 16 nations, as the return declines as the number

of cases increases, and the market becomes afraid and uncertain. Fear influences the decisions of investors. The model's rise in confirmed cases variable is significantly negative, validating latest discoveries by Ashraf (2020b) and Al-Awadhi et al. (2020) that Covid-19 outbreaks cause stock markets to react negatively. Uncertainty avoidance is also negative, although not significantly, meaning that countries with higher levels of uncertainty avoidance have had a more negative influence on stock returns. The interest rate in each country has a significant impact on the return. The exchange rates of all countries have a significant impact on returns.

National cultures and dimensions, as well as their differences between countries, have a negative impact on the volatility. Because the risk is high, the power distance findings are insignificant, indicating that it cannot prefer volatility. Power distance refers to the extent to which less powerful members of organisations and institutions within a society expect and tolerate unequal power distribution. This is shown by a member's strong, long-term loyalty to his or her "group," whether it is a family, extended family, or extended connections. Loyalty takes precedence over most other societal laws and regulations in a collectivist culture. Because the risk is substantial, the IDV results are insignificant, suggesting that it cannot favour volatility. People are encouraged and their quality of life is improved by MAS. The MAS highlights the importance of family success. Because the risk is huge, the results are insignificant, which means it cannot prefer volatility. Because the risk is enormous, the IVR outcomes are insignificant, implying that it cannot favour volatility. It indicates that people are helpless in the face of their desires. It implies that people are unable to manage their desires and are not as socialised as they should be, which explains why problems exist. Normative cultures perform poorly in this category because they tend to long-held traditions and customs while being wary of societal change. This shows that market volatility is not connected to culture, tradition, or values. Because the risk is high, the LTO results are insignificant, which means it cannot prefer volatility. People are motivated by an underlying need to be active and productive at work; precision and timeliness are necessary; innovation may be ignored; and stability is a key component of human motivation. Because the risk is considerable, the UAI outcomes are insignificant,

implying that it cannot favour volatility.

The exchange rate and the interest rate both have significant, showing that they are controlled, and Covid -19 has a negative significant impact on volatility. In response to the COVID-19 epidemic, stock market volatility rise and returns decreased, according to the research. The COVID-19 outbreak caused extreme volatility and huge negative returns in financial markets all around the world.

According to Iqbal, Manzoor, & Bhatti, (2021). The research investigates the effects of COVID-19 on the variability of Australian stock returns, as well as the impact of positive as well as negative news (shocks), the unequal nature of the shocks, and the impact of leverage on volatility. Negative (positive) shocks have a higher (smaller) leveraging impact on conditional volatility in the EGARCH model without news.

The risk-reward hypothesis underpins this research. According to this study, pandemics promote fear in the market because they alter people's decision-making power, causing some people to panic and make rash decisions. The COVID situations have a negative impact in this study because people are not in a condition of mind to make better market decisions. The risk/reward ratio is used by stock investors to manage their cash and the risk of losing money.

5.1 Limitation and Recommendations of the Study

- The main focus of this study is on the impact of national culture on stock market returns and volatility at the global level, but the results are quite poor due to the use of long-term data and the fact that Hofstede's culture changes the data after decades.
- COVID-19 spreads fear and anxiety throughout the world. Stock markets performed poorly during the COVID-19 pandemic. When the number of cases and deaths rises, fresh information has an immediate impact on the stock market.

5.2 Future Directions

- Instead of using a long-term method, a short-term method has been found to produce better results.
- If used the survey approach with a questioner to find the results and then used a short-term method to see if the results were meaningful.
- It's possible that using more than a decade to locate and calculate national cultural data is more successful, or that the outcomes are the opposite.

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