APPROVAL SHEET

Impact of Economic Factors on the Development of Islamic and Conventional Capital Markets: A Comparative Analysis

By

Mohd Razwan Sheikh

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Supervisor

(Dr. Faiz-ur-Rahim)
Associate Professor, IIIE, IIUI

Internal Examiner:

(Prof. Dr. Abdul Rashid)
Professor, IIIE, IIUI

External Examiner-I:

Prof. Dr. Atiquzzafar Khan
Professor/Dean
FSS &H, Ripha International University, Islamabad

External Examiner-II:

Prof. Dr. Anwar Shah,
Professor,
SOE, Quaid-e-Azam University, Islamabad

Chairperson,
School of Islamic Banking & Finance
International Institute of Islamic Economics
International Islamic University, Islamabad

Director General,
International Institute of Islamic Economics
International Islamic University, Islamabad

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Energy Production -- Islamic and conventional

Capital Markets

Energy resource economics

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I hereby declare that this thesis entitled "Impact of Economic Factors on the Development of Islamic and Conventional Capital Markets: A Comparative Analysis" is based on my original research work carried out under the guidance of Dr. Faiz ur Rahim at international institute of Islamic economics.

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Mohd Razwan Sheikh

Dedications

To my loving family, whose unwavering support and encouragement have been my guiding light throughout this journey. Your belief in me has been my greatest inspiration.

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Abstract

This research undertook an empirical examination, to determine the impact of economic factors on the development of Islamic and conventional capital markets in a sample of ten Asian nations, comprising Malaysia, Indonesia, the United Arab Emirates, Qatar, Bahrain, Pakistan, Saudi Arabia, Turkey, Kuwait, and Bangladesh. The study examined the relationships between a range of key economic indicators, including Gross Domestic Product (GDP), inflation rate, Foreign Direct Investment (FDI), market liquidity, trade openness, banking sector development, institutional quality, and capital market development. By investigating these relationships, the research aimed to contribute to the existing body of knowledge on the factors that shape the development of Islamic and conventional capital markets in the Asian region. Whereas, this research has utilized a quantitative methodology, based on secondary data from ten Asian countries and employing penal ARDL bound testing to ensure robust and reliable findings. To further highlight the results, we ran twelve separate models, providing a comprehensive analysis of the data. This approach enabled us to draw conclusive insights and make informed recommendations. Therefore, the findings indicate that macroeconomic stability, banking sector development, and institutional quality are inevitable for capital market development. Specifically, GDP, market liquidity, and institutional quality consistently show positive impacts, while inflation and trade openness have negative effects in some contexts. Thus, the research highlights the decisive role of robust economic fundamentals and exemplary institutional frameworks in promoting the development of both Islamic and conventional capital markets. Moreover, this study contributes to the existing literature by providing empirical evidence on the significant drivers of capital market development, highlighting the pivotal roles of macroeconomic stability, banking sector development, and institutional quality. However, Policymakers should prioritize macroeconomic stability, banking sector development and institutional quality, to foster thriving capital markets.

Keywords: macroeconomic variables, banking sector development, institutional quality, Islamic and conventional capital markets and penal ARDL.

JEL classification: G1; G2; E310; D02; E010; C580.

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List of abbreviations

ADB: Asian Development Bank

ADF: Augmented Dickey-Fuller (test)

AIC: Akaike Information Criterion

ARDL: Autoregressive Distributed Lag

BMC: bond market capitalization

BSD: banking sector development

CC: control of corruption

CD: Certificate of Deposit

CDR: credit deposit ratio

CPI: Consumer Price Index

ECM: error correction model

ECT: error correction term

FD: Fixed Deposit

FDI: Foreign Direct Investment

FDP: Fiscal Discipline Policy

GCC: Gulf Cooperation Council

GDP: Gross Domestic Product

GFI: Government Financial Institution

GLM: Generalized Linear Model

GLS: Generalized Least Squares

GMM: Generalized Method of Moments

GNP: Gross National Product

ICM: Islamic Capital Market

ICRG: International Country Risk Guide

IFSB: Islamic Financial Services Board

IHK: International Housekeeping

IHSG: Indonesia Stock Exchange Composite Index

IIR: Infinite Impulse Response

IMF: International Monetary Fund

IP: investment profile

IPI: Industrial Production Index

IR: Interest Rate or Investor Relations

IRF: Impulse Response Function

ISM: Islamic sukuk market

ISRA: International Shari'ah Research Academy

KLCI: Kuala Lumpur Composite Index

KLSI: Karachi Stock Exchange Index

MC: market capitalization

ML: market liquidity

OIC: Organization of Islamic Cooperation

OLS: Ordinary Least Squares

OTC: Over-the-Counter (financial market)

PCA: Principal Component Analysis

SAARC: South Asian Association for Regional Cooperation

SM: stock market

SMC: sukuk market capitalization

SMD: sukuk market development

TO: trade openness

VAR: Vector Autoregression

VECM: Vector Error Correction Model

WDI: World Development Indicators

CHAPTER 1: INTRODUCTION

1.1 Background

Capital markets are the financial markets that facilitate the buying and selling of long-term debt and equity-backed securities. They play a vital role in the economic development of any nation by providing a platform, where businesses and governments can raise long-term funds, while investors have opportunities to allocate their capital in exchange for potential returns. These markets consist of primary markets where new securities are issued and sold for the first time and secondary markets, where existing securities are traded between investors.

Therefore, are regarded as the backbone of a nation's financial system, playing a vital role in facilitating economic growth and development. Predominantly, country's economy consists of two key sectors i.e. the real sector and the financial sector. The real sector focuses on producing goods and services, while the financial sector provides the necessary funds to support and sustain this productive capacity. The financial sector, comprising capital markets, banks, and other financial institutions, enables the efficient allocation of resources, allowing the real sector to function effectively. This relationship between these two sectors is decisive for a nation's economic prosperity, emphasizing the importance of well-developed and functional capital markets. This process is done through the mobilization of funds from the surplus sectors of an economy to the productive sectors that need them. Households are the primary lenders through financial intermediary institutions, while occasionally corporations, local, state, and federal governments give out excess funds through financial markets. In addition, households, governments, and commercial enterprises borrow money to support various purposes such as building a road, a bridge, or funding an annual budget.

Thus primary objective of capital markets is to improve the efficiency of the overall economy by channeling savings and investment funds to their most productive uses. They support innovation and growth by enabling companies to access the capital needed for expansion, research and development, and other desirable investments. Additionally, capital markets help in price discovery, liquidity provision, and risk management, which are indispensable for sustaining the firmness of the financial system. In essence, capital markets serve as the backbone of a healthy economy by fostering an environment where capital can be mobilized efficiently, supporting sustainable economic growth and wealth creation (Bacha and Mirakhor, 2019).

Therefore, capital markets represent a vibrant subset of the broader financial system, comprising of various other entities like "banks, money markets, insurance firms, pension funds, and merchant banks. Whereas the financial system includes wholly these entities, the term "capital market" specifically signifies equity and debt markets and which is indeed an integral component of the whole financial system. Like other financial markets, capital markets also play a vital role in financing the real industry. Despite the fact that the capital market, along with the rest of the financial system, is essential to financing the real sector, but has a distinctive feature i.e. direct access for business entities to raise funds. In contrast to bank financing, which uses deposits from surplus units to fund loans, while corporations can access surplus units directly through the issuance of bonds or shares on the capital market. This direct access is a key characteristic of capital markets, enabling businesses to raise money efficiently. This direct access also results in a different risk transferal mechanism. In, bank financing, the bank assumes the risks associated with lending, shielding depositors from direct exposure to loan risks. Banks are compensated for this risk by the interest spread. However, in capital markets, investors in shares or bonds (such as Sukuk) bear the risk related with their investments. Consequently, a decline in share or Sukuk prices may lead to a reduction in the original invested amount (Omar et al. 2013).

Therefore, keeping in view this whole background of Capital markets, we infer that this platform is mainly used to trade equity-backed securities and long-term debt securities with maturities greater than one year. It has the two prominent components, namely the stock market and the bond market. Where, equities are stocks, having ownership shares in a company are traded on the stock market and debt securities are bonds traded on the bond market. Furthermore, the main providers of capital market securities (or fund users) are companies and governments. While households are the main providers of capital for these securities. Thus, capital markets mobilize wealth from savers to those who use it for long-term productive purposes, i.e. corporations and governments. Therefore, capital markets are considered as significant platform for mobilizing idle savings in the economy. It collects funds from people for new investments in the dynamic sectors. In this sense, it activates ideal sources of money and puts them into appropriate investments and contributes to capital formation. This process (trading) of mobilizing wealth from one form to another is done through primary and secondary markets. Both these markets are actually the two distinct categories of capital markets. In primary markets, new equities and bonds are issued and sold to investors, frequently through a mechanism called as underwriting. So, the main entities on

the primary markets seeking to raise long-term funds are governments and corporations. While on the other side, these issued securities are traded on the secondary market i.e. resold and bought among investors (Saunders et al. 2012).

This entire background basically, unveils the essence of capital markets, where securities are issued and traded between investors. Whereas, this study is going to explore the development structures of both Islamic and conventional capital markets. Therefore, in this context, the prominent components of these markets will be assessed based on already existing literature. Whereas, in that pursuit, we will analyze both the markets to have an inclusive insight about their structures. So in this regard, description of both markets is indispensable to have an understanding of its background and principles.

Islamic capital markets primarily, are the markets in which functions are carried out in harmony with Islamic principles. In general, the mechanism of Islamic capital markets is not diverse from that of conventional capital markets, but the product and transaction mechanism of Islamic capital markets is in line with Islamic principles, which makes it distinct from the conventional one. However, on the other side, conventional capital markets refer to the traditional financial markets where financial instruments, such as "stocks, bonds, and derivatives, are traded". These markets are based on conventional financial principles and are not necessarily compliant with any Islamic finance principles.

Moreover, Islamic Capital Markets are predominantly considered as a viable alternative for conventional capital markets. They primarily indicate some specific features i.e. Riba, Gharar, and Maysir free from any kind of transactions. Furthermore, the Islamic Capital Market does not allow for the trading of doubtful and interest-based transactions, as well as the trade of shares in businesses that engage in such deeds that are prohibited by Islamic law. Besides, Islamic capital markets are an essential part of the entire Islamic financial system, despite being the industry's final entrant since the mid-1990s. The industry, in particular, has gained impetus and is now drawing a diverse group of investors and issuers from around the globe. As a result, Islamic capital market is deemed complementary to the development of Islamic financial institutions. Its fundamental function, like that of conventional capital market, is to allow people, companies, and governments with excess funds to transfer them to people, companies, or governments in need. For capital seekers and providers, the Islamic capital market works as a complement to the conventional system. It is basically, made up of three primary sectors i.e. the Islamic equities

market, which is aided by the Islamic stock index, the Sukuk market, and the Islamic financing market (Iqbal & Mirakhor, 2013).

Therefore, keeping in view the background, principles and comparisons of both market structures, we infer that the development of these markets is of utmost importance for any thriving economy. So in this context, the core objective of this study is to ascertain the impact of economic factors on the development of Islamic and conventional capital markets, with the prime focus on Islamic and conventional stock markets, Sukuk and bond markets in ten Asian countries. Although, in this perspective, existing relevant literature highlights various studies, which witness the development structures of capital markets, But their focus has been revealed specifically on the stock and Sukuk markets. Stock market being the developed component of capital market in most of the countries, has surged with emergent markets, accounted for an enormous volume of gain. The rapidity and extensiveness of stock market development in developing nations has been exceptional, resulting in significant changes in developing financial systems as well as capital flows from developed countries. The capitalization ratio (market capitalization as a percentage of GDP), a fundamental indicator of stock market development has increased at a rate never seen in top developing nations.

The development of stock markets mostly depends on a number of factors, leading to the development of stock markets. Numerous scholars have emphasized in their research that the stock market is crucial to a nation's development. As per the 1996 World Bank Economic Analysis, a country's economic progress is contingent upon the growth of its stock markets. Therefore, every country's stock market is essential to its economic development. However, there are various factors that affect stock market development, such as GDP, FDI, inflation, foreign exchange rate, interest rate, stock market volatility (or market risk), stock market liquidity, economic growth and industrial production etc. Stock market serves as a platform for the buying and selling of shares of publicly-held companies. By making shares available to the general public and enabling open trading among investors, this market helps businesses raise money. Shares or stocks represent ownership interests in corporations or financial assets. However, holding shares does not equate to direct control over day-to-day business operations; it entitles shareholders to a proportionate share in any profits distributed in the form of dividends. Equity securities primarily comprise common stock and preferred stock. The key distinction amongst these securities lies in their contribution to earnings distribution and the priority given during such distributions. Preferred

stockholders are entitled to a fixed dividend, received afore common stockholders, emphasizing their priority in earnings distribution. (Madura, 2010).

The stock market is a vital component of a nation's financial system, facilitating capital allocation and wealth creation. However, its development is significantly influenced by economic factors, which can either foster or hinder its growth. Economic factors such as Gross Domestic Product (GDP), inflation, interest rates, exchange rates, and economic policy decisions have a insightful impact on the stock market capitalization. The literature explicitly, justifies the impact of various factors on the development structures of stock markets across the globe. The studies carried out by various scholars with regard to stock market development, clearly demonstrate the development status of stocks markets. The study conducted by Saravanan, et al. (2024), examined the association between a few chosen macroeconomic indicators and (NSE Nifty 50), the Indian stock market, as well as how the variables' choices impact stock performance. The study has chosen gold price, exchange rate, inflation, exchange rate, and Nifty 50 as its macroeconomic variables. From a comprehensive perspective, the findings of another study on macroeconomic variables and stock market development endorsed the profound impact of these variables on the stock market. The study, conducted by Botey-Fullat et al. (2023), investigated the relationship between stock market and the macroeconomic environment in Spain, providing further evidence of the significant influence of macroeconomic factors on stock market development.

The study explicitly highlights importance of considering macroeconomic variables in understanding stock market behavior and informing investment and policy decisions. Siang and Rayappan (2023), looked into how several macroeconomic factors affected the performance of the Malaysian stock market. The study looked at the correlations between the inflation rate, real effective exchange rate, M2 money supply, and short-term interest rate as well as the Kuala Lumpur Composite Index (KLCI). Chiad and Hadj Sahraoui (2022), also highlighted the macroeconomic determinants of SMD. This study aimed at emphasizing the role of some selected macro-economic variables, represented by "trade openness, stock market liquidity, Broad money, economic growth and financial crisis in explaining stock market development". Likewise, Yadav et al. (2022), also investigated the relationship between macroeconomic variables (Foreign Reserve, Exchange Rate and CPI)" and Indian stock market prices. Similarly, Balagobei and Bandara (2022), investigated how macroeconomic factors affected Sri Lanka's stock market performance. However, macroeconomic factors include the money supply, GDP, inflation rate,

interest rate, and exchange rate. The study's conclusions unequivocally show that the money supply and GDP have a positive impact on stock market performance. While inflation has not been shown to have a substantial impact on stock market performance, interest rates and exchange rates have a negative impact on stock market performance. Neifar et al. (2021), examines the association between stock prices and a set of macroeconomic variables, which comprises interest rate, inflation, consumer price index and the exchange rate, using data from the United Kingdom stock market. And the findings show that the UK market formed noteworthy relationships with all macroeconomic variables encompassed in this study. Another, study examined how various significant macroeconomic variables affected the Turkish Stock Market index (Demir, 2019). The effects of interest rates, the real effective exchange rate, FDI inflows, portfolio investment inflows, crude oil prices, and market activity were all investigated in this study. The results indicated that these characteristics and the stock market index had a long-term association.

As a result, this study clearly suggests that a country's economic stability and stock market growth are closely related. Tsaurai (2018), investigated the factors influencing the growth of stock markets in various countries. It highlights that FDI, economic growth, infrastructure development, savings, inflation, trade openness, exchange rates, banking sector development, and stock market liquidity are some of the major elements impacting the stock market development. The study also stressed the significance of putting policies in place that can quicken these emerging markets' economic progress.

Similarly, Ho (2018), looks at the macroeconomic factors that influence stock market development in Malaysia from 1981 to 2015. It portrays the impact of the banking sector's growth, economic performance, inflation rate, foreign direct investment, and trade openness on the Malaysian stock market development. The causal relationship between inflation, economic growth and stock exchange development in sixteen Asian nations for the period 1988–2012 was assessed by Pradhan et al. (2020), and the outcomes established that there is a presence of a hefty number of causal relation between stock exchange development, inflation and economic development.

The macroeconomic variables and institutional factors that influence the growth of the stock market in emerging markets have also been studied empirically by Yartey (2010). Three major conclusions are highlighted by the analysis. First, a number of important factors that influence the development of the stock market in these economies include income level, domestic investment, and the growth of the banking sector, private capital flows, and stock market liquidity.

Second, there is a non-monotonic link between the growth of the banking industry and the stock market in developing market nations. This point toward, that the banking industry helps the stock market to finance investments in the early going. But as both industries grow, they start to face off against one another as funding sources for investment. Thirdly, the development of the stock market in emerging nations is significantly influenced by institutional characteristics such as bureaucratic quality, law and order, democratic accountability, and political risk.

These studies clearly show, that economic factors are indispensable for the development of stock markets, irrespective of any geographical location. Hence, we can infer on the basis of these studies that GDP growth, for instance, can boost corporate profits and drive stock market growth, while high inflation can erode investor confidence and lead to market volatility. Interest rates can influence the cost of capital and impact stock market returns, while exchange rates can affect the attractiveness of foreign investments. The indicators of banking sector development can supports growth and stability of the stock market by facilitating capital mobilization, enhancing investor confidence, managing risks, and performing essential intermediary functions. And similarly, institutional quality indicators are also important for stock market development because they tend to diminish political risk, enhance regulatory capacity, and support the viability of external finance. Understanding the impact of economic factors on stock market development is inevitable for a stable and vibrant stock market.

Subsequently, the other leg of conventional capital market is known as the debt market or fixed-income market, is a financial market where participants can buy and sell debt securities. These debt securities, often known as bonds, are the loans that investors have made to corporations, governments, and other organizations. In essence, when an investor buys a bond, they are advancing money to the issuer in exchange for periodic interest payments and the return of the principal amount at maturity. Bonds are claims on the issuing company and are one of the most traded financial securities. They essentially serve as promissory notes, which are frequently issued by governments or companies looking to raise debt. Public debt securities are bonds issued by governments, whereas private debt securities are bonds issued by companies. These terms are used interchangeably in many countries. Furthermore, the maturity or tenor of debt instruments can be used to differentiate them. Bonds are classified as long-term debt instruments and are traded in bond markets under the capital markets framework, while short-term debt instruments are often exchanged in money markets and mature in less than a year. Issuers announce their debt financing

on either the money market or the capital market, depending on how long they want the funding to last. For instance, when a company seeks short-term debt, it issues commercial paper in the money market, while for long-term debt financing, it issues corporate bonds in the bond markets, which are part of the capital market. Similarly, governments issue treasury bills in the money market for short-term debt financing and government bonds in the capital market for long-term debt (Omar et al. 2013).

Therefore, in these frame of references, we can infer that bond markets form an essential part of capital markets. The existing literature witnesses various studies, which have been carried out to examine the development structures of bond markets. These studies aim to understand the association between economic conditions and bond market development, contributing to the ongoing pursuit of enhancing bond market efficiency and stability. Study conducted by Amenya (2023), highlighted the impact of macroeconomic factors on the expansion of bond markets in Kenya. It specifically examines the effects of inflation rate, interest rate, exchange rate, and gross domestic product (GDP) on the growth of bond markets in the country. Furthermore, the study assesses the role of diaspora remittances as a moderating variable in the relationship between macroeconomic factors and the bond market development. Whereas, these factors proved as the significant determinants of bond market development. Similarly, Alsadoun (2022), empirically investigates the factors influencing the bond market development in Emerging and Developing Economies. The impact and contributions of important macroeconomic variables on the Nigerian bond market are examined by Friday (2020), which shows that growth of the banking sector, interest rates, inflation rates, and exchange rates all are significant determinants of capitalization of the Nigerian bond market, making them important macroeconomic factors influencing the development of the Nigerian bond market. Furthermore, savings emerge as another macroeconomic factor driving the growth of the bond market, demonstrating a positive relationship. Moreover, it identifies bond yield and foreign direct investment as influential factors in the development of the Nigerian bond market. The study exclusively, emphasized that "interest rate, exchange rate, inflation rate, banking sector development, savings, bond yield, and foreign direct investment" collectively stimulate bond market development in Nigeria.

Likewise, Molefhi (2019), has examined the impact of various macroeconomic variables and bond market development. The study has explicitly, revealed that macroeconomic variables are inevitable for bond market development, by highlighting that various variables were found

significant in relation with bond market capitalization. A study by Pradhan et al. (2018), provides empirical evidence that the development of the stock and bond markets is correlated with the rate of inflation, real interest rates, and economic growth. The robust results that bond market development, stock market development, inflation rate and real interest rate are apparent drivers of economic growth in the long run. Ilo et al. (2018), examines how financial intermediaries affect the growth of Nigeria's capital market. Five proxies, which include total bank savings, credit to the private sector to GDP, and the broad money supply, were used to explain financial intermediaries' activities. Market capitalization, on the other hand, was used to capture the development of the capital market. Similarly, another study investigated the Effects of institutional quality and the development of the banking system on corporate debt (Tresierra et al., 2018). The findings of this study, clearly indicate that both institutional quality and banking sector development were found as vital factors influencing debt market.

Nkwede (2020), looked into the macroeconomic variables affecting the growth of Nigeria's bond market. The study found that the growth of the banking sector, interest rates, inflation rates, and currency rates all had a negative and considerable impact on the capitalization of the Nigerian bond market, making them important factors in determining the direction of the bond market's development in that nation. Githinji (2013), conducted an analysis on the influence of macroeconomic factors on the growth of the bond market development in Kenya. Their findings indicated that three macroeconomic variables "exchange rate, interest rate, and gross domestic product" positively influence bond market development. However, on the other side various studies have also been carried out in perspective of capital markets i.e. both stock and bond markets, which evidently secures the most dominating status in the development of financial systems. Therefore, keeping in view the whole scenario of capital markets, the relevant literature exhibits various empirical as well as theoretical studies to find out the development structures of capital markets around the globe. Whereas, in this context Molefhi (2021), has assessed the capital market development in the economy of Botswana. The study has been accomplished to establish the influence of macroeconomic variables on the development of capital market. So in this regard, it has employed five macroeconomic factors namely real output, consumer price index, money supply, exchange rate, and lending rate to find out the impact on the developmental structure of capital market.

The study by Omodero (2020), make an assessment of various economic factors influencing capital market performance in Nigeria. And mostly likely, the study reveals that economic factors have a significant impact on the development of capital markets. Likewise, Cyuzuzo (2018), examined certain factors that influence Rwanda's capital market development. The foremost purpose of this particular study was to investigate the macroeconomic variables influence on the growth and development of Rwanda's stock market (RSE). Whereas, it revealed that macroeconomic variables have substantial relation with Rwanda's capital market development.

Therefore, on the basis of these studies we infer that the development of conventional capital markets depend on various economic factors. Macroeconomic stability, banking sector development and political stability create a conducive environment for capital markets to flourish. Healthy economic fundamentals, such as sustainable growth, low inflation, and prudent regulation, foster investor confidence and deepen capital markets. Conversely, economic instability, policy inconsistencies, and political uncertainty hinder capital market development, discouraging investment and hindering economic progress. Hence, on the basis of these studies we can conclude that economic factors are vital for the development of bond markets. As indicated by these studies, macroeconomic stability may have a substantial influence on bond market development, wherein banking sector development and institutional quality indicators may also significantly impact bond market developments.

Conversely, Islamic capital markets, a distinctive and morally sound option for investors looking to match their financial actions with their beliefs and ideals, is a quickly expanding sector of the global financial scene. Islamic capital markets, which are based on the precepts of Islamic law, seek to mitigate excessive debt, speculative activity, and exploitation while promoting fairness, transparency, and risk-sharing. Islamic capital markets aim to establish a more sustainable and inclusive financial ecosystem where fair and responsible financial practices benefit issuers, investors, and society at large by upholding strict ethical criteria. Sukuk (Islamic bonds), Islamic equities, and other Shariah-compliant financial instruments are becoming more and more well-liked as investors look to take advantage of this expanding market's enormous potential. Islamic capital markets present a strong chance for investors, issuers, and financial institutions to adopt a more moral and sustainable approach to financing, encouraging shared prosperity, social responsibility, and economic success as they develop and thrive.

Therefore, starting with the Islamic equities which are basically, shares in Shariah compliant companies i.e. securities issued by companies engaged in activities permitted by Shariah principles, that have been approved and examined by Shariah experts through a procedure known as Islamic stock screening. To be considered halal, a company's income must come predominantly from sources permitted by Islamic law i.e. other than the sale of alcohol, weaponry, cigarettes, pork, pornography, or gambling, as well as profits from the charging of interest on loans. Islamic equity, like conventional equity, is a partnership in which both losses and gains are shared. As a result, if profits are earned and the issuing company decides to distribute some of them, the equity holder can benefit from dividends (ISRA, 2011).

Moreover, capital gain could be recognized when the shares are sold at a premium price. Furthermore, when the shares are sold at a higher price, a capital gain may be realized. It is worth noting that a company's securities can only be bargained if some of its assets are in the form of illiquid assets. If a considerable majority of assets are liquid, however, they can only be sold at face value and are not passable. As a result, Shariah-compliant shares include ownership in a company whose primary business is halal. Enterprises that generate income from both Shariah-compliant and non-compliant enterprises, on the other hand, must go through a screening process. It has stayed that operating a business exclusively according to Shariah guidelines may be unmanageable. So in this context, if the enterprise's primary line of business is halal, a minor amount of non-halal materials cannot render the shares invalid (ISRA, 2011).

Although, literature witnessed the essence of Islamic equities but contemporarily it revealed various empirical as well as theoretical studies, accomplished to demonstrate the association between macroeconomic variable and Islamic equities. Therefore, in this context an empirical study by Karyatun et al. (2021), found that macroeconomic factors like; inflation, exchange rate, and interest rates influence the development of sharia stock prices. Whereas, this research aimed to demonstrate that the development of "sharia stock prices" can be influenced by macroeconomic factors. And the findings confirm that the Sharia stock market remains robust against macroeconomic fluctuations, although over a limited period. However, since macroeconomic factors are intrinsically linked to national economic conditions, such as price increase and purchasing power of the people, which may affect Islamic stocks in the long run. Therefore, it is essential for the government to stabilize and manage these macroeconomic variables. By doing so, the development of the Islamic capital market can be sustained and the

growth of Islamic businesses can be properly supported. Consequently, investors can then make more informed decisions regarding their investments in the capital market, particularly in Sharia stock products or other Sharia-compliant investment alternatives. Marashdeh (2020) investigated the relationship amongst the macroeconomic variables and proceeds on both conventional and Islamic stock indices, reaffirming the well-established link between macroeconomic factors and stock market development in financial economics literature. While this topic has received extensive attention and policy analysis in recent years, mostly studies have concentrated on the impact of macroeconomic factors on conventional stock market returns, with only a few exploring their effects on Islamic stock market returns. This study contributes to filling this knowledge gap by examining the relationship between macroeconomic variables and returns on Islamic stock indices, providing valuable insights for investors and policymakers. Literature witnessed another study on the impact of macroeconomic variables on Islamic stock prices in Indonesia (Mawardi, 2019). It substantially highlights certain selected macroeconomic variables and their significant impact on Islamic stock prices. Habib and Islam (2017), assessed the impact of macroeconomic determinants on the performance of Islamic stock market in India.

Similarly, an empirical study of Mustafa et al. (2017), is one among the studies which expressly determined the effect of macroeconomic forces on Malaysian Islamic stock market development. Numerous internal economic factors were examined, including money supply, industrial activity, inflation, the Islamic interbank rate, and external issues (such as the actual effective exchange rate and the Federal funds rate). While the outcomes of this study disclose that, with the exception of the Islamic interbank rate, all of the macroeconomic parameters encompassed in the model have strong long-term connections with Islamic stock values, through various routes of effect. Hussin et al. (2012), found a link among the Islamic stock market development and macroeconomic indicators in Malaysia. Various Macroeconomic variables were utilized in the study to achieve the main objectives of the study i.e. to assess the relationship among the Malaysia's Islamic stock market and macroeconomic variables.

And consequently, the study revealed that there is a substantial link between the variables, with the exception of Islamic inter -bank rate, which is not a reliable variable for forecasting variations in Islamic share prices built on the study's cointegration tests. Likewise, another Hence, these empirical studies from the existing literature revealed that there are very limited studies carried out on the development structures of Islamic stock markets. But the existing literature on

this particular component of Islamic capital market demonstrates, that the development of Islamic stock market is dependent on the vibrant macroeconomic factors. These are some of the studies carried out on the impact of certain macroeconomic variables on Islamic stock market development. Although, revealed a substantial relationship amongst macroeconomic variables and Islamic stock market development. But showed relative paucity in literature as compared to conventional stock markets and other economic factors.

However, on the other side, Sukuk market, together with the equities market, is deemed as one of the fundamental components of the Islamic capital market. In the Islamic debt market, Sukuk is considered the most active instrument (ISRA, 2011). Because, Sukuk contributes to the progress of the Islamic capital markets activities by providing long-term finance options for enterprises and public sector entities through investment banking. Basically Sukuk is a certificate that represents financial commitments deriving from trade and other business activity.

Sukuk, the plural form of sakk, denotes investment certificates or trustee certificates. Historically, they were extensively utilized by Muslims during the Middle Ages to represent financial commitments arising from commercial actions. Some scholars argue that the modern term "check" may have its roots in the word "sakk." "Imam Malik ibn Anas, in his renowned treatise al-Muwatta, described the usage of sakk by the Umayyad government, primarily as partial payment to soldiers and government officials". These sakk, later known as grain documents, enabled holders to receive predetermined quantities of commodities from the state treasury upon maturity. Since sukuk represented state obligations, they were frequently traded among holders, making them tradable instruments in Muslim societies of yore.

Sukuk, serving as fundraising tools, are often likened to Islamic bonds and subject to comparisons with conventional bonds. While both aim to raise financing, there exist notable distinctions between them. Notably, Islamic finance does not recognize "debt" financing; instead, it emphasizes qard-ul-hassan, a benevolent loan without compulsion for repayment. Consequently, while Sukuk serve the purpose of raising external financing like bonds, their operational, legal, and regulatory frameworks differ significantly.

Today, Sukuk stand as one of the most prosperous and prominent products in Islamic finance. Their widespread acceptance and utilization by a diverse range of issuers on the international stage highlight their status as internationally recognized Islamic finance instruments.

As Islamic finance instruments, Sukuk must adhere to specific Shariah principles, in addition to the fundamental prerequisite that all Islamic finance products and transactions must avoid riba (usury), gharar (uncertainty), and maysir (gambling). For Sukuk, these additional requirements include:

1. All proceeds from the issue of Sukuk must be used only for halal or Sharia-compliant endeavors.
2. It is essential to identify the tangible assets being financed when monies are being used to finance them. Sukuk, as contrast to bonds, cannot be used to meet the issuer's ongoing demands.
3. Sukuk holders cannot get income from outside sources; it can only come from the cash flows produced by the underlying asset.
4. Sukuk holders possess ownership rights over the underlying asset and its cash flows, effectively rendering Sukuk a hybrid equity instrument.
5. All parties to the transaction, especially the originator (mudarib) and Sukuk holders, must have their rights and obligations clearly specified. Similar to other instruments in Islamic finance, the fixity of returns is prohibited.

Given these principles, Sukuk exhibit a risk-return profile distinct from conventional bonds. Unlike bonds, Sukuk do not offer fixed coupon payments or redemption amounts at maturity. Instead, returns for Sukuk holders depend on the performance of the underlying asset. While bondholders receive fixed coupon rates regardless of the issuer's earnings, Sukuk holders' returns are linked to the earnings generated by the underlying asset. Thus, even if the issuing firm performs well, poor performance of the underlying asset may result in low or no returns for Sukuk holders. Consequently, while the risk profile of conventional bonds is tied to the issuer, Sukuk risk profiles are contingent upon the underlying asset or project rather than the issuer.

According to ISRA (2011), Sukuk is a modern financial tool that was initially employed in the 1st century during the Umayyad Caliphate. In contrast to regular bonds, Sukuk is generally backed or safeguarded by some underlying assets. These assets offer investors with built-in security (Obaidullah, 2005). As a result, in the event of a Sukuk issuer default, the Sukuk normally offers Sukuk holders, i.e. investors, that they would be able to reclaim their investments, in whole or in part, from the assets' liquidation.

Despite, construction and validity of Sukuk structures, the existing literature witnesses certain factors which are indispensable for the development of Sukuk markets across the globe. The determination of Sukuk market development by Said and Grassa (2013), investigated the

impact of various economic factors, which has been carried out to find the developmental structure of Sukuk markets in various Sukuk issuing nations. They have actually, tried to assess the influence of certain economic factors on the construction of various Sukuk structures. They had explored the influence of factors like; economic factors, global financial crisis, financial system, institutional system, legal origin, and religion to analyze the Sukuk market development. They had entertained mostly Sukuk issuing countries like "Malaysia, Saudi Arabia, Kuwait, UAE, Bahrain, Qatar, Indonesia, Brunei, Pakistan, and the Gambia" sensed over the period 2003-2012.

Similarly, Smaoui and Khawaja (2016), did a similar empirical study, with the goal of determining the elements that influence the development of Sukuk markets. The results indicate that a significant economy of scale, a Muslim population, an appealing investment profile, and strong control are all important considerations, Sukuk market development will also be aided by the elimination of corruption. Similarly, stock markets, which play a critical part in the economy, have sparked a slew of research into the elements that influence the growth of stock markets. These elements include (I) asset pricing theories' micro-based theories, (ii) macroeconomic factors, and (iii) institutional considerations. Correspondingly, Mirza & sultana (2020), conducted an empirical study on the causes of Sukuk market development, analyzing key macroeconomic and institutional elements to figure out the development structure of Sukuk markets. Subsequently, another study from the existing literature demonstrated that Basyariah et al. (2021), has also evaluated the impact of macroeconomic stability and intuitional approach on the development of the Sukuk market. It has concentrated on empirical research, following the impact of these variables on the development of the Sukuk market while controlling for the demographic effect.

From this existing literature, it can be inferred that pertinent studies have shown how macroeconomic factors affect the growth of both capital markets. However, it can also be inferred from the empirical literature that the research was primarily concerned with trends in the stock market and Sukuk market. These are some of the studies, which were witnessed from the relevant literature on both Islamic and conventional capital market development. Although, these studies have contributed a substantial value to the existing relevant literature. But there are various potential research gaps, especially from the perspective of precondition of capital market development i.e. macroeconomic stability, development of banking sector and legal and institutional framework (Olgić Draženović, 2016). Moreover, Islamic financial industry has achieved remarkable growth globally, with distinct regional leaders emerging. An analysis of the

current state and level of development of the industry by country, reveals that Malaysia and Saudi Arabia have secured the top positions. These two nations collectively dominate the industry, accounting for 36% Share of global Islamic banking assets. It means, that among the selected countries of this current study Saudi Arabia and Malaysia lead the list. Whereas, other selected countries collectively show around 27% share comparatively. Around 48% of the issuance of sukuk, around 57% of the assets of the Islamic fund, around 80.0% of receipts from takaful, 72% of the assets of other Islamic financial institutions. This concentration highlights the significant contributions of Malaysia and Saudi Arabia to the industry's expansion, setting the stage for further exploration of their strategies, regulatory environments, and innovative practices driving Islamic finance forward (Alasgarova, 2021).

Therefore, keeping in view the entire concept and structures of both conventional and Islamic capital markets, we can unequivocally distinguish that the main difference is, shariah guidelines adopted on the Islamic side. Whereas, both these markets operate parallel to each other in their domiciled countries under the umbrella of Securities and Exchange Commission. Though Islamic capital markets are relatively less developed to the magnitude of conventional capital market, but its Sukuk leg is considered the most prominent one in terms of its development structure in some Sukuk issuing countries. So in this context, development of capital markets has become the devotion of "governments, policy-makers, market regulators, and operators" for the mobilization of long-term wealth for businesses and governments in profitable investments to stimulate economic growth in their nations. Whereas, the main objective of this study is to assess the development structure of both Islamic and conventional capital markets in some selected Asian countries. Therefore, in this regard we will thoroughly examine the relevant literature of both Islamic and conventional capital market, to explore the economic factors impacting the development structure of both the markets in some Asian countries and will accordingly make a comparative analysis of development structures of both the markets across the selected countries. So in this pursuit, all these relevant studies from the existing literature will be thoroughly reviewed to explore the literature gap and then embark upon to achieve the main purpose of the study.

1.2: Research gap

Despite the growing importance of Islamic and conventional capital markets, a significant literature gap exists in our understanding on the impact of economic factors on these markets. While numerous studies have examined the individual relationships between macroeconomic factors and capital market development. Moreover, existing research has primarily focused on stock and Sukuk markets.

The existing literature witnessed, various studies which have been conducted by research professionals, and practitioners to assess the impact of economic factors on the development of conventional capital markets (stock and bond market). The studies of (Cyuzuzo, 2018 and Molefhi, 2021) have empirically ascertained the impact of macroeconomic variables from the development perspectives of capital markets. Whereas, in case of macroeconomic and institutional drivers of stock markets (2021), and Smaoui et al. (2017), have empirically investigated the impact of certain determinants on the development of both stock markets as well as bond markets. Hence, these are certain empirical studies which have been carried out on the developmental perspectives of conventional capital markets. Therefore, collectively these empirical studies conceded that there exists a substantial relationship between economic factors and capital market developments.

Whereas, in case of Islamic capital markets there is still paucity in the relevant literature when compared with the conventional capital markets. Therefore, comparatively Islamic capital markets are underdeveloped and need exceptional consideration to frame such theoretical foundations which may comprehensively enhance the existing literature (Aman et al., 2019). Thus in this regard, we will made an effort to empirically ascertain the impact of economic factors on the development of Islamic capital markets in some selected countries.

Therefore, keeping in view the existing literature on the development of Islamic capital markets i.e. Sukuk market and Islamic stock markets, we found that Sukuk market is comparatively developed then Islamic stock market. Whereas, despite the steady development of Sukuk market in more than last one decade, there are very few studies on the factors that have contributed to the existing literature on the development of Sukuk markets (Said and Grassa, 2013; Smaoui and Khawaja, 2016; Aman, Naim & Isa, 2019; Basyariah, Kusuma & Qizam, 2021; Aman, Naim, Isa & Ali, 2021).

Whereas, in these frame of references, the existing literature revealed that these studies have included various similar macroeconomic variables, while ignored other potential determinants from the perspective of development in Sukuk. Moreover, only studies of (Said and Grassa, 2013; Smaoui and Khawaja, 2016 & Basyariah et al. 2021), have included certain factors from institutional quality to assess the concerned impact on the development of Sukuk markets across the domiciled countries. Therefore, these studies indicate that certain potential as well as common determinants can be included over and above the existing factors to determine the Sukuk market development in more comprehensive and sophisticated way. Hence, empirical research is required to identify the common factors across the selected countries that may have potent influence on the development of the Sukuk markets.

Similarly, the studies of (Hussin et al. 2012; Majeed & Masih, 2016; Mustafa et al. 2017) have examined the impact of macroeconomic variables on Islamic stock market development in Malaysia. These are actually some studies which have been carried out to find the development structures of Islamic stock markets primarily in Malaysia. These studies employed only few macroeconomic variables and overlooked various other possible macroeconomic variables from the development perspective of Islamic stock market. Therefore, the existing literature exhibit, that there is very limited literature available on Islamic stock markets, comparatively to conventional stock markets. Hence, keeping in view the development structures of both the components of Islamic capital market i.e. Sukuk market and Islamic stock market. The present study will thoroughly examine the impact of economic factors on the development of both Islamic and conventional capital markets in some selected Asian countries. Moreover, keeping in view the preconditions for the development of capital markets i.e. macroeconomic stability, banking sector development and legal and institutional framework (Olgić Draženović, 2016). The present study will thoroughly assess the impact of these economic factors in relation to the development of both the markets in some selected Asian countries.

This literature gap is particularly notable in the context of the increasingly globalized financial landscape, where Islamic and conventional markets are becoming increasingly interconnected. The lack of comprehensive research in capital markets hinders policymakers, market participants, and scholars from fully understanding the complex dynamics at play, limiting the development of effective policies and strategies to promote financial stability and economic growth. So in this context, this study aims to address this literature gap by investigating the impact

of economic factors on the development of Islamic and conventional capital markets, with a specific focus on countries have both the markets in operation. By exploring this vital topic, we hope to contribute to the existing body of knowledge, providing valuable insights for policymakers, market participants, and scholars seeking to promote sustainable economic development and financial stability.

Therefore, in the light of the existing literature, present study will be designed at filling this gap and provide further support to the available literature by empirically investigating the impact of economic factors on the development of both markets, with some more possible economic factors that may contribute in the development of the markets. Hence, this is the first ever study which will assess the impact of economic factors on the development of capital markets from a wider angle than the available limited studies. Apart from this, the present study will also comparatively analyze the development structure of both Islamic and conventional capital markets across the selected countries. Therefore, after assessing the relevant literature, we found no such studies which have been carried out on both the Islamic and conventional capital markets considering impact of main determinants (economic factors i.e. macroeconomic variables, banking sector development and institutional quality) on the development of both the markets. Therefore, the main contributions which we will accomplish in this study are as:

1. Assessing the development structure of Islamic stock markets in the selected Asian countries (i.e. Malaysia, Indonesia, UAE, Qatar, Bahrain, Pakistan, Saudi Arabia, Turkey, Kuwait, and Bangladesh).
2. Likewise, ascertaining the development structure of Sukuk markets in the selected Asian countries.
3. Similarly, examining the development structures of conventional capital markets (bond and stock market) in the same selected Asian countries.
4. And consequently, develop a comparative analysis of the development structures of both the Islamic and conventional capital markets of the selected Asian countries.

Therefore, these are some potential contributions which will be thoroughly accomplished in the present study by assessing the impact of economic factors (macroeconomic variables, banking sector development and institutional quality) on the development of both Islamic and conventional capital markets in the selected Asian countries, and consequently make a comparative analysis on the development of both the markets.

1.3. Objectives

The prime objective of this current study is to comparatively ascertain the development structures of capital markets (Islamic and conventional) in some selected Asian countries. Therefore, in this pursuit, we will explore the impact of economic factors on the development of Islamic and conventional capital markets in the selected countries. Moreover, we will exclusively entertain the main components of Islamic and conventional capital markets i.e. Sukuk/bond market and Islamic/conventional stock market. And thereafter, will ascertain the impact of economic factors i.e. macroeconomic variables, financial sector development and institutional quality on both the components of Islamic as well as conventional capital markets. And will consequently, make a comparative analysis of the development structures of both Islamic and conventional capital markets across the selected Asian countries. Hence, following objectives will be addressed thoroughly in the study:

1. To ascertain the impact of economic factors on the development of Islamic stock markets in the selected Asian countries.
2. To explore the impact of economic factors on the development of Sukuk markets in the selected Asian countries.
3. To assess the impact of economic factors on the development of bond markets in the selected Asian countries.
4. To examine the impact of economic factors on the development of stock markets in the selected Asian countries.
5. To comparatively analyse the development structures of both Islamic and conventional capital markets in the selected countries.

1.4 Significance of the study

The present study will be of great importance to the relevant literature, due to its comparative assessment for the development structures of both Islamic and conventional capital markets in some selected Asian countries. Actually, both the market operate parallel to each other in their domiciled countries with only distinguished Islamic injections on the Islamic side. Therefore, this study will comprehensively explore the impact of economic factor on the development of both Islamic and conventional capital market in the selected countries. Although, various studies have

been carried out so for especially, on the capital markets. But this study would be of significant nature, as it will explore the main determinants of capital market development, by assessing their impact on the development of both the markets. Moreover, it will help to find out the factors, which may boost the development of capital markets across the selected countries.

The significance of a study basically, lies in its ability to contribute to existing knowledge, inform policy decisions, and guide practical applications. This study, examines the impact of economic factors on Islamic and conventional capital market development, a topic of paramount significance. Understanding these relationships is vital, as capital markets are integral to economic growth and stability.

This study is significant for several reasons. First, it addresses a critical gap in the existing literature by providing a comprehensive analysis of how economic factors affect capital markets. By offering a distinct understanding of these interactions, the study will enhance our theoretical knowledge and provides a foundation for future research.

Second, the findings of this study have practical implications for investors and financial analysts. By identifying key economic indicators that influence market capitalization, the study equips market participants with valuable insights for making informed investment decisions. This can lead to better risk management and optimized investment strategies, ultimately contributing to more efficient financial markets.

Third, the study's insights are invaluable for policymakers. A deep understanding of the economic determinants of capital market development can inform the design of policies that foster market stability and growth. Policymakers can use these insights to create a conducive environment for investment, ensuring sustainable economic development and financial resilience.

Lastly, the study has broader societal implications. By elucidating the factors that drive market development, the study contributes to a more inclusive and equitable economic landscape, benefiting a wide range of stakeholders.

In summary, this study's significance is multifaceted, encompassing theoretical advancements, practical applications, policy implications, and societal benefits. By exploring the impact of economic factors on capital market development, the study aims to provide valuable insights that can drive positive outcomes across various domains.

1.5 Plan of the Study

Understanding the systematic framework of a study is essential for comprehending its scope, methodology, and objectives. This section outlines the plan of this study, detailing the structured approach adopted to investigate the impact of economic factors on Islamic and conventional capital market development. By presenting a clear plan, we aim to provide a roadmap that guides us throughout the research process, ensuring clarity and coherence.

The plan of this study is organized into several key chapters. First, we describe the introduction, research objectives, which include identifying the specific economic factors under examination and their anticipated effects on capital markets. Next, the literature review chapter synthesizes existing research and theoretical frameworks, providing a foundation for our analysis and highlighting gaps that this study aims to address.

Following the literature review, the methodology chapter outlines the research design, including data collection methods, empirical model, analytical techniques, and the rationale behind choosing specific approaches. This chapter ensures the study's replicability and transparency. The data analysis section describes the statistical tools and econometric models employed to interpret the collected data, offering understandings into the relationship between economic factors and market developments.

Finally, the conclusion chapter interpret the findings in the context of the initial research questions, assessing their implications for theory, practice, and policy. This structured plan not only facilitates a systematic exploration of the research topic but also ensures that the study's objectives are met comprehensively and coherently.

By following this plan, the study aims to contribute valued comprehensions into how economic factors influence both Islamic and conventional capital market development, guiding future research and informing policy decisions. The following chapter provide a detailed roadmap, ensuring that each phase of the study is methodically executed and thoroughly examined.

Chapter 2: Islamic capital markets

2.1 Concept of Islamic capital market

Islamic capital markets basically operate in tandem with Islamic law. The mechanism of Islamic capital markets is not diverse from that of conventional capital markets, but the product and transaction mechanism of Islamic capital markets is in line with Islamic principles, which makes it distinct from the conventional capital markets. It means simply a capital market that met the requisites of Shariah law. Both the instruments and trading processes would be in line with Shariah requirements for transactions. Some Shariah requirements are common to all properly functioning capital markets, including the avoidance of corruption such as bribes (rishwah), the prohibition on gambling (maysir), prohibitions against the use of poorly defined contracts (gharar), and insistence on the enforceability of contracts. What truly separates an ICM from others would be the reliance on risk-sharing contracts/transactions. Since no business has fixed returns, the avoidance of fixed returns, as in interest-based debt, is automatically avoided. As is evident from the description of requirements for an ICM that follows, many capital markets—excluding debt-based ones—and especially those of developed countries, would come close to fulfilling most of the requirements. The two elusive features are the use of risk-sharing contracts in lieu of debt and the avoidance of riba (interest). In fact, one could argue that risk-sharing and avoidance of riba are two sides of the same coin. One cannot coexist with the other. Risk sharing by definition excludes interest-based lending. Risk sharing is such a differentiating feature that a true ICM will have features vastly different from that of conventional capital markets (Iqbal & Mirakhor, 2013). A quick overview of some of the key requisites follows.

Requisites for an Islamic Capital Market

Risk Sharing

The core principle of Islamic economic and financial systems is based on verse 275 of Surah Al-Baqarah, which distinctly permits Al-Bay' (exchange) while prohibiting Al-Riba (usury). This verse lays the foundation for human relationships in Islam, establishing all interactions from marital to financial firmly on contractual agreements (áqd). Al-Bay', defined as the exchange of property for property, forms the cornerstone of permissible economic contracts, ensuring full transfer of property rights. In contrast, Al-Riba contracts, such as interest-based debt agreements,

are deemed impermissible due to their lack of complete property rights exchange, leading to injustice and risk transfer.

The Qur'an emphasizes the promotion of good and the prevention of evil, principles that form the backbone of the Islamic economic system. This system advocates for freedom of contract and production, specialization, and efficient resource allocation through exchange. Markets, governed by rules prescribed in the Qur'an and the traditions of the Prophet, are decisive for such exchanges. Riba-based transactions, characterized by risk transfer and imbalance, violate the Islamic principles of fairness and equity. The Islamic philosophy of property rights recognizes Allah as the ultimate owner, permitting human ownership through legitimate means while prohibiting illicit gains like interest-based lending.

Highlighting the importance of market-derived prices, the Prophet advocated for competition-driven price determination and regulatory oversight to ensure market integrity. Trust, contract enforceability, and compliance with Islamic principles reinforce the smooth functioning of markets, minimizing transaction costs and promoting widespread participation. Shari'ah-compliant transactions prohibit fixed predetermined returns, aligning with the risk-sharing philosophy. Furthermore, prohibitions against corrupt practices, excessive risk-taking, and asymmetric information highlight the timeless relevance of these principles in preventing financial crises, as evidenced by the recent U.S. subprime crisis. Although an ideal Islamic capital market (ICM) is yet to be realized, the principles offer a healthy framework for equitable and efficient economic systems (Iqbal & Mirakhor, 2013). An ICM would be a market where risk sharing is the predominant type of contract, if not the only one.

2.1.1 Equity and Sukuk Markets in an Islamic Capital Market

Equity and debt markets are typically the two pillars of capital markets. This section examines the key features of an ICM-based equity and sukuk market.

- Islamic stock markets

Islamic stock markets, also known as Shariah-compliant markets, are financial markets that adhere to Islamic law (Shariah). These markets ensure that investments comply with Islamic principles, which prohibit certain activities and financial practices. These are shares of companies that operate in accordance with Islamic principles. These companies avoid businesses that derive income from

activities considered "Haram" (forbidden) in Islam, such as gambling, alcohol, pork, and the earning of interest (Riba). Therefore, Stock screening is a process of filtering stocks to ensure they comply with Islamic law (Shariah). This involves excluding companies involved in prohibited activities like alcohol, gambling, and interest-based financial services, and ensuring financial ratios meet Shariah standards.

- Shariah Compliance Criteria

For a stock to be considered Shariah-compliant, it must meet specific financial ratios and criteria. Some key parameters include:

Business Activity: The combined value of Non-Halal and Doubtful sources of revenue should not exceed 5% of the Total Revenue.

Debt Levels: Companies should have low debt ratios, as excessive debt is discouraged in Islamic finance.

Interest Income: Companies should not earn significant income from interest

The Equities Market in a Risk-Sharing Framework

Equities are essentially risk-sharing instruments. As such, their use and propagation would move closer to risk-sharing finance, the essence of ICMs. Though equity instruments like stocks are similar with Shariah requirements, not all listed stocks would be eligible for Shari'ah compliance. A range of filter techniques have been developed to evaluate the compatibility of listed stocks with Shariah. Rather than revisit this issue of Shariah filters for equities, the discussion turns instead to two critical issues for equities in general, in a move toward risk-sharing finance. These are the implication on the firm's cost of capital and the resulting dynamics, and the implication for portfolio diversification, including cross-border diversification (Bacha & Mirakhor, 2019).

The Implication for Cost of Capital

The cost of capital for a firm is a vital metric that generally represents the weighted average of its sources of capital. These sources primarily include equity and debt, each with distinct implications for a firm's financial health. At first glance, debt appears cheaper than equity, especially when accounting for the tax shield provided by interest expense deductions. However, this initial cost advantage is accompanied by significant risks and limitations. Leveraging through debt increases

a firm's financial risk, volatility in profits, and the likelihood of financial distress. Moreover, it diminishes financial flexibility and raises the firm's breakeven point due to fixed charges.

Despite these drawbacks, debt financing can be attractive to shareholders as it avoids ownership dilution and potentially increases the return on equity (ROE) by enhancing the firm's value. This perceived value boost primarily shoots from the present value of the tax shield, a government subsidy for borrowing. However, this benefit reflects tax arbitrage rather than an intrinsic advantage of debt, with the lender not sharing in the underlying business risk, which is borne entirely by shareholders.

The rationale for subsidizing debt through tax benefits, like to subsidies for essential goods, raises questions about fairness and equity. The persistence of these subsidies highlights the influence of the banking sector, a target for movements like "Occupy Wall Street." Without such tax benefits, the Modigliani-Miller theorem suggests that the impact of debt on firm value would be minimal. In a framework devoid of debt, a firm's cost of capital would align with its cost of equity, purely reflecting business risk (Bacha & Mirakhor, 2019).

This brings about a number of benefits: • Stock and equity values will be priced based on their business risk, uncluttered by compensation needed for the higher risk due to leverage. • The incentive for companies and shareholders to leverage in order to increase expected earnings/returns will be eliminated. • Tax arbitrage, which increases government revenue without necessarily causing a reduction in growth, will be eliminated. • Corporate earnings and stock returns should become less volatile. • On a macro level, the absence of debt reduces economic vulnerability and the potential for sudden stops in capital flows.

Company Cost of Capital in a Risk-Sharing Framework

Would a company's cost of capital be cheaper in a risk-sharing framework? Yes, in some cases, but not necessarily in most cases. This has to do with the fact that there would be countervailing forces at work. To take the easy case first, companies with capital structures near their optimal level would likely experience a marginal increase in their cost of capital. The replacement of equity with debt causes this. In the case of companies with excessive leverage, with debt levels beyond optimal, the logic of Modigliani and Miller would imply that the cost of capital would be lower. The countervailing forces affecting the cost of capital are as follows. A moderately leveraged firm could have a lower overall cost of capital, even though its cost of equity would be higher than a similar firm that is totally unleveraged. The higher cost of equity reflects the firm's higher risk due

to leverage; however, the lower cost of debt reduces its overall weighted average of cost of capital. It is easy to see what the likely impact on the firms' overall cost of capital would be, if the economy moved to a pure risk-sharing arrangement. Two things would happen simultaneously: as debt was replaced with equity-like, risk-sharing finance, the weighted average cost of capital (WACC) would creep up. However, the cost of equity, which was high due to leverage, would begin to fall. The final WACC would converge to the unleveraged cost of equity, which would be a pure reflection of the underlying business or asset risk. In such a situation, equity stock values would reflect the underlying asset/business risk (Iqbal & Mirakhor, 2013).

Shariah screening criteria

Shariah screening criteria is basically a gauge to determine whether the stocks of consideration are Shariah compliant or not. Shariah screening criteria are essential for determining whether a company's business practices and financial ratios comply with Islamic principles. These criteria help investors ensure that their investments align with Islamic values. A detailed overview of the main Shariah screening criteria used globally:

1. Meezan Bank (Pakistan)

Meezan Bank follows these criteria for Shariah screening: (Bank, M. (2018). *Shariah Screening Criteria.*)

- **Business Activity**: The core business should not violate any principle of Shariah.
- **Interest Bearing Debt to Total Assets**: Less than 37%.
- **Non-Compliant Investments to Total Assets**: Less than 33%.
- **Non-Compliant Income to Total Revenue**: Less than 5%.
- **Illiquid Assets to Total Assets**: At least 25%.
- **Net Liquid Assets/Share vs. Market Price/Share**: Market price per share should be greater than net liquid assets per share.

2. AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions)

AAOIFI's criteria include:

- **Business Screening**: The Company's memorandum of association should not specify goals to trade in interest or forbidden products.
- **Financial Screening**: Long and short-term debt should be less than 30% of market capitalization.
- **Impermissible Income**: Less than 5% of total income or revenue.

3. Securities Commission (SC) Malaysia

SC Malaysia uses a two-tier approach:

- **Business Activity Thresholds**: Less than 5% of revenue from conventional banking, insurance, gambling, non-halal food and beverages, Shariah non-compliant entertainment, interest income from conventional instruments, tobacco, and other non-Shariah-compliant activities.
- **Financial Ratios**: Similar to AAOIFI, with debt and impermissible income thresholds.

4. Dow Jones Islamic Market Index (DJIM)

DJIM follows these criteria:

- **Business Activity**: Avoids companies involved in prohibited activities.
- **Debt Ratio**: Less than 33%.
- **Interest Income Ratio**: Less than 5%.
- **Liquidity Ratio**: Less than 33%.
- **Receivables Ratio**: Less than 33%.
- **Illiquid Assets Ratio**: At least 25%2.

5. FTSE Shariah Global Equity Index

FTSE uses similar criteria to DJIM, focusing on business activities and financial ratios to ensure Shariah compliance.

6. MSCI Islamic Index

MSCI follows similar criteria, ensuring that companies comply with Shariah principles through business activity screening and financial ratios.

These criteria help investors identify Shariah-compliant stocks and ensure their investments align with Islamic principles. If you need more detailed information or specific references, you can check out resources like Meezan Bank's Shariah Screening Criteria page or the Al Meezan Group's Shariah Methodology.

2.1.2 Sukuk in a Risk-Sharing Framework

Sukuk, the plural of sakk, refers to investment certificates or trustee certificates, with historical roots tracing back to medieval Islamic finance. These instruments were extensively used by Muslim merchants to denote financial obligations arising from commercial activities. The term "sakk" is believed to be the origin of the contemporary word "check," and its usage is well-documented, such as in Imam Malik ibn Anas's treatise, the al-Muwatta, where the Ummayad

government utilized sakk for partial payments to soldiers and government servants (Team, M.2014).

In modern times, sukuk have evolved into significant instruments for raising external financing, often referred to as "Islamic bonds." While they share the objective of raising funds similar to conventional bonds, sukuk operate under vastly different principles. Islamic finance strictly prohibits debt financing, except for Qard-al-hassan, a non-interest benevolent loan without a compulsory repayment term. Thus, sukuk serve as a hybrid instrument, combining features of both debt and equity. They have a definite maturity like debt, but their returns are not fixed and depend on the profits or cash flows generated by the financed assets, akin to equity.

Sukuk have become the most visible product of Islamic finance, gaining international acceptance and support, particularly from Malaysia, the largest originator of sukuk. Despite impressive growth, with global issuance soaring from virtually non-existent in 2000 to $84.4 billion by 2011, sukuk still constitute a small fraction of the global securitized markets. However, the true potential of sukuk remains untapped. Their hybrid nature offers tremendous advantages over conventional debt and equity, such as risk-sharing and avoiding the disadvantages of leverage and ownership dilution. By choosing risk-sharing Sukuk al Mudharabah over conventional debt or equity, firms can access new funds while maintaining financial stability and flexibility. Sukuk holders earn returns based on company profits, without fixed claims on cash flow, acting as a built-in stabilizer for the firm. Unlike new equity, which dilutes ownership, sukuk holders have claims only on the profits generated by new assets, making it a more stable and attractive financing option. This reduced volatility and risk premium ultimately benefit existing shareholders and bondholders, enhancing the market value of their investments (Iqbal & Mirakhor, 2013).

Sukuk, the plural of sakk, are investment certificates with historical roots in medieval Islamic finance. These instruments were widely used by Muslim merchants to denote financial obligations arising from commercial activities. The term "sakk" is believed to be the origin of the contemporary word "check," and its usage is well-documented, such as in Imam Malik ibn Anas's treatise, the al-Muwatta, where the Ummayad government utilized sakk for partial payments to soldiers and government servants (Team, M. 2014).

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Recently, there have been proposals to link sukuk returns to broader economic indicators like GDP growth or a price index of a nation's export commodities, similar to the Shiller proposal for "trills" in conventional finance. Such innovations could provide significant benefits, especially for low-income and less developed countries seeking development financing. By using sukuk to finance infrastructure projects within a Build-Operate-Transfer framework, governments can avoid economic vulnerabilities and limited funds while retaining ownership of the financed assets. The risk-sharing nature of sukuk reduces financial strain and enhances stability, making it an attractive option for development financing.

The equity-like features of sukuk lead to real wealth gains for both equity and debt holders, as new sukuk holders share the risk of new assets. Unlike debt, which benefits shareholders at the expense of society, sukuk's risk-sharing framework benefits all parties involved. This approach aligns with Islamic principles of fairness and can significantly contribute to the development and financial stability of emerging economies (Iqbal & Mirakhor, 2013).

CHAPTER 3: LITERATURE REVIEW

Literature review is a comprehensive summary and critical analysis of the existing body of knowledge on a specific topic. It serves as a foundation for research, helping to contextualize a study within the broader academic discourse. The primary purpose of a literature review is to provide a thorough understanding of the current state of research, identifying gaps or inconsistencies in the literature, and highlight areas where further investigation is needed. By synthesizing and evaluating previous research, a literature review establishes the significance of the research question and justifies the need for the proposed study.

This literature review provides an inclusive overview of the existing research on the impact of economic factors on Islamic and conventional capital markets. The review harmonize the findings of numerous studies, examining the theoretical and empirical contributions to our understanding of the complex relationships between economic factors and the development of these two distinct financial markets. It aims identify patterns, trends, and knowledge gaps in the existing literature, highlighting areas of consensus and disagreement among scholars. By critically evaluating the methodological approaches, data sources, and analytical techniques employed in previous studies, this review seeks to provide a different understanding of the strengths and limitations of existing research. This literature review is organized around key themes, including the impact of macroeconomic factors, banking sector development and institutional quality factors on Islamic and conventional capital markets. Ultimately, this chapter will serves as a roadmap for the study and will assist through the existing landscape of knowledge and helping to chart a course for future inquiry. It is a vital tool for advancing understanding and fostering intellectual growth within any academic discipline.

3.1 Capital markets

A capital market is a market where securities are bought and sold, as well as a platform to channel saving and investing between capital providers, such as retail and institutional investors, and capital consumers, such as firms, governments, and individuals, in an economy. It has a substantial impact on the economies of the countries where it is based. As a result, a well-developed, dynamic, and lively capital market can play a momentous role in accelerating economic growth and

development. Therefore, in absence of a sophisticated and active capital market, financial resources may be underutilized. Domestic industry can also access international finance through developed capital markets. As a result, it unquestionably plays a tectonic role in an economy's entire evolution. As a result, the capital market is a significant source of unused savings in the economy. It mobilizes funds from the general public to fund new investments in the productive sector. In this way, it activates optimal money sources, places them in appropriate investments, and contributes to capital building (Haider and Azhar, 2011).

Capital market is a financial market where long-term debt or equity-backed securities are bought and sold. It basically, facilitates the flow of capital between investors (such as individuals and institutional investors) and entities in need of financing, usually corporations and governments. It is basically, a precarious component of the broader financial system and plays a decisive role in the overall economic development of any economy. The markets, organizations, policies, rules, and procedures that work together to facilitate the movement of funds from the savers, or surplus side, to the borrowers, or deficit side, make up a financial system. It aims to distribute resources between savers and borrowers as efficiently as possible.

It aims to distribute resources between savers and borrowers as efficiently as possible. Among other things, a sound financial system needs deep, effective markets, financially sound fi nancial intermediaries, and a legislative structure that lays out everyone's responsibilities and rig hts.The central bank continuously examines the institutions that make up the financial system, su ggests changes to the laws now in effect, and adopts rules in the domains that fall under its purvi ew in direction to promote the rigorous growth of the financial system and safeguard the public i nterest. The primary purpose of financial intermediary organizations like banks, insurance firms, and pension funds, as well as financial marketplaces like sukuk, bonds, and stock markets, is to connect lenders and borrowers. Thus, essentially, a financial system that gives lenders and borrowers the ability to lend and borrow money might satisfy their demands. Numerous financial and economic experts assert that financial development is crucial for accelerating a nation's economic expansion. Consequently, the health of financial markets and financial intermediary organizations is essential to the creation of economic wealth.

Figure 1.1 depicts the financial system's cash flow schematically. On the left are people who have extra money and become lenders, and on the right are those who need money and become borrowers. The primary lenders through financial intermediary institutions are primarily

households; although, on occasion, businesses, foreign governments, local and federal governments, and individuals with extra funds may also lend through financial markets. Additionally, governments borrow money to create roads, bridges, or to fund annual budgets; people, such as homeowners; and corporate entities borrow money to fund their production activities. Funds are transferred from lenders to borrowers in two ways. When a borrower opts for direct or market-based financing, they buy financial instruments from lenders directly on the financial markets. These instruments are sometimes referred to as securities and include debt securities and shares. These securities represent claims on future earnings or assets of the borrower. When financial intermediaries play a second role in the money transfer process, it's known as indirect finance. The three types of "financial intermediaries include credit institutions, other monetary financial institutions, and other financial intermediaries".

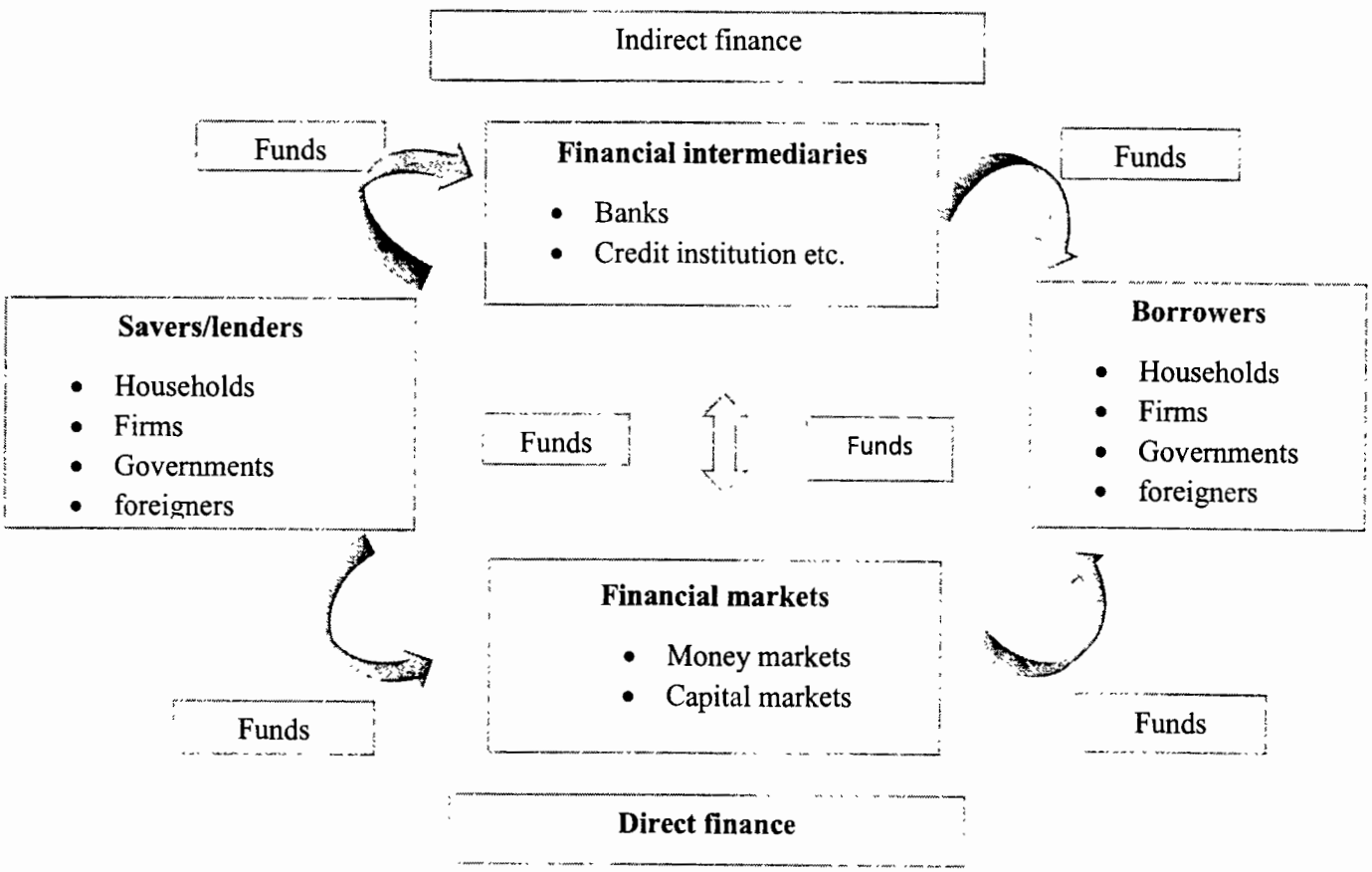
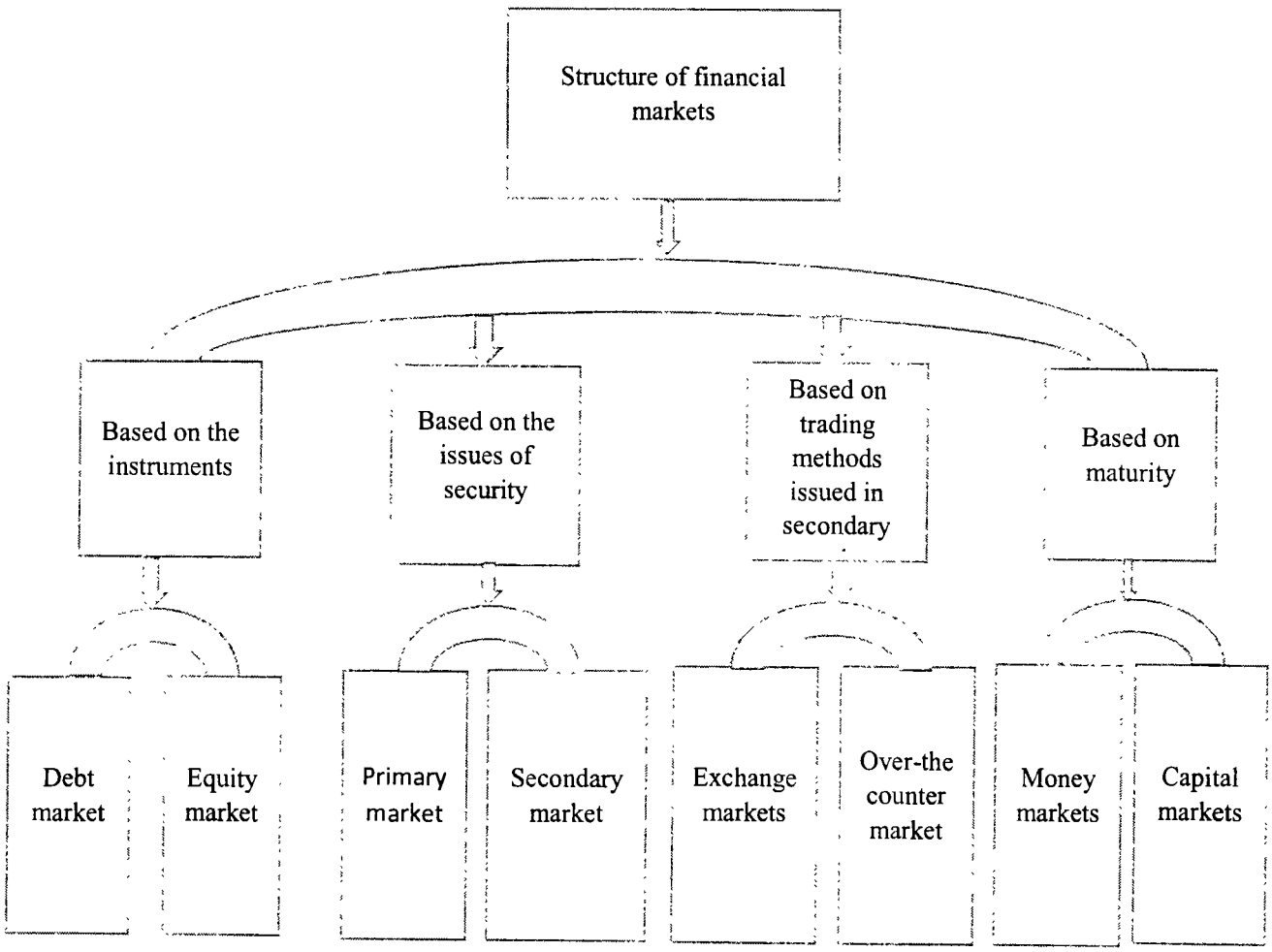


Figure 1: Flows of Funds through the Financial System (Bacha and Mirakhor., 2019).

Based on the instrument, security issues, secondary market trading strategies, and maturity, financial markets can be broadly classified into four categories.

Financial markets can be broadly categorized into two main categories: debt markets and equity markets, based on the types of instruments traded. Debt markets enable businesses and governments to raise capital by issuing debt instruments, such as bonds, sukuk, and mortgages. These securities are traded in the debt markets, obligating the borrower to make regular payments to the instrument's holder, including principal and interest or profit margin, until a predetermined maturity date. This contractual agreement ensures a fixed income stream for investors, providing a lower-risk investment option compared to equity markets, where ownership shares are traded and returns are tied to company performance. The maturity date is the date that is designated for the last payment. When a debt instrument matures in less than a year, it is referred to as short-term, and when it matures in ten years or more, it is referred to as long-term. The instruments with intermediate terms are in between. Equities instruments are the other tools available for raising capital. Equities are regarded as long-term securities, since they do not have a maturity date, in contrast to bonds, sukuk, or other debt instruments. As an example of an equity instrument, common stock is owned by individuals or companies, and shares are obtained from a business's assets and net income. Shareholders can only obtain their shares until the stock-issuing corporation has settled all of its debts and taxes, which is why they are frequently referred to as residual claimants. From the standpoint of a business seeking to raise capital, there are two avenues for doing so: debt and equity instruments. A company can raise capital through two primary means: debt financing and equity financing. Debt financing occurs when a company borrows funds by taking out a loan or issuing bonds, which require regular interest payments. In contrast, equity financing is achieved by issuing shares to the public, who become stakeholders in the company's growth and success, rather than simply seeking interest payments. Equity investors are motivated by the potential for long-term capital appreciation and are more invested in the company's progress and expansion.

Figure 2: Structure of financial markets (Bacha and Mirakhor., 2019).



Financial markets have the ability to resell previously issued securities as well as sell new ones. A primary market is one in which newly issued assets, such bonds and stocks, are offered to the first buyer or creditor who chooses to purchase them. Initial issuers may be businesses or the government. While primary markets are essential for capital formation, most trades actually occur in secondary markets, which are more widely recognized. The reason for this is that primary markets typically operate behind the scenes, with most deals taking place in private settings. Investment banks play a dominant role in primary markets, where they facilitate capital raising through underwriting securities. In this process, the bank assurances a price for a company's securities and then sells them to the public, making primary markets less visible to individual investors. In contrast, secondary markets, where existing securities are traded among investors, are more accessible and widely followed. The present owner of those securities may wish to sell them again after they are traded on a primary market in order to make a profit or to address liquidity issues. Now, on a secondary market, he or she is able to sell such securities. Securities that are traded on a secondary market do so following their initial offering in the primary market. The corporation that issued the security does not obtain any more funds, even while the person who sold the security in a secondary market is paid money for it. Only after the security is sold for the first time in the primary market does the corporation get paid. Dealers and brokers are crucial to the secondary market's operation. Following the trading of those securities on a primary market, the current Dealers connect buyers and sellers by purchasing and selling securities at a set price, whereas brokers act as investors' agents and pair buyers with sellers of securities.

Additionally, secondary markets operate through two distinct channels: over-the-counter (OTC) markets and exchange markets. The OTC market is a decentralized platform for trading securities that are not listed on an exchange. In this market, participants trade electronically, over the phone, or via fax machines, eliminating the need for a physical trading floor. This decentralized approach allows for greater flexibility and accessibility, enabling market participants to buy and sell securities directly with each other, without the need for an intermediary exchange. In contrast, exchange markets, such as stock exchanges, provide a centralized platform for trading listed securities, offering a more structured and regulated environment for buyers and sellers to interact. This market lacks a central exchange or gathering spot. Traders in the over-the-counter (OTC) market trade through a network of middlemen known as dealers who, instead of matching orders as they would on specialized exchanges, store securities inventories to enable investor buy and sell

orders. In contrast, an exchanges market is a central venue where buyers and sellers of securities or their representatives convene to execute trades through electronic platforms or in person. Investors looking to purchase or sell specific assets are only able to access the quoted prices of the various securities listed on the market. The New York Stock Exchange is a prime example of this, while Bursa Malaysia is a market for exchanges where transactions take place using an electronic trading system. Orders are sent to the New York Stock Exchange, where they are matched with an opposing order, making it a centralized market. But since there isn't a single place where currencies are exchanged and traders can get competitive rates from many dealers worldwide, the foreign exchange market isn't considered centralized.

The maturity of the securities traded in each market serves as the foundation for the final approach of financial market structuring. A subset of the financial market called the money market is where financial instruments with extremely short maturities and great liquidity are exchanged. Participants utilize the money market as a way to borrow and lend money for short periods of time, ranging from a few days to less than a year. Money-market securities include "bank acceptances, Treasury bills, commercial papers, municipal notes, repurchase agreements (repos), short-term Sukuk, and negotiable certificates of deposit (CDs) or Islamic negotiable instruments of deposits (INIDs)". The money market is used by a broad range of players, from an individual buying CDs as a short-term safe haven for money to a firm generating capital by selling commercial paper into the market. Because of its short maturities and highly liquid instruments, the money market is generally regarded as a safe area to invest. However, there are risks associated with the market that investors should be aware of, such as the possibility of securities like commercial paper defaulting. (Burton et al., 2003).

On the other hand, the capital market is a vital platform where longer-term debt instruments (with a tenure of one year or more) and equity instruments are traded. The capital market plays a crucial role in facilitating the exchange of funds between economic agents with a surplus of funds and those with a deficit, enabling the latter to implement their investment and spending plans. By providing a marketplace for buying and selling securities such as bonds and shares, the capital market enables the efficient transfer of funds from surplus units to deficit spending units, thereby promoting economic growth and development. This market plays a vital role in channeling savings into productive investments, fostering economic expansion, and supporting the overall development of the economy. Deficit spending units issue securities, which are then sold to surplus

spending units, facilitating the transfer of funds. The key differentiator between the money market and the capital market lies in the maturity of the securities. Specifically, debt and equity instruments with maturities exceeding one year are classified as capital market instruments, distinguishing them from shorter-term money market instruments. This distinction highlights the capital market's focus on long-term financing, essential for supporting strategic investments and promoting economic growth. In contrast, the money market caters to shorter-term funding needs, providing liquidity for daily operations and treasury management. "Stocks, mortgages, corporate bonds, government securities, sukuk, and municipals are the main capital market instruments".

They fall under the category of capital market securities since they are long-term funding sources with no maturity. Dividends are the income that stockholders receive as a result of their ownership and are paid to them on a regular basis. Capital gains are the additional earnings that investors receive when they vend their shares on secondary markets. Long-term loan commitments designed to finance the purchase of real estate are known as mortgages. The lender has the right to reclaim the property if the borrower doesn't make the agreed upon payments. Lenders use a variety of factors, such as the borrower's income level in relation to the home's worth, to try and determine the possibility of loan repayment. Borrowers that meet these requirements are eligible for prime mortgages. Most mortgages have a maximum 30-year term. Although commercial banks are now actively involved in the home mortgage market, savings and loan organizations and mutual savings banks remain the main lenders in this space. Bonds and Sukuk6 are long-term financial instruments that governments and businesses issue to fund their operations. They typically have a term of two to thirty years and are issued by companies with stellar credit ratings. Bond and sukuk holders receive two forms of returns, similar to stockholders: the principal at maturity and fixed-interest income in the form of coupon payments twice a year. Foreign investors, banks, insurance firms, and pension funds are the main purchasers of bonds issued by corporations or government bodies (Iqbal and Mirakhor, 2019).

Therefore, capital markets are considered as a vital component of the overall financial system, providing a mechanism for efficient allocation of capital, risk management, and liquidity. It plays a central role in promoting economic growth and development by enabling businesses to access the funding needed for expansion and innovation (Bacha & Mirakhor, 2019). Whereas, Academics, professionals, and practitioners have endeavored to establish the bond amongst the capital market development and macroeconomic variables within a traditional framework

throughout the previous decades. However, there is still a paucity of documentation on the changing structure of Islamic financial markets from an Islamic perspective. As a result, numerous scholars have done empirical studies to analyses the impact of macroeconomic variables on stock markets, bond markets as well as Sukuk and Islamic stock market to assess how Islamic capital markets are evolving. Depending on the variables, technique, and tests employed, the findings of these research's come to varied conclusions. As a result, the following two categories of financial markets i.e. Islamic and conventional capital markets, highlight various research works from the relevant literature to exhibit the development structures of both Islamic and conventional capital markets:

3.2 Islamic capital markets

Basically, there are two classifications of Islamic capital market securities i.e. Islamic stocks and Islamic debt (qarad I hasana). Therefore, the performance and development of such markets is entirely dependent on stable economic factors of the economy. Hence, this research has reviewed some relevant literature on both elements of Islamic capital market development around the world. Despite the fact that Sukuk has been popular in various marketplaces around the world, but there are few studies on the subject, carried so for Azmat et al. (2014), for example, looked at the differences in the determinants of issuer choice between conventional and Islamic bonds. They highlight that enterprises with a larger long-term debt ratio are more possible to issue Islamic debt, based on a sample of Malaysian Sukuk.

Godlewski et al. (2013) investigate whether investors counter to Sukuk or conventional bond announcements. They exhibit that when Sukuk issues are announced, the stock market reacts unfavorably, but when conventional bond offerings are announced, the stock market reacts neutrally. Another study by Godlewski et al. (2014) looked at how the market reacted to following the issuing of Sukuk, the firm's shares has increased in value. They saw that Ijara Sukuk favoured a good stock market reaction in general. Van Wijnbergen and Zaheer (2013) conducted another Sukuk analysis, this time focusing on the factors that headed to the evasion of four individual Sukuk offerings. They claim that the majority of the issues may be traced back to contractual terms that make Sukuk look like traditional bonds. Wilson (2008) stated that in Saudi Arabia, a sovereign Sukuk pricing benchmark based on GDP growth would be more firm than current interest rates.

Similarly, Nathif and Thomas (2004) looked into a variety of characteristics of Sukuk, comprising how to find acceptable assets, how to set up Special Purpose Vehicles, and the issues and potential of Sukuk markets.

Today, the sukuk market is the second-largest component of the Islamic finance industry, following Islamic banking (Kusuma and Silva, 2014; Thomson Reuters, 2018). Sukuk constitutes 90% of the Islamic capital market (Al-Sayed, 2013). They have significant potential to serve as an alternative funding instrument for corporate and state entities (Ahmad et al. 2012) and attract a diverse range of investors from both Muslim and non-Muslim communities (Aziz et al. 2016). The Asian Development Bank (2005) identified macroeconomic stability and robust government institutions as crucial factors for improving the investment climate. As an investment product, sukuk are inevitably influenced by the prevailing investment climate.

Among the pioneer studies on Sukuk market development, an empirical study by Said and Grassa (2013), on the determinants of sukuk development examined several macroeconomic variables and institutional dimensions. Their findings indicate that macroeconomic factors, such as GDP per capita, positively influence sukuk development, while institutional quality, particularly the rule of law, also has a significant positive impact on Sukuk market development. The study highlights various determinants of Sukuk market development across various Sukuk issuing countries. It precisely, assessed the potential determinants of Sukuk market and provides a way for further improvement in development of Sukuk market.

The appeal of sukuk financing has gained widespread recognition, transcending geographical and religious boundaries. Both developed and developing nations, regardless of their Muslim or non-Muslim status, have demonstrated a growing interest in this financial instrument. This surge in popularity is largely attributed to the acknowledgment, particularly among non-Asian economies and notably Asian economies, of the vital importance of having a well-developed capital market to mitigate the impact of financial crises and promote economic resilience. As a result, sukuk has emerged as a vital component of modern finance, offering a unique opportunity for investors and issuers alike to tap into a rapidly growing market.

Consequently, there has been a notable increase in sovereign, quasi-sovereign, corporate, and financial institution sukuk issuances. This study aims to fill a gap in the academic literature by focusing on the theoretical and empirical aspects of sukuk in relation to foreign capital inflows, macroeconomic conditions, and financial environments. Among the 10 hypotheses tested, five

were found to significantly impact the sukuk market. Economic development stages, banking systems, money supply, and current accounts positively influence the sukuk market. Conversely, exports have a negative and significant impact. Unlike conventional bonds, the remaining hypotheses did not show significance for sukuk, possibly due to reasonably small size of sukuk markets compared to their overall economies. This report outlines policy for authorities, since several nations are already concentrating on growing their domestic sukuk markets, while others, including Jordan, Kenya, and Tunisia, have plans to do so. The growth of the sukuk market might be considerably aided by fortifying the current banking system. The analysis backs up the theoretical claim that capital markets and banking systems work best together. Thus, encouraging the banking industry through knowledge economies and advantageous regulations will also help the sukuk market. To create enough demand, governments should provide borrowing companies with incentives to sell sukuk securities to domestic and international investors. Furthermore, in order to progressively expand their market share in the capital market, sovereign authorities ought to employ sukuk for both short- and long-term sovereign papers. Another way to deal with fiscal imbalances is through short-term sukuk offerings based on hybrid Islamic products or Murabaha.

Improving the openness of cross-border trade can also promote effective competition in the banking sector. Government agencies can do this by utilizing sukuk as a funding method in export refinancing schemes. Another way to stabilize current account deficits in developing nations is to attract USD through the issuance of international sukuk. By developing the required infrastructures, such as regulatory, accounting, and Shariah legislation, together with procedural rules and standards, new entrants to the global sukuk market can benefit from Malaysia's experience and grow their worldwide market share. This strategy will aid in luring long-term and foreign investors. In order to eliminate barriers to the development of novel hybrid sukuk products and enable the markets to compete with traditional bonds, advanced Shariah research is required. There is insignificant correlation between FDI and the growth of the sukuk market. As a result, nations can enhance the growth of the sukuk market by directing foreign investment into projects funded by sukuk bonds. For example, sukuk projects based on Mudaraba (Investment) or Musharaka (Partnership) may attract foreign investment. Bonds and sukuk can also be issued for projects that get some funding from foreign investment.

Given the relatively embryonic nature of the sukuk market and the limited existing research, future studies should investigate the determinants of both sovereign and corporate sukuk

markets separately. This would provide more nuanced policy insights for borrowers, issuers, and regulatory authorities, enabling them to make informed decisions. Furthermore, it is opportune to explore other aspects of sukuk, including their secondary market trading, returns, and contribution to economic development (Aman et al., 2022). Elucidating these aspects would not only deepen our understanding of the sukuk market but also inform strategies to foster its growth and potential to promote financial inclusion and stability.

On the other hand, the negative relationship between institutional quality, as represented by control of corruption, and sukuk market development indicates that countries with lower corruption rates experience higher sukuk market development. Investors tend to prefer countries with fewer corruption issues, as high corruption levels undermine law enforcement and negatively impact the sukuk market. The control of corruption is measured by the perception of corruption within a country, where higher corruption scores adversely affect the sukuk market.

Among the variables studied, only economic growth has a significantly positive relationship with sukuk market development. Economic growth, as measured by gross domestic product (GDP), is a major factor contributing to the development of the sukuk market. Therefore, macroeconomic factors play a crucial role in determining sukuk market development over the years. This finding aligns with the consensus among researchers that there is a significant association between stages of economic development and sukuk market growth, with most results being significant and positive. Therefore, the findings of this study provide evidence and recommendations for policymakers to formulate new policies regarding sukuk market development and sukuk issuance. Economic factors such as "economic growth, inflation, monetary policy, borrowing rates, and exchange rates" should be considered. Moreover, the study's outcomes could help policymakers address macroeconomic challenges in their countries.

According to Boukhatem (2022) sukuk play a vital role in Islamic financial systems, offering several benefits. Firstly, they enable the efficient allocation of resources to fund viable economic projects, ensuring a harmonious match between the assets (long-term investments) and liabilities (long-term loans) of Islamic financial institutions. Secondly, sukuk provide accessible investment opportunities for small investors, promoting broader participation in Islamic finance and a more equitable distribution of wealth, thereby reducing concentration among a select few. Furthermore, the development of secondary markets for sukuk enables Islamic financial institutions to effectively manage liquidity, enhancing their overall stability and resilience. By

facilitating resource allocation, promoting financial inclusion, and supporting liquidity management, sukuk have emerged as a valuable instrument in Islamic finance.

This study makes significant contributions to the existing academic literature on sukuk market development, particularly in the context of Saudi Arabia. Notably, it pioneers the application of ARDL modeling to investigate the effects of financial risk components on, utilizing data from the renowned ICRG database, the sole risk rating agency providing comprehensive risk assessments. The analysis yields two key findings "exchange rate stability, foreign debt stability, and debt service stability" have a significant impact on sukuk outstanding, whereas "international liquidity stability and current account stability" do not influence sukuk market development. The policy implications of this research suggest that policymakers should develop innovative strategies to manage the financial risk aspects of sukuk, thereby enhancing the stability of the financial environment and increasing the attractiveness of sukuk securities to investors. By shedding light on the crucial role of financial risk components in, this study provides valuable insights for policymakers and market participants seeking to foster a robust and resilient sukuk market.

To further enhance sukuk market development and mitigate its risks, additional measures are necessary. These include standardizing sukuk issuance processes, fostering collaboration among government institutions, Islamic regulatory bodies, and market stakeholders, developing a robust sukuk secondary market, diversifying sukuk offerings, and ensuring active involvement of Shariah boards throughout the entire sukuk issuance and trading process. These steps can effectively mitigate various forms of financial risk, promoting a more resilient and vibrant sukuk market. Despite its mounting prominence, the literature on the sukuk market remains limited, particularly in Saudi Arabia, compared to Islamic banking. Expanding the sukuk market development literature is crucial for informed decision-making and market development. Future research should investigate how financial risk components impact different segments of the sukuk market, including sovereign, quasi-sovereign, corporate, and financial institutions, providing valuable insights for policymakers, regulators, and market participants. By addressing these knowledge gaps, we can foster a more robust and sustainable sukuk market, supporting the growth of Islamic finance globally.

Conversely, inflation another macroeconomic variable, negatively affects financial development (Cherif and Gazdar, 2010). These findings align with the empirical assessments by

Garcia and Liu (1999), which underscore the importance of macroeconomic conditions and institutional quality in the development of financial markets.

Among the main macroeconomic factors are "economic growth, inflation, and exchange rates" which serve as fundamental indicators for appraising a country's macroeconomic performance. These three variables play a crucial role in assessing whether a country's economic conditions are firm or unsteady (Rousseau and Yilmazkuday, 2009; Abubakar and Kassim, 2018). Stable economic circumstances positively impact the development of a country's economy and finances (Mo et al. 2018). Conversely, unstable macroeconomic conditions, characterized by high inflation and a weakening exchange rate, negatively affect economic and financial development (Ismail & Ahmad, 2016).

Numerous macroeconomic factors can influence a country's Sukuk market development (SMD) level. Many researchers have looked at the association concerning various macroeconomic variables and bond market development, and these variables are also relevant for analyzing Sukuk market development. The expansion of the sukuk market is a crucial component of financial development, which is linked to economic growth by funding infrastructure (both corporate and governmental) and development projects in a nation. The majority of earlier research came to the conclusion that no one class of factors accounted for all of the growth of the financial markets, with macroeconomic and political factors playing a significant role. As a result, the features of each country vary, which accounts for the variances in this level of development. Thus, the goal of this study was to look at the macroeconomic and political risk variables that affect how the sukuk market develops in the GCC nations. More specifically, this study used panel data analysis to investigate the relationship between the growth of the sukuk market and a number of chosen political and macroeconomic variables, "including political risk, savings rate, exchange rate, trade openness, banking system, and stock market capitalization" in five GCC countries "Qatar, Kuwait, Bahrain, UAE, and Saudi Arabia". The study covered the years 2001 to 2016, Because it examines the relationship between the growth of the sukuk market and its factors with the nation groupings in the same region, this study differs from previous research in that regard. As a result, this analysis offers a more comprehensive view of the factors influencing the growth of the sukuk market. Several significant conclusions are drawn from the analysis. First off, when it comes to elucidating the factors that influence the growth of the sukuk market in the GCC, the POLS estimating model is the most effective and widely used. Second, there are correlations between the size of the

banking system, trade openness, exchange rate, political risk, and the development of the sukuk market.

In summary, trade openness is a key driver of the development of the sukuk market in the GCC countries, while the exchange rate and the size of the banking system are two significant drivers of that development. Furthermore, there is no discernible correlation between the stock market capitalization and the savings rate and the growth of the sukuk market in the GCC nations. The most significant discovery is the correlation between political risk and the growth of the sukuk market. In this sense, issues with information asymmetry provide a greater degree of uncertainty stemming from elevated political risk, which significantly alters financing and investment decisions in the sukuk market.

In addition, higher political risk raises credit risk and causes budget deficits, which raises predicted debt and equity costs and grows the sukuk market. While numerous studies have been done on Malaysia's largest sukuk market, this study adds to previous research by using the GCC countries as its sample. As a result, key concepts regarding the critical elements influencing the growth of the sukuk market in the GCC, the largest region in terms of Islamic financial markets, are provided to policy makers. To balance the region's heavy reliance on oil exports and the banking industry, developing sukuk markets can offer the GCC countries additional sources of funding while also enhancing the region's financial resilience. Therefore, with the growth of the sukuk market, the GCC countries must use their enormous savings and foreign investments to meet the significant requirements of productive investment in the area, particularly in infrastructure. The analysis suggests that, given the dominance of Gulf countries in the sukuk market, the sukuk should be issued in a currency that is frequently maintained by the Gulf in order to mitigate the risk of exchange rate fluctuations. The findings hold significance for policymakers as they devise approaches to link and integrate the banking industry and the sukuk market. This is done to promote the growth of the sukuk market by establishing a scale economy and a necessary infrastructure for it. Furthermore, by placing a larger investment in the sukuk market as opposed to traditional markets, the study's findings will assist creditors and investors in realizing that their interests will be safeguarded from political risk. Lastly, more research is required to determine whether the sukuk market is impacted by oil price shocks, given that the economies of the Gulf Cooperation Council (GCC) rely on oil exports, which are the primary sources of oil in global energy markets (Al-Raeai et al., 2019).

Another, study on Sukuk market development was conducted by (Khawaja and Smaoui, 2018) on the determinants of Sukuk market development. This study explores the "structural, financial, developmental, institutional, and macroeconomic determinants" of Sukuk market development across various Sukuk-issuing countries. Recognizing that Sukuk serve as an alternative to bonds for both sovereign and corporate issuers, we examine these factors as prospective drivers of the Sukuk market in diverse economies. Despite being smaller than the conventional bond market, the Sukuk market has fluctuating levels of approval in diverse regions, particularly concerning its agreement with Islamic principles.

In recent years, the advent and prompt growth of Sukuk certificates have provided governments and corporations with a substitute, Sharia-compliant cradle of financing. However, to our knowledge, no single study has comprehensively explored the drivers of Sukuk market development. This study wishes to fill that gap in the literature. Precisely, the objective is to empirically explore the "structural, financial, developmental, institutional, and macroeconomic determinants" of Sukuk market development across a sample of 13 Sukuk-issuing countries from 2001 to 2013. We address the endogeneity of the lagged dependent variable, heteroscedasticity, and serial correlation in the residuals using the system GMM approach. Our findings suggest that the Sukuk securities markets are heavily influenced by a confluence of institutional, financial, and structural factors. Larger Sukuk markets are linked to greater economic growth, a bigger percentage of Muslims in the population, improved intellectual property protection, and fewer levels of corruption; on the other hand, Sukuk market development is adversely affected by a higher interest rate spread.

Therefore, from these findings, a number of significant policy consequences would seem to follow. To encourage investors to purchase Sukuk assets, nations looking to expand their Sukuk markets should work to grow their economies and adhere to stable macroeconomic policies. They should also work to combat corruption in the political system and enhance the local investment climate in order to support the growth of their institutions of governance and guarantee contract viability, profit repatriation ease, payment delays minimized, and law enforcement that is effective. Similarly, various studies have been accomplished on the impact of macroeconomic variables on the development of the Sukuk market. Said and Grassa (2013), examined some causes and effects of macroeconomic factors on the creation of Sukuk structure. Indeed, the scope of this study included most of the countries that issued Sukuk, namely: "Saudi Arabia, Kuwait, United Arab

Emirates, Bahrain, Qatar, Indonesia, Malaysia, Brunei, Pakistan and Gambia" are observed for the period 2003-2012. The study actually evaluated the influence of (i) Macroeconomic factors, (ii) Global financial crisis (iii) Financial system (iv) Institutional environment (v) Origins and (vi) Religious and social factors on the development of the Sukuk market. In contrast, this analysis demonstrates that macroeconomic variables like "GDP per capita; Economic scale, trade openness, and percentage of Muslims" positively impact the expansion of the Sukuk market. On the other hand, the financial crisis had a notable detrimental impact on the Sukuk market's growth, as seen by the sharp decline in the quantity of Sukuk issued during these years.

As a result, the Sukuk market's growth has been significantly impacted by the quality of regulation. Additionally, the growth of the Sukuk market is significantly and favorably impacted by the bond market. As a result, it seems that the Sukuk market and the traditional bond market are complementary rather than interchangeable. The growth of the Sukuk market is significantly impacted by the quality of the regulations. This suggests that the Sukuk market is bigger in nations with better-ranked regulations. This could be taken to mean that the regulations are dependable and efficient. Additionally, nations that have adopted a hybrid common law and Shariah legal origin as well as a Shariah legal origin have formed Sukuk markets. This result can be explained by the fact that Islamic finance is based on Shari'a Law, which is why governments that accept Shari'a law are more motivated to support the growth of the Islamic finance sector. Additionally, the growth of the Sukuk market is positively impacted by the Muslim population percentage. Furthermore, trade liberalization and economic expansion have a favorable and noteworthy impact on the rise of murabaha, ijara, and musharaka sukuk. Overall, the findings indicate that the growth of the Sukuk market is driven by a confluence of numerous factors.

Similarly, by controlling for demographic impacts, Basyariah et al. (2021) examines the factors of macroeconomic and institutional stability for the development of the global Sukuk market. And subsequently, it reveals that only GDP per capita and the rule of law have shown substantial impact on the development of Sukuk, particularly when demographic impacts are included as control variables, allowing for additional Sukuk verification. The impact of each element on macroeconomic and institutional stability, particularly inflation, on Sukuk development has yet to be determined.

The development of sukuk is significantly impacted by macroeconomic stability, particularly GDP per capita, as indicated by the findings of data analysis and hypothesis testing.

On the other hand, inflation and exchange rates have little impact on how sukuk develops. The development of sukuk is positively impacted by the RL indicator in terms of institutional quality, however the other five factors have no effect on sukuk development. The research model (three macroeconomic stability variables and six institutional indicators) can account for 84% of the changes in the sukuk variable, according to the coefficient of determination (Adj. R2) of 0.84. The remaining 16% of the changes in the sukuk variable are explained by other factors that are not covered by this study. The findings add to the body of knowledge in Islamic finance, particularly with regard to the critical elements that shape the evolution of sukuk on the international stage. The body of research on Islamic finance, particularly in the areas of money market and capital market development, has not kept pace with the growth of Islamic finance globally, and this is particularly true in Indonesia. In their literature review, Adibuddin et al. (2019) came to the conclusion that, in comparison to the growth in Islamic banking literature, particularly in Indonesia, the body of literature on the Islamic capital market is still relatively small. Of the 184 accredited journal articles on the subject of Islamic economics, only 8 (4.3%) deal with the Islamic capital market, including sukuk. Aiming to increase public awareness of sukuk through introduction and better understanding of these Sukuk, there is a pressing need to increase the literature on sukuk and its development elements. The test's outcomes can also help regulators create, map, and set legal guidelines for the administration and growth of the sukuk market, which will encourage issuers and investors to become more interested in sukuk instruments. In order to guarantee the safety and growth of their funds, investors require a guarantee of macroeconomic stability, while issuers require legal regulations to enable them to meet their financial demands. The findings of the study imply that sukuk is impacted by interest rates, while Islamic finance theory is a fundamentally distinct tool and is independent of interest. To determine whether the results are consistent or not, another recommendation is to conduct institutional testing utilizing various indicators, such as Business Environmental Risk Intelligence and ICRG. Examining the regulations that govern the capital market, particularly the sukuk market, might provide insight into the traditional method of research. As a result, the price of issuing Islamic instruments differs from that of ordinary instruments.

Apart from these studies, Alraeai et al. (2018) also offered a conceptual framework for exploring the influence of macroeconomic factors in the development of the Sukuk market in the Gulf Cooperation Council (GCC) (SMD). The development structure of Sukuk market in the GCC

region is therefore the finance and infrastructure of the local enterprise and government sector, given the continued global financial and economic calamity, stumpy oil prices, and political uncertainty.

According to the study, a well-built Sukuk market can deliver GCC countries with alternate sources of funding while also enhancing regional financial resilience by offsetting oil exports and heavy reliance on the banking sector. In addition, GCC countries must tap into substantial savings and overseas reserves, particularly to meet the region's high demand for productive infrastructure investment through development of the Sukuk market. The Sukuk market can be used by local and regional capital for long-term infrastructure projects and other economic investments. As a result, in order to strengthen the Sukuk market, GCC nations must realize the importance of macroeconomic considerations. This is critical in order to enhance the Sukuk market by battling for economic development and pursuing stable macroeconomic policies that will entice investors to buy Sukuk instruments. The SMD level of a nation can be determined by a wide range of macroeconomic variables. Numerous writers used the following variables, which are appropriate for the development of the Sukuk market as well, to investigate the connection flanked by macroeconomic indicators and the growth of the bond market.

Similarly, Mirza and Sultana (2020), examines the influence of various economic factors and defines the development of the Sukuk market, is one of the studies conducted to determine the development structure of the Sukuk market in various Sukuk issuing countries. In this study, we actually sought to probe out the effects of macroeconomic variables on the construction of various Sukuk structures. We analyzed the effects of the following factors: A religion for studying economic factors, the global financial crisis, the financial system, the institutional system, the legal origin, and the development of the Sukuk market. In fact, from 2003 to 2012, it has mainly entertained Sukuk issuing countries such as "Malaysia, Saudi Arabia, Kuwait, United Arab Emirates, Bahrain, Qatar, Indonesia, Brunei, Pakistan and Gambia".

Overall, the results indicate that multiple variables converge to drive the development of the Sukuk market. Economic factors such as GDP per capita and economic size positively impact Sukuk market growth. Additionally, trade openness positively affects Sukuk market development, implying that higher levels of natural openness facilitate greater access to external funding and consequently, larger local Sukuk markets. The financial crisis significantly negatively affected Sukuk market growth, with a notable decrease in Sukuk issuance during those years. However, the

Dubai debt crisis did not significantly impact Sukuk market development. Furthermore, the conventional bond market has a substantial positive impact on Sukuk market growth, suggesting that the conventional bond and Sukuk markets complement each other rather than act as substitutes.

Regulatory quality also significantly influences Sukuk market development, with countries place higher in monitoring quality having larger Sukuk markets. This can be attributed to the efficiency and reliability of regulations. Additionally, countries with a Shariah legal origin or a mixed common law/Shariah law legal origin tend to have more developed Sukuk markets. This outcome is explained by the fact that Shariah law is the principal source of Islamic finance, and governments adopting a Shariah legal system are more inclined to develop the Islamic finance industry. Moreover, a higher percentage of Muslims in the population positively affects Sukuk market development.

Finally, trade openness and economic growth have positive and momentous effects on the development of specific types of Sukuk, including Murabaha Sukuk, Ijara Sukuk, and Musharaka Sukuk. Aman (2021) concentrated on the theoretical and empirical justifications of sukuk concerning many aspects of the macroeconomic and financial settings, as well as inflows of foreign money. Five of the ten hypotheses that were examined and found to be significant had an impact on the sukuk market. The banking system, money supply, current account, and economic development stages all have a significant beneficial impact on the sukuk market. Exports, however, play a big and detrimental influence in the sukuk market. In contrast to a traditional bond, the remaining research hypotheses did not apply to sukuk. This could be as a result of the sukuk markets being comparatively tiny in proportion to the GDP of the majority of the sukuk issuing nations. This report provides policy recommendations for authorities, since many nations are already concentrating on growing their domestic sukuk markets, while others, including Jordan, Kenya, and Tunisia, have plans to do so. The growth of the sukuk market might be considerably aided by fortifying the current banking system. The theoretical claim that capital markets and banking systems complement one another is supported by this study. Thus, the sukuk market will gain from regulatory rules that favor the banking industry and knowledge economy efforts.

Governments can encourage borrowing entities to opt for sukuk issuance, attracting both domestic and international investors, thereby stimulating demand and fostering growth in the sukuk market. Sovereign entities should take the lead in developing the sukuk market by issuing

sovereign sukuk instruments with diverse tenures, spanning short-term to long-term, and steadily increasing the sukuk market's share in the broader capital market landscape. Furthermore, governments can leverage sukuk to address fiscal deficits by issuing short-term sukuk based on Murabaha or hybrid Islamic financial products, providing a Shariah-compliant alternative to conventional financing instruments. By promoting sukuk issuance and investment, governments can catalyze the development of a vibrant and diverse sukuk market, supporting economic growth and financial stability. Boosting cross-border trade openness can spur proficient competition in the financial market, and government authorities can achieve this by implementing export refinancing arrangements that utilize sukuk as a financing instrument. Moreover, stabilizing current account deficits in developing countries can be facilitated by issuing international sukuk denominated in US dollars, attracting foreign investment and bolstering foreign exchange reserves. By leveraging sukuk financing, governments can promote trade liberalization, enhance financial market efficiency, and mitigate current account deficits, ultimately driving economic growth and development.

By putting in place the required framework, which includes legal, accounting, and Shariah regulations as well as procedural rules and standards, new players in the global sukuk market can benefit from Malaysia's experience. By doing this, they will be able to establish sukuk markets that run smoothly, grow their market share internationally, and draw in long-term and foreign investors. To remove barriers to creating cutting-edge hybrid sukuk products and make the market competitive with the traditional bond market, advanced Shariah research is required. Although there is little correlation between FDI and the growth of the sukuk market, market development can be enhanced by directing outside capital into projects that are funded using sukuk bonds. For example, sukuk projects based on Mudaraba (Investment) or Musharaka (Partnership) may attract foreign investment.

Bonds and sukuk can also be issued for projects that have some foreign investment funding. The sukuk market is relatively new, and there isn't much literature on it yet, therefore future studies should look into the factors that affect the corporate and sovereign sukuk markets independently. This will give authorities, issuers, and borrowers more pertinent policy information. It is also opportune to investigate other facets of sukuk, including its significance in economic development, returns on sukuk, and trading sukuk securities in secondary markets.

However, in case of Islamic stock market development, we witnessed some studies from the existing literature which have been carried out to assess the impact of various economic factors on the development of Islamic stock markets around the globe. So in this context, Mustafa et al. (2017) studied the impact of macroeconomic variables on Malaysia's Islamic stock market. This study used a self-regressive distribution lag (ARDL) limit test method and a vector error correction model (VECM) to examine the influence of macroeconomic factors on Malaysia's Islamic stock market. The analysis takes into account a variety of domestic economic factors such as "money supply, industrial activity, inflation, Islamic interbank rates, and international issues" (such as real effective exchange rates and federal funds rates).

Previous research has extensively examined the relationship between macroeconomic factors and stock prices in a traditional setting, but there have been few empirical studies examining the Islamic stock market, even with its higher volatility and emerging returns, especially when considering Malaysia. As a result, it begs the question, "How susceptible are Islamic stock prices to the macroeconomic conditions" This prompts an examination of how macroeconomic factors impact the performance of Malaysia's Islamic stock markets.

The analysis reveals that all macroeconomic factors included in the model, with the exception of the Islamic interbank rate, exhibit significant long-term correlations with Islamic stock prices, albeit through different channels of influence. Notably, the monetary aggregates of M2 and M3 display a positive correlation with stock prices, which can be attributed to the direct and indirect liquidity effects resulting from real economic activity. This suggests that changes in money supply have a profound impact on the stock market, influencing stock prices through various mechanisms, such as increased liquidity, economic growth, and investor confidence. The findings highlight the importance of considering macroeconomic factors in understanding the behavior of Islamic stock markets. The conventional wisdom that suggests that thriving economic activity typically results in higher stock prices due to the company's earnings and cash flow is supported by the fact that industrial activities also appear to have a favorable impact on stock prices. Higher inflation that drives up stock prices was also discovered to be connected to a surge in Islamic stocks value. This suggests that Shariah-compliant businesses benefited from inflationary pressures since producers are motivated to pass along the high cost inputs brought on by inflation to customers.

Additionally, it appears that the value of assets is well "protected" by the Islamic stock market. This favorable outcome was unavoidably the result of the government's pro-cyclical monetary policies. Given that Muslim investors make interest-free investment decisions, the relationship between stock price and volatility appears to be foreseeable, as demonstrated by the negligible Islamic interbank rate. However, the results are somewhat confusing as they reveal a negative correlation, among the highest, between the stock price and the Federal funds rate. This data implies that interest rates continue to have an influence on investors who purchase Islamic stocks. The participants in the Islamic stock market also include non-Muslims and overseas investors who may be influenced by interest rates, as previously mentioned. However, it appeared that the foreign variable shock, rather than the domestic interest rate, was more likely to affect the Islamic stock market. The difference appears to be beneficial when compared. One reasonable explanation for this benefit during an unstable period (which is currently occurring in many major nations, including the United States), is that foreign investors are losing faith in the United States as a safe shelter for portfolio divergence. It is possible that these investors will think the return is low. As a result, these investors made the decision to withdraw their money and put it into developing Islamic markets, where return rates are higher.

The phenomena might also be explained by investors' high hopes since they understand the potential of the Islamic finance sector, which is expected to grow even faster in the future. Furthermore, major markets have yet to fully recover from the financial turmoil. Moreover, real effective exchange rates and stock prices have a positive correlation (Duasa, 2007).

It is important to note that, out of all the macroeconomic variables considered, there appeared to be a stronger association between international factors and changes in the price of Islamic stocks. Additionally, the causality impact was ascertained using the VECM test for additional inferences. The evidence presented demonstrates that, both in the short and long terms, there is a causal relationship between all macroeconomic indicators and the prices of Islamic stocks. However, in the near term, the money supply has little bearing on the price of Islamic stocks. The macroeconomic data from Malaysia has a wealth of information that can be used to predict how Islamic stock values will move in the future. They have the ability to predict both short- and long-term alterations. As per outcome, both policymakers and investors need to be conscious of any changes in the macroeconomic variables. This is due to the fact that the data clearly shows that Islamic stock market in Malaysia is driven by macroeconomic factors. Ignoring

these crucial details could lead to investors overlooking the cornerstone of future profitable investments, which could lead to policymakers taking the incorrect turn.

Given the increased susceptibility of the Islamic stock market to global variables like as the real exchange rate and the US Federal funds rate, it may be inferred that officials' support for a lower currency could hasten the export industry. Given their beneficial relationship, it may also stimulate the Islamic stock market. Additionally, the prospect that foreign investors may withdraw their capital back to their home countries if the US Federal Reserve begins hiking interest rates could be a disadvantage for the Islamic stock market as the world economy improves. Since the co-movements are important for both short-term and long-term reactions, this problem affects both long-term and short-term investors. Regulators in Malaysia cannot dictate foreign policy decisions, but it is also unrealistic to expect the foreign interest rate to remain low indefinitely.

As a result, this could make monetary management much more difficult. It is important to remember that this study is based on small-scale observations because it has a limited sample period. It would have been advantageous to have included more data in the analysis as this might have provided a more comprehensive understanding and precise interpretation of the Islamic stock market's behavior. Furthermore, because it primarily addressed the "gloomy" economic time, the explanation offered here in reaction to the interface between external variables and the prices of Islamic stocks may have been weak and short-lived.

The study's findings indicate that all macroeconomic factors incorporated in the model, excluding Islamic interbank rates, exhibit a robust long-term relationship with Islamic stock prices, despite varying channels of influence. Notably, the aggregate of M2 and M3 currencies shows a positive correlation with stock prices, suggesting a strong link between monetary expansion and stock market performance. This implies that changes in money supply have a profound impact on Islamic stock prices, driving market growth and investor confidence. The results underscore the significance of macroeconomic factors in shaping Islamic stock market dynamics. However this positive link could be due to direct and indirect liquidity effects induced by actual activity. Industrial activity seems to have a beneficial influence on stock prices, reinforcing the popular belief that strong economic activity leads to greater stock prices, which in turn leads to increased earnings and cash flow for the company. We also know that higher Islamic stock prices are linked to a greater price-earnings ratio (higher inflation), which produces positive inflation. This demonstrates that growing inflation has helped Shariah-compliant businesses, as producers have

an incentive to pass on the high costs associated with rising inflation to customers. In addition, the Islamic stock market appears to be an effective "keeper" of asset value.

Similarly, Majeed and Masih (2016), investigated the impact of macroeconomic factors on the Islamic stock market in Malaysia. The results of the ARDL model show that the "money supply, exchange rate, oil price, and interest rate" are the four macroeconomic variables that have been chosen to have a long-term Cointegrating connection with the Shariah Index. The ECM findings indicate a long-term correlation between the Malaysian Shariah Index and the Price of Oil and Interest Rate. The money supply and oil price are the main factors influencing the Malaysian Shariah Index, according to the VDC findings. These results imply that although Islamic financial products' risk and return policies support economic stability, the Islamic capital market is nonetheless susceptible to financial crises.

The study demonstrates that policymakers in Malaysia can leverage the Shariah Index to forecast economic trends. This research contributes to the existing literature on the relationship between Islamic capital markets and macroeconomic variables in emerging markets, enhancing our understanding of how macroeconomic factors influence the Islamic stock market. The findings offer valuable insights for investors, enabling them to make informed decisions on when to diversify their portfolios into Islamic stocks, predict asset prices, and anticipate economic trends. In the pursuit of economic stability and resilience, policymakers have long sought to understand the intricate relationships between financial markets and macroeconomic indicators. Recent research has uncovered a significant long-term correlation between the Shariah Index and key macroeconomic variables, offering valuable insights for informed decision-making. This breakthrough discovery has the potential to guide policymakers in formulating effective policies, mitigating risks for investors and businesses, and fostering a more stable and prosperous economic environment.

The study underscores the role of the Islamic stock market as an economic sign, aiding policymakers in adjusting policies based on macroeconomic trends. By predicting economic directions through the Shariah Index analysis, policymakers can stabilize the country's economy and financial system. The study recommends that policymakers, financial planners, and investors consider macroeconomic indicators when articulating financial and economic policies, as well as in portfolio diversification and structuring. Investors can make more informed investment and diversification decisions by examining the Shariah Index in Malaysia.

Additionally, the study benefits students, teachers, and lecturers by providing an updated understanding of the relationship between the Islamic stock market and macroeconomic variables. It offers a comprehensive resource for academic inquiry and practical application in financial and economic policy-making.

Hussin et al (2012), conducted another study on the same topic, evaluating the association among the development of Malaysia's Islamic stock market and macroeconomic indicators. The goal of this research was to look at this link in the context of Malaysia. As a result, valuation of the vector autoregressive (VAR) approach was applied to the established research model in order to attain a particular aim. The "Kuala Lumpur Sharia Index (KLSI), Industrial Production Index (IPI), Consumer Production Index (CPI), Total Money Supply (M3), Islamic Interbank Rate (IIR), and Malaysian Ringgit US Dollars and exchange rate" are all variables relevant to this study.

Since then, Islamic stock prices (KLSI) have had a optimistic correlation with "economic growth (IPI) and inflation (CPI)", but a negative correlation with "money supply (M3), Islamic investment rate (IIR), and foreign countries". It was demonstrated. The rate of exchange (MYR). With the exception of IIR, all of these exhibit significant connections. These findings reveal that Ibrahim (2003) used traditional Kuala Lumpur Composite Index (KLCI) stock market data with a similar collection of economic variables to find the same long-term association between Islamic stock prices and macroeconomic variables, it demonstrates that it corresponds to the outcome. Furthermore, there was no substantial long-term association between the Islamic investment rate (IIR), which replaces the conventional interest rate, and the Islamic stock price (KLSI). Based on the Cointegration tests, this indicates that IIR is not a viable variable for forecasting variations in Islamic stock values.

Another study looked at how the "money supply (MS), exchange rate (ER), and inflation" affected returns on the conventional and Islamic stock markets in three ASEAN nations: Singapore, Malaysia, and Indonesia. Monthly data from January 2005 to December 2015 were used in the study. The results imply that macroeconomic factors have a comparable impact on conventional and Islamic indexes. However, because Islamic finance is less risky than conventional finance, as expected, macroeconomic factors have a bigger impact on Islamic stock indices.

The outcomes discovered that Islamic stock indices are more reactive to macroeconomic changes. Among the macroeconomic variables, the Consumer Price Index (CPI), used as a proxy

for the inflation rate, has a larger effect on both indices compared to ER and MS. The negative relationship between the inflation rate and stock market returns can be explicated by the fact that a surge in the inflation rate leads to a surplus of money, which increases the supply of stocks in the stock exchange while the demand remains unaffected. Therefore, evaluating the link between the inflation rate and both indices is essential, as the results could significantly impact the capital market segments in the three selected ASEAN countries. It is acclaimed that government establishments control and stabilize the inflation rate by implementing monetary policies aimed at keeping inflation at its lowest possible level. Such measures would positively impact the capital markets in these ASEAN countries.

Simultaneously, policymakers must take timely action to minimize any vulnerabilities arising from market capitalization inequalities (Jamaludin et al., 2017). This proactive approach will help ensure the stability and growth of both conventional and Islamic stock markets in Singapore, Malaysia, and Indonesia. By understanding and managing the influence of inflation, money supply, and exchange rates on stock market returns, policymakers can create a more robust and resilient financial environment in these countries. Sanusi et al. (2021) Examine how the Indonesian Sharia stock index is affected by both global and domestic macroeconomic variables. The movement of the macroeconomic conditions in the country are closely correlated with shifts in the Islamic stock index. In particular, interest rates, a crucial weapon for monetary policy, have a major detrimental impact on the price of Sharia stocks. Exchange rate swings also have an effect on businesses that trade internationally.

In addition to internal variables, stock market moves in nations with significant global economic sway also impact the price of Sharia stocks. For example, the Indonesian Sharia stock index is negatively impacted by the SSE index. This is explained by China's economic expansion, which advises foreign investors to maximize returns on their international investment portfolios. On the other hand, there is a favorable correlation between the US stock market and Indonesia's Islamic stock market, which indicates Indonesia's inclination to adopt US economic trends.

While the Japanese stock market does not significantly impact the Indonesian Sharia stock index, this is likely because the current Indonesian trading sector has substantial interactions with Japan, whereas the investment sector's involvement remains minimal. Thus, the Japanese stock market's influence on the Indonesian Sharia stock index is not as pronounced.

Overall, the study highlights the complex interplay between domestic macroeconomic conditions and international market dynamics in shaping the Indonesian Sharia stock index. Understanding these relationships is crucial for policymakers and investors aiming to navigate and stabilize the Islamic stock market within the global financial environment.

The study by Amijaya et al. (2020) demonstrates that Indonesia's macroeconomic conditions affect the Jakarta Islamic Index (JII) in the long run. The research identifies two variables, the exchange rate and the business cycle, which show a significant negative relationship with the JII over time. Conversely, interest rates, the Consumer Price Index (CPI), and the Industrial Production Index (IPI) have a positive and significant influence on the JII.

The study further reveals that the JII responds to shocks in all observed macroeconomic variables before achieving stability, as indicated by the Impulse Response Function (IRF) results. These findings show that each variable takes a different amount of time to reach a stable condition. The JII stabilizes quickest in response to shocks in interest rates and the CPI, while the Composite Leading Indicator (CLI) shows the highest level of fluctuation, indicating instability in its impact on the JII.

Moreover, the study employs Forecast Error Variance Decomposition (FEVD) analysis to assess the contribution of each variable to the variability of the JII. At the end of the observation period, the IPI emerged as the variable contributing the most to the JII's diversity, whereas the CPI contributed the least. The government plays a crucial role as a policymaker and can intervene when necessary to ensure optimal economic growth, balancing various advantages and disadvantages. Investors can use these insights to predict market stability and make informed investment decisions. Additionally, the study underscores the importance of portfolio diversification to mitigate investment risks and prevent failures.

Another research uses linear regression analysis to look at how the "inflation rate, industrial production index, and interest rate" affected the Indonesian Sharia Stock Index between May 2011 and November 2017. The results show that domestic forces mostly impact the Indonesian Islamic stock market. The results show that the inflation rate significantly impacts Islamic stock prices, with a positive relationship observed between the two. This means that as the inflation rate increases, Islamic stock prices also rise. Consequently, Indonesian monetary establishments should focus on stabilizing the inflation rate to enrich the welfare of investors in the Shariah capital market.

Additionally, the study finds a positive association between the industrial production index and Islamic stock prices. An increase in the industrial production index signals industry growth, which encourages investors to invest their surplus funds in the Islamic stock market, leading to a rise in stock prices. Finally, there is a negative relationship between the interest rate and Islamic stock prices. This negative correlation can be attributed to the fact that all investors, regardless of their religious beliefs, consider interest rates when making decisions in the Islamic stock market.

Given these findings, it is crucial to estimate the relationship between macroeconomic variables and Islamic stock prices, as understanding these dynamics can stimulate the growth of the Islamic capital market in Indonesia. It is commended that government authorities stabilize and control macroeconomic aspects such as the "inflation rate, industrial production index, and interest rate" to foster a robust Islamic capital market (Mawardi et al., 2019). Similarly, Habib and Islam (2017) assessed the impact of macroeconomic variables on Islamic stock returns in India. They aimed to identify the macroeconomic factors significantly affecting Islamic stock returns in the country. According to the theory of efficient markets, current stock prices reflect all available information regarding changes in macroeconomic variables. Various studies, including Ross's Arbitrage Pricing Theory (APT), have established the significant impact of macroeconomic variables on the stock market. Based on existing literature and financial theory, the researchers identified five macroeconomic variables namely, "inflation, industrial production, exchange rate, interest rates, and money supply" as hypothesized to influence the performance of the Islamic stock market. Data for the study were collected from February 2007 to June 2016, aligning with the launch of the Nifty Shariah index.

The researchers employed ordinary least squares regression to test whether these macroeconomic variables significantly explained variations in Islamic stock returns. The study revealed that only exchange rates exhibited a negative and statistically significant impact on the performance of the Islamic stock market. It's important to note that the study focused solely on five macroeconomic variables over a period of less than 10 years.

The connection between macroeconomic factors and stock market performance is a long-standing and widely examined phenomenon in the realm of financial economics, with a rich body of literature dedicated to understanding the sophisticated dynamics of this relationship. While numerous studies have examined the link between macroeconomic determinants and conventional stock market returns, there is a notable gap in the literature regarding its impact on Islamic stock

market returns. This study seeks to enrich the existing literature by exploring the influence of select macroeconomic factors on stock market performance in both Islamic and conventional indexes across a diverse range of ten countries, "Bahrain, India, Indonesia, Kuwait, Malaysia, Pakistan, Saudi Arabia, Singapore, Qatar, and the UAE" providing a comprehensive and comparative analysis that sheds light on the similarities and differences between these two markets. By doing so, we hope to enrich the existing literature and provide valuable insights for investors, policymakers, and researchers alike. We adopted a panel data approach, leveraging pooled OLS, fixed-effects, and random-effects estimation methods to investigate the relationships between macroeconomic variables and stock market returns for both Islamic and conventional indices. Furthermore, we employed panel co-integration tests to determine the existence of long-run relationships between these variables. Our results show that the pooled OLS estimation method outperforms the fixed- and random-effects methods, providing more accurate and reliable estimates. This suggests that the relationships between macroeconomic variables and stock market returns are relatively homogeneous across the sampled countries, supporting the use of pooled OLS for estimating these relationships.

The results of our analysis, using both pooled OLS and random-effects models, show that real effective exchange rates have a significant impact on the performance of Islamic indexes. Specifically, our findings indicate that an appreciation in real effective exchange rates is associated with a decrease in the returns of Shari'ah-compliant stocks, suggesting that exchange rate fluctuations can have a notable influence on the performance of Islamic equities. This suggests that currency depreciation, signifying a surge in the real exchange rate, escalates import costs for these countries, thereby adversely affecting output and firm profits, leading to decreased stock returns. Conversely, currency depreciation appears to positively affect Islamic stock prices. Moreover, both real effective exchange rates and money supply affect returns on conventional stocks, with an increase in these variables correlating with decreased returns.

Moreover, the co-integration tests confirm a long-run relationship between the stock market indices and macroeconomic variables, consistent with earlier studies. The "Granger causality tests reveal significant short-term causal relationships between changes in monetary policy variables (money supply, inflation rate, and interest rate) and conventional stock market returns. Furthermore, the results show short-term causal links between conventional stock market returns and exchange rate fluctuations, as well as between Islamic stock market returns and

exchange rate changes, indicating dynamic interactions between these macroeconomic variables and stock market performance in both conventional and Islamic markets. These findings suggest that macroeconomic variables and exchange rate fluctuations have a significant impact on both conventional and Islamic stock markets, but the relationships are short-term and dynamic. The results provide valuable insights for investors and policymakers seeking to understand the complex interactions between macroeconomic variables and stock market performance". As a result, co-integration and causality studies confirm that there are both short- and long-term correlations between macroeconomic variables and returns in the stock markets, both Islamic and conventional. These empirical findings offer valuable insights and policy implications for investors, portfolio managers, and policymakers, underscoring the significance of specific macroeconomic variables in influencing returns in both Islamic and conventional markets.

The results suggest that policymakers and regulatory bodies can utilize the identified relationships to inform monetary and exchange rate policies, promoting market stability and attracting capital inflows. Meanwhile, investors and portfolio managers can leverage these insights to develop effective portfolio optimization and hedging strategies. Future research could expand on these findings by exploring additional macroeconomic factors and a broader range of Islamic and traditional stock markets, providing further actionable intelligence for market participants (Ashraf et al., 2020).

This research examines the effects of various macroeconomic variables including "inflation rate, short-term interest rate, yield curve slope, and changes in money supply" on returns in Islamic stock markets, across different financial regimes and countries. The study analyzes a diverse sample of 20 countries, comprising 10 developed and 10 emerging markets, over the period from June 2002 to June 2014, providing insights into the relationships between these economic factors and Islamic stock market performance in different market conditions. The results show that, across both low and high volatility regimes, the returns on conventional stock market indices and changes in money supply have a significant influence on Islamic stock market performance, in both developed and emerging economies. Additionally, other economic factors exhibit significant relationships with Islamic stock market returns, particularly in the low volatility regime. These findings provide valuable insights into the complex interactions between macroeconomic factors and Islamic stock market performance, highlighting the importance of considering both

conventional market trends and monetary policy factors when analyzing Islamic stock market behavior.

The research also reveals that the impact of the examined variables on Islamic index returns is largely consistent between developed and emerging markets, with few notable differences. Furthermore, Granger causality analysis across various market regimes confirms the significant influence of conventional index returns on Islamic stock market performance. These findings offer valuable insights for investors and financial analysts, illuminating the interconnectedness between Islamic stock market returns and macroeconomic factors across different market environments, and highlighting the importance of considering these relationships in investment and analysis decisions. Acknowledging the interconnectedness between Islamic and conventional stock markets is crucial for optimizing portfolio diversification and risk management strategies. This study reveals that the relationship between Islamic stock market returns and macroeconomic variables is regime-dependent, meaning it varies across different market conditions. This insight underscores the importance of considering these dynamic relationships and adapting investment strategies accordingly, to maximize returns and minimize risk in diverse market environments. The significant coefficients identified through Markov switching regressions and MS-VAR models can empower policymakers to better predict the impact of macroeconomic policies on Islamic financial markets, enabling more effective stabilization efforts across various market regimes (Bahloul et al., 2017). These insights can inform data-driven decision-making, ultimately promoting financial stability and resilience in Islamic financial markets.

Another study probes the influence of numerous macroeconomic variables on the BSE Shariah and Jakarta Islamic Index. These variables encompass "foreign direct investment (FDI), import, export, gross domestic product (GDP), broad money (M3), and exchange rate". The study spans from 2011 to 2020. Panel data regression employing both fixed-effect and random-effect models is utilized.

The BSE Shariah and Jakarta Islamic Index are positively impacted by exports, foreign direct investment, broad money (M3), GDP, and currency rates, according to both fixed-effect and random-effect models. On the other hand, import has a detrimental impact on the corresponding indices in both models. Significantly, "the fixed-effect model indicates that exports, gross domestic product, and foreign direct investment have a positive and statistically significant influence on the BSE Shariah and JII". Similarly, the random-effect model shows that the GDP, exchange rate,

exports, and foreign direct investment all positively and statistically significantly affect both indexes.

Furthermore, the Hausman test indicates that the random-effect model is a better fit for determining the macroeconomic impact on Indonesia's and India's Islamic stock markets. To sum up, the GDP, exports, and foreign direct investment all have a significant impact on the fluctuations in the values of Islamic stocks, particularly the Indonesian Jakarta Islamic Index and the Indian BSE Shariah. The study offers insightful information for Islamic research by advising taking these significant macroeconomic factors into account when examining Islamic stock exchanges in India and Indonesia. Subsequent investigations may broaden to encompass nations belonging to the G7, E7, and BRICS, and additionally examine additional macroeconomic factors. There is a great possibility and need to look into Islamic stock markets in other nations, given the paucity of study on the Indian Islamic stock market (Irfan et al. 2021). Muharam et al. (2019) carried out a thorough comparative analysis that looked at the emergence of Sukuk and Islamic stock markets in Malaysia and Indonesia, with an emphasis on how these markets affected trade openness and economic growth. The results of the study showed a strong positive correlation, pointing to a mutually reinforcing dynamic, between the growth of Indonesia's Sukuk market and the Islamic stock market. The growth of one market positively influences the other, fostering a synergistic relationship that promotes overall market development and economic expansion. "This insight highlights the potential for Islamic financial markets to complement each other and drive economic growth in countries like Indonesia and Malaysia. In contrast, Malaysia's financial landscape reveals a different scenario, where no significant relationship was found between the Islamic stock market and economic growth. However, in Indonesia, a negative bidirectional relationship exists between economic growth and sukuk market development, indicating that economic expansion harms sukuk market growth, and vice versa.

In Malaysia, economic growth has a significant negative impact on sukuk market development, but not the other way around. Interestingly, trade openness in Malaysia has a positive influence on both sukuk market development and economic growth, aligning with the Endogenous Growth Theory. This suggests that Malaysia's open trade policies foster a conducive environment for sukuk market growth and economic expansion, unlike in Indonesia where the relationships are predominantly negative. In Indonesia, trade openness fails to exert a significant influence on the development of Islamic stock markets, sukuk markets, and economic growth. The Vector Error

Correction Model (VECM) Granger causality test reveals a bidirectional causal relationship between Islamic stock market development and sukuk market development, indicating interdependence and feedback effects between the two markets. Additionally, the test shows bidirectional causality between economic growth and stock market development, as well as between sukuk market development and economic growth, suggesting complex interactions between these variables.

In contrast, Malaysia displays a more complex relationship between these variables, characterized by bidirectional causality between Islamic stock market development and sukuk market development, a unidirectional relationship from economic growth to sukuk market development, and no causality between Islamic stock market development and economic growth. This suggests a more nuanced and disparate relationship in Malaysia compared to Indonesia, highlighting the country-specific nature of these dynamics. These results imply that in order to maintain progress, authorities should be aware of the varied ways in which the Islamic financial market and economic growth interact in different situations. The interplay between markets must be taken into account by investors while constructing their portfolios in the Islamic financial market, keeping in mind that these influences differ with nations. Economic conditions play a critical role in investment decisions to lower risks since they can influence changes in the Islamic stock market and sukuk market. The government should think about measures to encourage international commerce in order to accomplish economic growth and the development of the sukuk market, given the beneficial effects of trade openness on the growth of the sukuk and Malaysia's economy. The report also cautions Indonesian sukuk investors about the state of the Islamic stock market, as it will have an effect on sukuk markets". Similarly, unlike Malaysia, where there is a negative relationship between the sukuk market and the Islamic stock market that offers diversification benefits, portfolio building between sukuk and Islamic stocks in Indonesia would not yield benefits. This study only looks at the corporate sukuk market and is restricted to two nations. Subsequent studies ought to encompass a wider range of nations and venture into sovereign/state sukuk markets.

A study by Karyatun (2021), highlights the relation between macroeconomic variables and shariah stock prices. The purpose of this study is to demonstrate that macroeconomic factors can influence the development of sharia stock prices. Analyzing the Consumer Goods Industry sector using multiple regression techniques and data from the Indonesian Syariah Stock Index (ISSI), it

was found that the independent variables namely "inflation, the rupiah exchange rate, and the BI rate" do not have a significant effect on sharia stock prices. Thus, the study concludes that these three macroeconomic factors cannot influence the stock prices of sharia-compliant investments, which adhere to principles such as the prohibition of "riba, gharar, Maysir, risyawah, and dharar". The findings suggest that the sharia stock market is resilient to macroeconomic fluctuations, at least in the short term.

However, given that macroeconomic conditions, including price increases and changes in purchasing power, could impact Islamic stocks in the long run, it is crucial for the government to stabilize and manage other macroeconomic factors that might affect the development of the Islamic capital market. This would ensure the proper growth of the Islamic business sector. Investors can use this information when making decisions about investments in the capital market, particularly regarding sharia stock products and other sharia-compliant investment options. In the realm of financial economics, the relationship between macroeconomic variables and stock market returns is a long-standing and widely explored concept. While extensive research and policy debates have focused on this link in conventional stock markets, a significant knowledge gap exists regarding its applicability to Islamic stock markets.

Despite the growing importance of Islamic finance, few studies have investigated the relationship between macroeconomic factors and returns in Islamic stock markets, highlighting the need for further research in this area. By probing the effects of particular macroeconomic factors on stock market returns in both Islamic and conventional indexes across ten countries "Bahrain, India, Indonesia, Kuwait, Malaysia, Pakistan, Saudi Arabia, Singapore, Qatar, and the United Arab Emirates" our article seeks to close this gap. In order to investigate the long-term correlations between macroeconomic variables and stock market returns for both kinds of indices, we used a panel-data methodology that included panel co-integration tests, pooling OLS, fixed-effects, and random-effects estimation techniques. Our empirical findings suggest that the pooled OLS estimation method is the most suitable approach for analyzing the relationship between macroeconomic variables and Islamic stock market returns, outperforming fixed-effects and random-effects models.

Notably, both pooled OLS and random-effects models reveal a significant negative correlation between real effective exchange rates and returns on Islamic indexes, indicating that changes in exchange rates have a pronounced impact on Islamic stock market performance.

Specifically, a currency depreciation (increase in exchange rate) leads to higher import costs, reduced output, and lower corporate profits, resulting in decreased stock returns. In contrast to the negative impact on Islamic indexes, currency devaluation appears to have a positive effect on Islamic stock prices, suggesting that a weaker currency may boost Islamic equity markets. Furthermore, our results indicate that both real effective exchange rates and money supply have a significant impact on conventional stock returns, with increases in these variables leading to decreased returns. These findings underscore the crucial role of macroeconomic factors in shaping stock market performance in both Islamic and conventional markets, emphasizing the need for investors and policymakers to consider these factors in their decision-making processes.

Furthermore, the panel co-integration tests confirm the presence of a long-term equilibrium relationship between the stock market indices and macroeconomic variables over the entire study period, lending additional support to our findings from the pooled OLS and random-effects models. Moreover, the Granger causality test results indicate short-term causal relationships between changes in money supply, inflation rate, interest rate, and conventional stock market returns, suggesting dynamic interactions between these variables in the short term. These findings provide a comprehensive understanding of the relationships between macroeconomic variables and stock market performance, highlighting both long-term equilibrium relationships and short-term causal dynamics. Moreover, the analysis reveals short-term interconnections between conventional stock market returns and the effective exchange rate, as well as between Islamic stock market returns and the effective exchange rate. These findings indicate that macroeconomic variables and exchange rate fluctuations have a profound impact on both conventional and Islamic stock markets, with bidirectional causality in the short term. This means that changes in macroeconomic variables and exchange rates influence stock market performance, and vice versa.

The results offer valuable insights for investors and policymakers seeking to understand the complex dynamics between macroeconomic variables and stock market performance, enabling them to make informed investment decisions and develop effective monetary policies. In summary, the empirical findings from both co-integration and Granger causality tests provide robust evidence of the existence of both short-term and long-term relationships between macroeconomic variables and stock market returns in both conventional and Islamic markets (Marashdeh, 2020). These results underscore the significant impact of macroeconomic factors on stock market performance in both the short and long term, emphasizing the importance of

considering these factors in investment and policy decisions. The study's findings contribute meaningfully to the ongoing academic discourse, providing valuable insights for investors, policymakers, and regulatory bodies seeking to understand the complex dynamics between macroeconomic variables and stock market performance in both conventional and Islamic markets. This study by Naseri and Masih (2013), focuses on examining the dynamic relationship between three macroeconomic variables "money supply, consumer price index, and exchange rate—and the FTSE Bursa Malaysia Emas Shariah Index" a proxy for Malaysia's Islamic stock market. Using monthly data from November 2006 to October 2013, the research uses time series techniques, notably Cointegration and VARs, to investigate the long-run correlations among these variables. We may evaluate the strength of the Granger causal linkages and the responses of each variable to innovations in others by calculating variance decompositions and modeling impulse response functions from the VAR. The long-term predictability of Malaysian stock prices is indicated by the Cointegration between the Islamic stock index and the macroeconomic variables.

This suggests that Islamic stock index movements are closely related to macroeconomic fundamentals over the long run. The investigation comes to the conclusion that the Malaysian Islamic stock market's performance is significantly influenced by the state of the economy. Our results are consistent with previous research showing that macroeconomic events have a major impact on stock price volatility. The foremost policy suggestion of these outcomes is that managing macroeconomic variables such as inflation, money supply, and exchange rates will assistance enhance the Islamic stock market in Malaysia. This study is restricted to three selected macroeconomic variables. Including more variables and extending the study period could improve the results. A logical extension of this research would involve incorporating additional variables and diverse types of Islamic stock indices.

3.3 Conventional Capital markets

The role of capital markets in any economy should not be overstated. Capital markets are believed as essential players and platforms for converting savings into funding for important ventures. Hence, economies with proficient capital markets have a higher level of savings and investment in high-profit companies. Therefore, in this context Molefhi (2021), has assessed the development of the capital market in the economy Botswana. The study has been basically accomplished to establish the influence of macroeconomic variables on the development of capital market. So in

this regard, it has employed five macroeconomic factors, namely "real output, consumer price index, money supply, exchange rate, and lending rate" to find out the impact on the developmental structure of capital market. The primary objective of this study was to employ the Auto-Regressive Distributed Lag (ARDL) bounds test approach to investigate the impact of macroeconomic variables on stock and bond market development in Botswana, as measured by market capitalization and the Botswana Bond Index. To ensure the Stationarity of the data, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests were conducted. The results reveal that in the short term "GDP, money supply, and inflation" have a positive and significant influence on stock market development, while the real exchange rate has a negative impact. These findings suggest that macroeconomic factors play a crucial role in shaping the development of Botswana's stock market, highlighting the importance of considering these variables in policy and investment decisions.

Conversely, in Long-run GDP, has a favourable and substantial association with stock market performance. On the other side, from the bond market especially in the short run, neither of the factors has shown any significant impact the bond market to function. Whereas, inflation and lending rates have a substantial impact on the bond market long-term evolution.

Furthermore, policymakers should devise techniques for achieving optimal levels of broad money growth in order to promote stock market development. Money supply is deemed as one of the macroeconomic elements that encourages stock market growth, according to the study. Expansionary monetary policy is beneficial to stock market growth; yet, money supply expansion should not be inflationary, necessitating the need to determine the appropriate level of money supply in the economy. Together in the short and long run, GDP has a favourable and considerable effect on the stock market. The most important economic statistic that tells us about the state of our economy is GDP. As a result, economic growth can help stock markets thrive and policymakers should work to boost growth in order to boost the stock market. Because of the trade-off amongst lending rates and bond market development, it is necessary to keep lending rates low in order to build the bond market.

Acquah-Sam (2016), on the other hand, observed into the macroeconomic variables that drive the development of capital markets in Ghana. And the research was founded on quarterly secondary data from 1991 to 2011 and used multiple linear regression analysis. The elementary assumptions of multivariate analysis were certified and clarified using exploratory data analysis.

Therefore, to test for linear relations among important variables in the assessed equations, researchers used tools such as Principal Component Analysis (PCA) and Structural Equation Modelling (SEM) through Path Analysis (i.e. Layered Regression approach), and testing of relations amid variables. The paper's key empirical contribution is that GFI and GDP growth support development of capital markets Ghana, but Treasury bill rates have a negative influence (T-BILLS). Inflation is a variable in the approximated equation. Whereas, foreign direct investment (FDI) and Inflation were not proved as important in the assessed equation.

Another study, Cyuzuzo (2018), examined at the elements that influence Rwanda's capital market development. The basic purpose of this particular study was to investigate the macroeconomic variables influence on the growth and development of Rwanda's stock market (RSE). Furthermore, it examines RSE's support to Rwanda's growing economic prosperity. The paper estimates two models using the GLM approach utilizing quarterly secondary records from 2011 to 2016. It uses market capitalization to assess RSE's overall performance.

Furthermore, macroeconomic variables such as repo charge, inflation charge, and cash supply are investigated, with consumption serving as a conditioning variable. While the second form, on the other side, considers GDP to be the dependent variable in study, whereas market capitalization to be the independent variable, and capital formation and consumption as conditioning variables. (Maghyereh, 2002; Chen et al, 1986), as well as other academics, have inspected the influence of macroeconomic variables on the development of capital markets. "GDP, inflation, expenditure, monetary, employment and fiscal policy" and the connectivity of various economic sectors all influence the macroeconomic environment.

Capital market development hurries up economic growth as it surges the quality and quantity of investments and adopts competition. Like, Islamic capital market, conventional side has also two main components i.e. bond and stock market. Therefore, in this regard we will review the relevant literature on both these components, with a view to found the development structures of both the markets. The bond market is one of the important constituents of financial market development. A bond states to a long-term terminology for tradable financial debt instruments typically issued by governments to the public on a long-term basis.

A robust and efficient financial system is essential for revitalizing economic growth and industrial activities in any nation. A well-developed financial system provides the necessary technical and financial support to investors, facilitating sustainable investment opportunities and

promoting economic development. Financial institutions play a crucial role in mobilizing resources, aggregating savings, and allocating them to sectors facing deficits, thereby ensuring the optimal allocation of resources and facilitating capital accumulation for future investments (Ndinda, 2012; Oke et al., 2021). This process stimulates economic growth, fosters innovation, and enhances prosperity, underscoring the importance of a well-functioning financial system in driving economic progress.

The financial sector serves as a cornerstone of a country's financial system, influencing its business environment, financial prospects, social impact, and poverty levels. Extensive empirical and theoretical literature suggests that, alongside other economic factors, the level of development in a country's financial sector significantly impacts long-term economic growth and overall welfare. Financial markets, crucial components of the financial sector, play essential roles in the global economic system by attracting and allocating savings, determining interest rates, and establishing asset prices (Rose, 2003). A well-functioning financial sector relies heavily on robust financing arrangements from equity markets, bond markets, and banks. Across both developing and developed nations, government bond markets play a central role in shaping the securities market landscape. For a country's economic advancement, a thriving domestic bond market is crucial, as it facilitates long-term financing for vital sectors such as infrastructure development, housing, and private sector growth.

This detailed discussion, on the significance of bond market development in financial markets cannot overemphasized. Basically, the development of bond market in any economy is dependent on the stable economic indicators. So, in this regard, various studies have been carried out to assess the relation between economic factors and bond market development. This analysis concludes that interest rate, active circulation, and exchange rate are the macroeconomic factors influencing yield spread over the long run. Interest rates and exchange rates are the short-term variables that affect yield spread in the interim. Conversely, the Consumer Price Index and the stock market do not indicate that rising interest rates have a long-term or short-term impact on the yield spread. Yield spread is negatively impacted by interest rates over the short and long terms. The yield spread shrinks as interest rates rise, whether they be short-term or long-term. The growing bond yield with a shorter term is what is causing this decline in yield spread. Market participants anticipate that the yield on bonds with a longer duration is comparatively lower due to interest changes. We may claim that rising interest (in this research, BI rate) either in the short

or long term results in expectation that the market interest would decline in the future as yield spread shows the term structure of interest rate. This research finding has similarities with the one by Ahmad et al (2009) showing that interest rate has a good balance both in a long term and short term with yield spread.

The exchange rate has a positive indication and both a short- and long-term balance with the yield spread. Compared to the original prediction, which showed a negative effect, this condition is different. When investing, investors consider their potential returns. Consequently, the depreciation of the rupiah encourages funds to enter the market and raises bond demand. This leads to the conclusion that the depreciation of the rupiah causes market participants to anticipate a rise in market interest in the future, both short- and long-term. This positive correlation between yield spread and exchange rate is consistent with research by Batten et al (2006) Active circulation, in contrast to interest and exchange rate factors, only has long-term negative effects.

The significant coefficient of active circulation effect in the long-term model and the insignificance in the ECM model demonstrate this condition. This study's findings show that an increase in active circulation only eventually raises bond yields with short maturities. The market participants anticipate a decline in market interest going forward due to this increase in active circulation. The findings of Fah's (2011) research are consistent with the existence of an active circulation influence on yield spread. The distinction is that Fah (2011) does not show the short-term impact of active circulation because the OLS approach was used. Similar findings were made by Batten et al. (2006) about the impact of interest rates and currency rates on yield spread. The real sector-illustrated IHK variable and the bond substitution-described IHSG variable in this study have no effect on yield spread over the long or short term. According to the research done by Fah (2011), Ahmadet al. (2009), and Min (1998), there is no influence of IHK. Conversely, the findings of this study contradict the findings of Sihombing et al. (2012), which shows how Indonesian yield spread is impacted by IHK. In the meantime, Ahmad et al. (2009) discovered only a long-term influence of the Malaysia stock price index (KLCI), not the long-term and short-term effects of interest, which is inconsistent with the nonexistence of the IHSG effect. The market modifies the shift of interest in a short term, so the market anticipates the policy that modifies interest rates swiftly. Additionally, the market anticipates exchange rates, which are harder to manage, and they can cause volatility in the bond market. In contrast to interest rates and currency rates, active circulation mainly affects yield spread over the long run.

As a result, the market will likely adjust any surprises in the active circulation over an extended period of time. Subsequently, it is discovered that the real sector variable (IHK) and the bond substitution variable (IHSG) have no bearing on the yield spread. This study's findings demonstrate how interest (BI rate), exchange rates, and active circulation are influenced by the notion of the term structure of interest rates (Utama and Agesy, 2016). The debt securities market in Bangladesh is still in its nascent phase. This empirical study underscores the pivotal role of well-functioning bond markets in enhancing the efficacy of monetary policy operations and fostering the desired impact on the real economy. Through an examination of seven key factors, this research highlights their significant influence on the development of a energetic bond market in Bangladesh. Key factors identified include infrastructure development within the market, fostering an enabling environment for bond market growth through initiatives such as promoting depository activities and enhancing clearing and settlement arrangements, bolstering the development of the money market, enhancing the government's capacity for cash and debt management, establishing a robust legal and regulatory framework, fostering credit rating mechanisms, conducting investor education programs, revising SEC regulations pertaining to bond issuance to encourage market growth, and creating a conducive environment for asset-backed securitization and infrastructure bonds.

The study's implications are manifold. Firstly, it furnishes empirical evidence on the determinants of bond market development, thereby contributing to the expansion of the money market and the overall economic growth of the nation. Secondly, it offers guidance to policymakers, economic planners, regulatory bodies like the SEC, entrepreneurs, and investors, directing their attention towards the key factors pivotal for the effective functioning of bond markets and money markets. Lastly, the study's investigation and findings serve as a valuable resource for future researchers in the realm of money market development (Begum and Kamal, 2018). The growth of the bond market is essential to any economy's financial success. The extension of the domestic bond market is high on the agenda for discussions on the new East Asian financial architecture. A market for DGBs has lately begun to take shape in the comparatively more sophisticated economies of Asia. Nonetheless, we note that in many early instances, the bond market's development did not progress at the same rate as the financial industry as a whole. By offering a current examination of this crucial subject, we significantly advance and broaden the body of existing knowledge. This study, which is based on 2SLS and uses a modest sample of 47 established and emerging nations over a 15-year period (1998–2013), indicates that the majority

of the macroeconomic parameters and The extent and make-up of the domestic bond market are determined in large part by social and institutional variables.

In particular, a number of factors are critical in determining the "domestic bond market, including the size of the economy, the scope and deepness of the banking system, the monetary policy stance, the degree of openness, the amount of corruption, the degree of civil liberty" and the status of market access for investors. The original set of results and the ones obtained with GMM as an alternate model are in agreement. This guarantees the empirical estimation's robustness. The article's discussion and the estimation findings show that emerging economies' bond markets are still in the early stages of development. Considering how quickly the financial market is developing, the potential, while it is undeniable that institutional and social variables play a major role in the development of the domestic bond market and deeper liquidity. Because rising economies in Asia have high rates of saving and have built up sizable foreign reserves, these deposits are invested in financial instruments outside of the region because there is no domestic bond market. These nations can better utilize these assets and potentially achieve financial stability if they have a strong and well-run local bond market. For market participants, decision-making is challenging due to incomplete information and macroeconomic risks.

To ensure an active and effective bond market, policymakers must have a thorough grasp of these uncertainties and take the necessary steps to eliminate them. From a microeconomic point of view, it is well known that the government bond market contributes to the construction of long-term financial sustainability, the active and competitive role of banks in the financial industry, and the development of financial infrastructure.

Therefore, in order to fully benefit from the market reforms, a combination of macroeconomic and microeconomic policy measures must be implemented. Using the domestic bond market to help the financial system fulfill its short-term cash flow needs is governments' top goal. The central bank can implement a targeted monetary policy through these markets at the same time. To achieve this advantage, though, effective collaboration between the central bank and the government's ministry of finance is necessary. This would also necessitate having an effective system in place for regularly disseminating information about the state of fiscal budgets and money market circumstances. These can be seen as significant policy ramifications. The central banks' involvement in bolstering the monetary policy transmission mechanism must be taken into account, particularly in "high-deficit nations where bond markets offer a market-based,

non-inflationary source of deficit financing". The second, and equally important, step is to assess the market's regulatory framework, which is necessary to give participants in the market trust.

Third, emerging nations should concentrate on the banking sector and promote further technological advancements and innovations in the banking industry to increase transaction efficiency, as the size of the banking sector has a significant impact on the local bond market. Enhancing financial literacy is crucial as it aids investors in comprehending the risks and rewards associated with various alternative products. Fourth, developing and emerging nations must enhance their bond issuance, pricing, and market structure; they also must limit corruption, particularly in financial transactions, to promote market participation; and their policies must be more transparent.

Ultimately, investors' decision-making process would be aided by the adoption of corporate governance and improvements in the quality of institutions. By employing the most topical data, dividing the sample between developed and emerging nations, and taking institutional variables into account, this paper adds to the body of work already in existence. Despite these significant additions, there remain some issues with the article. Since the concentration is on "local currency bonds rather than foreign bonds, which are more susceptible to fluctuations in exchange rates, the exchange rate variable, for instance, is not included". Due to data restrictions, other intriguing institutional characteristics like the quality of the bureaucracy and the rule of law are not included in the model. By incorporating the institutional and economic aspects mentioned above in empirical estimation, the study may be expanded. Examining how foreign currency bonds are determined could be another way to expand on this subject (Khalid and Rajaguru, 2018).

Financial markets are pivotal for ensuring economic stability, providing a platform for investment that contributes to overall financial health. Bond markets, in particular, offer an avenue for foreign investors to diversify their investments beyond traditional banking deposits. By fostering the development of robust bond markets, countries can attract increased capital inflows, bolster aggregate spending, and ultimately fuel economic growth. Hence, nurturing a thriving bond market becomes imperative for driving economic expansion.

Numerous factors influence the development of bond markets, albeit these factors can vary depending on the economic landscape of each country. Despite its significance, research in this area remains relatively limited, particularly in the context of emerging Asian economies and the unprecedented impact of the COVID-19 pandemic. Thus, this study aims to delve into the factors

shaping bond market development across seven developing Asian nations over a twelve-year period from 2010 to 2021, employing panel data regression analysis.

The study considers seven key independent variables, including the size of the banking system, interest rate spread, money supply, inflation rate, external debt, economic size, and stock market capitalization, alongside a dummy variable representing the influence of the COVID-19 pandemic. These variables are assessed in relation to their impact on bond market development, shedding light on the intricate dynamics driving financial market evolution in the region. According to the study, Bond market development is very important to the financial system of Asian developing countries. As a grant, this paper was conducted to recognize the elements affecting the growth of the bond market in developing countries in Asia and to understand the relationship between those factors. In the Asian context, the size of the banking system plays a crucial role in bond market development, with a positive relationship between the two. Additionally, interest rate spreads have a positive impression on bond market development in Asian developing countries.

However, the money supply has an inverse relationship with bond market growth, indicating that an increase in money supply can lead to a decrease in bond market development. Furthermore, inflation also significantly influences bond market development in Asia, highlighting the importance of price stability in fostering a robust bond market. These findings suggest that policymakers in Asia should focus on promoting a stable and robust banking system, managing interest rate spreads, and maintaining low and stable inflation to support bond market development. It is negatively related to bond market growth. The following are implications when considering the growth of bond markets in developing countries in Asia. The size of the banking system is the key factor affecting bond market development. It implies domestic credit provided by banking system changes affect bond market development. Interest rate spread is also a key factor affecting bond market development. Policymakers and decision-makers should concern about the lending rate and deposit rates. The M2 money supply implies changes in money supply cause changes in bond market development. Inflation is also a key factor thinks about bond market development. When thinking about bond market development, it is important to think about inflation (Lakshan & Dissanayake, 2021).

Recent studies, extensively examined the relationship between banking sector development and stock market development. Pradhan and Kumar (2022) conducted a study in the Indian

context, employing the ARDL bounds testing technique, which is particularly suitable for small to medium-sized samples. As a precursor to the bounds test, the study first examined the Stationarity of the variables, a necessary condition for the test, which requires the series to be either I(0) or I(1). The results showed that all variables in the model were stationary at the first difference, paving the way for further analysis using the ARDL bounds test. This technique enables the investigation of long-run relationships between the variables, providing valuable insights into the dynamics of banking sector development and stock market development in India. The ARDL bounds test confirmed the existence of a long-run relationship between stock market development and bank-centered financial development. Further analysis was conducted using an unrestricted error correction model to examine the short-run dynamics and long-run relationships between the variables.

The results showed that domestic credit to the private sector, savings, and GDP had a positive impact on stock market development in both the short and long run. Specifically, the findings indicated that: Domestic credit to the private sector had a significant positive influence on stock market development, suggesting that increased access to credit for the private sector stimulates stock market growth, Savings had a positive impact on stock market development, indicating that higher savings rates contribute to stock market growth and GDP had a positive influence on stock market development, suggesting that economic growth stimulates stock market growth. These findings provide valuable insights into the dynamics of stock market development and its relationship with bank-centered financial development.

Additionally, the robustness of the ARDL model was evaluated using CUSUM and CUSUM square tests, which confirmed the stability of the model's parameters over the entire sample period. This suggests that the findings are reliable and not susceptible to sudden changes or structural breaks. In conclusion, the study emphasizes the importance of strengthening the banking sector in India to enhance liquidity and promote capital market development. The research provides valuable policy insights, highlighting the need for policymakers to focus on banking sector reforms and development initiatives to foster a robust and vibrant capital market in India. Guru and Yadav (2019), investigated the correlation between financial development and economic growth across five major emerging economies Brazil, Russia, India, China, and South Africa (BRICS)—from 1993 to 2014 utilizing indicators of banking sector and stock market development. Financial development was assessed using variables representing both banking sector and stock

market indicators. Banking sector indicators included "Financial Development Index (FDP), Commercial Bank Deposit Ratio (CDR), and Domestic Credit to Private Sector (CPS)". Stock market development was gauged through indicators like stock market size (SS), value of shares traded, and turnover ratio. Additionally, macroeconomic variables such as "per capita income (PCI) growth, inflation, exports as a percentage of GDP, and secondary education enrollment were considered". The analysis of the selected variables yielded fascinating insights.

The Financial Depth and, a proxy for banking sector development, showed a consistent upward trend across the selected economies since 1993, indicating progress in banking sector growth. Furthermore, the Credit-to-Deposit Ratio (CDR), a measure of financial stability and banking penetration, revealed that China had the highest level among the selected economies, followed by "South Africa, Brazil, Russia, and India". Additionally, the Credit to Private Sector (CPS) variable, another indicator of banking sector development, showed that South Africa had the highest mean value, followed by "China, Brazil, India, and Russia". These findings suggest that while all selected economies have made progress in banking sector development China and South Africa have achieved higher levels of financial stability and banking penetration. Examining stock market development indicators, it was found that South Africa had the highest mean stock market size, followed by "India, Brazil, Russia, and China". Additionally, China had the highest value of shares traded, while South Africa had the highest turnover ratio.

Among the control variables, the average PCI growth rate ranged from 1.18% (South Africa) to 9.14% (China) during the analysis period. Unexpectedly high inflation rates were observed for Brazil and Russia, although these rates later stabilized in subsequent years. During the 1993-2014 period, China maintained a relatively low average inflation rate of 4.50%, followed by South Africa at 6.51% and India at 7.45%. In terms of exports as a percentage of GDP, a indicator of international trade importance, Russia led the pack with the highest mean value, followed by South Africa, China, India, and Brazil. Meanwhile, the average growth in secondary education enrollment showed promising trends in India, Brazil, and South Africa, outpacing that of Russia and China. These findings suggest that while China has maintained price stability, Russia has leveraged its export sector to drive growth, and India, Brazil, and South Africa have prioritized investments in human capital through education. The SYS-GMM estimates revealed a significant positive relationship between financial development indicators "Financial depth (FDP), Commercial Bank Deposit Ratio (CDR), and Domestic Credit to Private Sector (CPS)" and

economic growth, particularly when combined with the stock market variable turnover ratio. Furthermore, the stock market development indicator, value of shares traded, had a positive and significant influence on economic growth across all selected banking sector development indicators. Notably, the turnover ratio, a measure of stock market efficiency, was found to be statistically significant in determining economic growth only in the presence of FDP, highlighting the importance of financial development in leveraging stock market efficiency for economic growth. These findings suggest that a well-developed banking sector and stock market can contribute significantly to economic growth, with financial development playing a crucial role in enhancing the effectiveness of stock market efficiency.

In conclusion, the study demonstrates a strong and positive correlation between financial development and economic growth in the selected economies. The findings highlight the importance of concurrent development in both banking and stock market activities for achieving sustained economic growth, suggesting that there is no tradeoff between bank development and stock market development. Instead, the study implies that a harmonious development of both sectors is essential for fostering economic growth. The research provides valuable insights for policymakers, emphasizing the need to implement policies that promote the development of both the banking and stock market sectors to achieve sustainable economic growth. Ilo et al. (2018) conducted a study to investigate the influence of financial intermediaries on capital market development in Nigeria. They employed three proxies to measure the activities of financial intermediaries: credit to the private sector, money supply, and total bank assets. The total value of stocks traded was used as a proxy for capital market development, spanning the period from 1981 to 2015.

The study revealed a significant positive relationship between private sector loans and capital market development, suggesting that financial intermediaries play a crucial role in promoting capital market growth in Nigeria. The findings highlight the importance of financial intermediation in channeling funds to the private sector, thereby supporting capital market development. Uremadu (2008), made a significant finding that credits extended by the banking sector to the economy have a profound impact on stock exchange trading values, leading to a substantial increase in trading activity. This discovery highlights the crucial role that banks play in facilitating economic growth and development by providing access to credit, which in turn stimulates stock market activity and enhances overall economic performance. Likewise, money

supply exhibited a significant positive influence on capital market development, implying that increased government money supply fosters long-term growth in the capital market.

Conversely, the total savings of banks displayed a negative impact on capital market development, suggesting that bank savings curtail capital market growth, though government expenditure dampens it. Another, study underscores the substantial effect of financial intermediaries on stock market development in Nigeria in the long run, aligning with the results of Demirguc-Kunt and Levine (1996) and Yartey (2008), who highlighted the positive impact of financial intermediaries on stock market development. However, despite the positive yet insignificant impact of credit to the private sector on capital market development observed in their results, the study emphasizes the necessity for banking institutions to reassess lending modalities to the private sector. It advocates for financing not just real assets but also investments in financial assets to bolster capital market development.

Moreover, the Central Bank of Nigeria ought to certify judicious use of money supply and steer domestic credits provided by the banking sector toward appropriate channels. Credit facilities would not be confined solely to large-scale manufacturing industries but stretched to small and medium-scale enterprises and investors in the capital market, thereby stimulating capital market development and economic growth. In light of these conclusions, the study commends that the government instill market confidence through regulatory authorities, fostering transparency, rational trading transactions, and dealings in the stock exchange. Encouraging greater participation of foreign investors in the market and expanding investment instruments such as derivatives, convertibles, swaps, and options can further invigorate the market.

Rehman (2018) conducted a comprehensive study to investigate the relationship between financial development and economic growth in Saudi Arabia, exploring both banking sector and stock market development. The study, which covered the period from 1985 to 2016, employed the Johansen co-integration test to examine long-term relationships among the variables. While the test revealed no long-term co-integration among banking sector development, stock market development, and economic growth, the VAR (Vector Autoregression) analysis uncovered several significant coefficients, suggesting potential short-term relationships among the variables. These findings provide valuable insights into the dynamics of financial development and economic growth in Saudi Arabia, highlighting the need for further investigation into the underlying mechanisms driving these relationships. The Granger causality test elucidated a bidirectional

relationship between economic growth, measured by real GDP per capita, and banking sector development, represented by the ratio of Broad Money to GDP (M2 to GDP), suggesting mutual causality at a ten percent significance level. Notably, reports affirming the country's robust economy underscored the pivotal role of the banking sector, a correlation echoed by the study's findings. Addressing stock market development, the study revealed that the stock market's capitalization-to-GDP ratio influences banking sector development, which, in turn, impacts economic growth.

Thus, the significance of stock market development cannot be understated. The recent elevation of Tadawul to an emerging market by FTSE Russell augurs well for its potential inclusion in the MSCI index. The study's policy implications advocate for promoting financing to small and medium-sized enterprises and expanding legal frameworks to safeguard stakeholder rights, alongside fostering collaboration with global regulators to fortify the Saudi banking sector. Furthermore, adherence to international index-prescribed reforms is imperative for enhancing liquidity and bolstering the Kingdom's reputation in global financial markets. For future studies, incorporating multiple indicators to gauge the intricacies of Saudi Arabia's banking and stock market landscape is recommended, offering deeper insights into its financial dynamics.

Ho (2019), delved into the macroeconomic determinants of stock market development in South Africa, recognizing its pivotal role on the African continent. With the largest stock market capitalization in Africa in 2015 and a global ranking as the 25th largest, the South African stock market's significance prompted an investigation into its macroeconomic drivers from 1975 to 2015, employing the ARDL bounds testing procedure. The long-term analysis revealed that banking sector development and economic growth had a positive and significant impact on the South African stock market, indicating that a developed banking sector and a strong economy are essential for stock market growth. In contrast, inflation rate and trade openness had a negative and significant influence on the stock market, suggesting that high inflation and excessive trade openness can hinder stock market development. Although the real interest rate showed a negative impact, its coefficient was statistically insignificant, implying that interest rates have a limited impact on the stock market in South Africa. These findings provide valuable insights for policymakers seeking to promote stock market development in South Africa. Consistent with these findings, short-term results indicated a positive impact of economic growth on stock market development, juxtaposed with negative impacts from inflation rate, real interest rate, and current

trade openness. The robustness of these findings was confirmed through sensitivity analysis, which accounted for potential structural breaks, reinforcing the confidence in the results. Based on these insights, policymakers are advised to prioritize policies that promote banking sector development, stabilize inflation rates, and facilitate access to external finance for key exporting industries, all of which are crucial for driving long-term stock market development. Furthermore, policy initiatives aimed at boosting economic growth are essential, aligning with the dual objectives of enhancing economic growth and nurturing stock market development. By adopting a comprehensive approach that addresses these key areas, policymakers can create a favorable environment that fosters sustainable economic growth and stock market development.

This study highlights the prominence of considering both regional and country-specific factors that influence bond market development. While regional perspectives provide valuable insights, a closer examination of country-specific determinants reveals unique variables that warrant further investigation. In the case of Ghana, this study underscores the critical role of the banking sector's size in informing policies that promote bond market growth. Additionally, key indicators such as "money supply as a percentage of GDP, budget deficit as a percentage of GDP, and the structure of external debt relative to GDP" significantly influence the development of Ghana's corporate bond market. These findings suggest that policymakers in Ghana should prioritize banking sector development and carefully manage macroeconomic variables to foster a robust corporate bond market.

In an economy grappling with financial crises, the bond market emerges as a vital avenue for effective project financing. Hence, recognizing the pivotal part played by the bond market in the overall capital structure becomes imperative. The insights gleaned from this research underscore the need for policymakers to focus on the structure, objectives, and competence of finance derived from external debt. It is evident that policymakers must align themselves and identify the most effective debt portfolio for the economy encompassing domestic debt, external debt, and corporate bonds, among other instruments.

Furthermore, the study reveals that the proportion of external debt financing plays a vital role in shaping the long-term development of corporate bonds and the overall bond market. Harnessing external debt financing to fund infrastructure projects can have a transformative impact on the economy, leading to reduced business costs, increased economic activity, enhanced competitiveness, and incentivizing businesses to access corporate debt financing through bond

issuance to support expansion and growth. By channeling external debt financing into productive infrastructure projects, Ghana can create a conducive environment for corporate bond market development, fostering a robust and sustainable financing mechanism for businesses and contributing to the country's economic growth and development.

The judgments from this study propose that to foster growth in the corporate bond market, there is a need to de-emphasize government bonds while shining a brighter spotlight on corporate bonds. This necessitates maintaining a balance for government bonds while implementing policies that encourage the proliferation of corporate bonds (Musah. et al., 2019).

The study conducted by Fredric (2014) reveals that bond market development is influenced by several key factors, "exchange rate, interest rate, GDP at PPP, and GDP per capita". The statistically significant p-value of 0.00 indicates a strong correlation between bond market development and various independent variables, such as economic size, exports, banking system size, interest rate, exchange rate, fiscal policy, and the developmental stage of the economy. Interestingly, the study revealed that three variables "exports, bank size, and fiscal policy" did not have a statistically substantial impact on bond market development. These findings highlight the need for increased awareness about the bond market's role in the economy and the importance of implementing sound macroeconomic policies. Policymakers should focus on key variables such as exchange rates, interest rates GDP per capita, and GDP at purchasing power parity (PPP) which emerged as significant drivers of bond market development. By prioritizing these factors, policymakers can create a conducive environment for bond market growth, fostering economic development, and promoting financial stability.

Furthermore, the level and impulsiveness of interest rates, as well as the volatility of modifications in the exchange rate and capital controls, are crucial factors in domestic bond market development. Addressing these aspects effectively can stimulate the growth of the bond market and contribute to overall economic development.

However, in case of stock markets, various studies exist to exhibit the development structure of stock markets across the globe. Economic growth depends heavily on the stock market, whose growth is impacted by a number of factors. A thorough analysis of the theoretical and empirical research on the factors influencing stock market development can be found in the work of (Ho and Iyke, 2017). These elements are divided into two primary categories by the study: institutional factors and macroeconomic influences. It is thought that macroeconomic variables,

such as "real income and growth rate" encourage the growth of the stock market. To promote the expansion of the stock market and general economic development, officials and scholars must have a thorough understanding of these variables. Still, the banking industry might be seen as an addition to the stock market or as a replacement. The growth of the stock market is inversely and nonlinearly allied with the inflation rate. The connection amongst interest rates and the performance of the stock market can be either positive or negative. Changes in exchange rates have a negative correlation with the growth of the stock market. Specifically, stock prices may be negatively impacted by currency appreciation. Additionally, the stock market may be impacted by private capital flows in either a favorable or negative way. Theoretical frameworks offer greater clarity regarding the impact of institutional variables on the evolution of the stock market. The expansion of the stock market is impacted differently by distinct legal origins. Furthermore, elements like "trade openness, corporate governance, financial liberalization, and investor protection laws" all upkeep the expansion of the stock market.

The development of the stock market may be positively or negatively impacted by stock market integration. In light of this, an increasing number of empirical studies have investigated how these institutional and macroeconomic factors affect the evolution of the stock market. Overall, three intriguing findings are presented in the empirical research. First, the development of the stock market is significantly influenced by "real income level, saving rate, gross domestic investment, private capital flows, the growth of financial intermediaries, and foreign portfolio investment" particularly in industrialized and emerging market economies. These elements especially benefit the growth of the stock market. Second, the growth of stock markets, particularly in emerging market nations, can be negatively impacted by macroeconomic instability as shown by the rate of inflation.

Lastly, institutional elements that influence the development of stock markets both domestically and internationally include bureaucratic quality, political risk, financial liberalization policies, institutional quality, and law and order. Both the positive relationship between stock market development and economic growth as well as the idea that the two are causally related in reverse are supported by the research. Thus, understanding the factors that influence the growth of the stock market is crucial for developing and implementing policies. The results of this poll have significant policy ramifications, particularly for rising market economies and developing nations alike. First, it contends that as real income levels positively influence the growth of the stock

market, policies and programs aimed at increasing real income levels will also positively affect stock market development and ought to be actively promoted. Furthermore, the findings suggest that domestic investment and savings rates are key drivers of stock market growth. This insight enables policymakers to foster sustainable stock market development by implementing policies that promote a culture of savings and investment, creating a solid foundation for market growth. Additionally, the study highlights the importance of healthy financial intermediaries in supporting stock market development, rather than hindering it. By promoting a robust financial system, policymakers can create an environment where stock markets can thrive, contributing to economic growth and development.

Consequently, this research should teach regulators to take the banking sector seriously while trying to improve stock market performance. The Asian Tigers provide this specific proof, as their stock markets developed in tandem with their banking infrastructures. Fourth, the growth of the stock market depends heavily on private capital flows, particularly those from overseas. This implies that a nation's foreign policy will have a significant impact on how much private capital flows. Foreign private capital may be drawn to a more open and friendly nation than to one that is closed and less friendly. If regulators are eager to encourage the growth of the stock market through private capital flows, must to concentrate on attracting and luring in foreign investors with their nations. Fifth, the evolution of the stock market may be negatively impacted by macroeconomic instability as indicated by the rate of inflation. It's critical to keep inflation under control to a level that supports stock market growth in order to encourage stock market development. The rate of inflation may vary across different nations.

Therefore, it is the duty of policymakers to determine and work toward this threshold level of inflation for their respective economies—that is, the level of inflation above which it might be detrimental to the growth of the stock market. Lastly, the development of the stock market is fundamentally influenced by institutional considerations. Therefore, in order to support the development of the stock market, policymakers must concentrate on creating "high-quality institutions that lower political risk, strengthen law and order, and promote effective bureaucracy and democratic accountability". From this survey, more significant policy implications can be obtained. Therefore, the ones listed below shouldn't be considered all-inclusive. In summary, it is important to remember that while the theoretical studies lack detailed models of stock market evolution, the empirical research have included a wide range of variables in their models. It makes

sense that solving a theoretical model that includes a sizable number of the factors that influence the evolution of the stock market would be challenging. But such a model looks quite attractive, and it will help bring the material that already exists together.

Chen et al. (1986), is one the studies which has been conceded out mainly to demonstrate the influence of various macroeconomic variables on stock returns through their impact on future dividends and discount rates. Similarly, Mukherjee and Naka (1995), showed in their study that macroeconomic factors like, the currency rate, inflation, money supply, real economic activity, long-term government bond rate, call money rate, and stock prices all have a long-run co-integrating connection. Furthermore, according to Lesotho et al (2016), increasing economic activity has shown a considerable influence on stock market performance.

Subsequently, other studies have also explored the correlation amongst macroeconomic variables and the development of stock market. Therefore, in this context Ahmad et al. (2015), has examined the effect of macroeconomic variables on the development of the Nigerian stock market, "Unit root tests, lag selection criterion, F-bound test, and ARDL short- and long-run tests" were used in the study. The VECM-Granger causality test was used to investigate the link. The findings also revealed that the error-correcting phrases aid in the explanation of all variable changes. According to computed coefficients and t-statistics foreign direct investment, consumer price index, interest rate, and the price of oil all have a substantial positive impact on the development of stock market in the long run. While, the circulation of money has also shown a substantial negative impact on the economy.

Moreover, various professionals have accomplished several empirical studies predominantly to demonstrate the impact of macroeconomic variables on the development of stock markets. Depending on the macroeconomic factors assumed to influence the stock market returns and their development, though the opportunity and technique used in these studies, as well as the conclusions, portray different results. Therefore, agreeing with Aamir (2011), the factors that drive the stock market's growth are still a point of contention. Cross-sectional data and the panel data approach were utilized in certain studies, while time series data was employed in others. According, to Andersen and Tarp (2013), "Time series data is superior to cross-sectional data because it can distinguish between distinct causative trends in the countries studied". Hence, in this context some of the empirical researches on the issue are highlighted. Ahmed, (2008) used the "Toda Yamamoto Granger causality test and Johansson's cointegration approach" to evaluate the

bond among macroeconomic variables and stock prices using quarterly data from March 1995 to March 2007. He discovered a long-term link between stock prices and the money supply, the industrial production index, or foreign direct investment. Furthermore, the study found that stock price changes have influenced industrial production. From the first quarter of 1991 through the fourth quarter of 2005, Kyereboah Coleman and Agyire Tettey, (2008) explored the association amongst Ghana's macroeconomic indicators, economic growth, and stock market performance (1991: Q12005: Q4). The study's all-equity index covers stock market performance, while macroeconomic factors include inflation, real exchange rates, government bond rates, and interest rates.

The outcomes demonstrates that interest rates and inflation show a considerable negative effect on equity performance. On the other hand, Exchange rates, have a definite beneficial effect on the performance stock markets. This demonstrates that the market will get advantage from the devaluation of the Ghana cedi by gaining revenue from international sales. The Vector Error Correction Method (VECM) was use88d by Ezeoha and Ogamba (2009), to examine quarterly macroeconomic data from the first quarter of 1970 through the fourth quarter of 2006. They claimed that upsurge in the stock market of Nigeria has influenced the growth of domestic private investment flows for many years, whereas international private investment has a different impact. They also stated that the banking system's evolution had a variable effect on the flow of private investment. (Kalim et al. 2009) Using the autoregressive distribution lag (ARDL) method, we studied the influence of foreign direct investment on the development of the Karachi stock market. From 1971 to 2006, they actually employed five variables, market capitalization, foreign direct investment, inflation, GNP per capita, and gross domestic product. The findings imply that foreign direct investment, GNP per capita and domestic savings, have a significant long-term positive connection. Nurudeen, (2009) uses the Error Correction Model (ECM) to study the relationship amongst stock market performance and economic growth. We use time series data of market capitalization, gross domestic product and stock index, re-discount rate, market turnover rate, and economic opening from 1981 to 2007. This result demonstrate that there is a long-term bond among the performance of stock market and economic growth.

Likewise, Adaramola (2011), examined the influence of macroeconomic factors on stock prices in Nigeria using the general technique of ordinary least square. While, Quarterly data was used from 1985:Q1 through 2009:Q4. Then macroeconomic indicators considered were broad

money, interest rates, currency rates, inflation, oil price, and gross domestic product. In Nigeria, this studies showed that macroeconomic factors have a substantial impact on individual firm stock values. Consequently, inflation and the money supply have no effect on stock prices whereas all other variables have a significant impact. The approach utilized for this analysis is unique and not generally used in time series analysis, according to a critical evaluation of this paper. A false regression might emerge from a normal least squares regression if the data series is not stationary. Furthermore, no theory was employed to demonstrate the link between stock indexes/returns and macroeconomic variables. Other time series approaches, such as the autoregressive distribution lag (ARDL) model and the vector error correction model (VECM), are used in this study, which spans the years 1981 to 2013.

Hosseini et al. (2014) revealed that macroeconomic indicators of China and India's stock market indices: crude oil price (COP), money supply (M2), industrial production (IP), and inflation rate were calculated using monthly data from January 1999. (IR). They employed a vector autoregressive (VAR) model and demonstrated that only four selected macroeconomic factors and the stock market indices of China and India have a long-term and short-term association. A study on the macroeconomic factors influencing the growth of the stock market in South Asian nations was carried out by Khan (2017). Using panel data from seven developing economies between 1995 and 2014, the study sought to investigate the relationship between stock market development and other macroeconomic factors. The macroeconomic factors that were examined were savings (SVG), income level (IL), macroeconomic stability (MES), financial intermediary development (FID), and foreign direct investment (FDI).

A panel data approach was employed to analyze the bond between these macroeconomic variables and stock exchange development. The study found no evidence of econometric issues such as autocorrelation or deviations from normal distribution. Unit root tests were conducted separately for each variable, revealing that foreign direct investment, macroeconomic stability, income level, savings, and financial intermediary development were stationary at the level. Heteroscedasticity was found not to influence the estimation.

The fixed effects model's findings showed that a few key macroeconomic factors had a big impact on South Asia's stock market growth. Notably, the growth of financial intermediaries, macroeconomic stability, and foreign direct investment were found to be statistically significant factors influencing the development of the stock market in the area. On the other hand, the research

revealed that savings and income levels did not significantly influence the development of the stock market in South Asian nations. The study reveals a significant long-term correlation between macroeconomic stability, stock market growth, foreign direct investment, and savings and investment. However, the primary drivers of stock market development in South Asia are macroeconomic stability, foreign direct investment, and financial intermediaries. The close relationship between economic growth and stock market performance is evident, as the stock market plays a vital role in the financial system. The research finds a strong positive correlation between the growth of financial intermediaries, foreign direct investment, macroeconomic stability, and stock market development, highlighting the importance of these factors in fostering a robust and vibrant stock market in the region.

The study by Demir (2019) delved into the influence of key macroeconomic factors on the Turkish Stock Exchange Market, specifically the BIST-100 index. Given the pivotal role of stock markets in reflecting economic conditions, economists and policymakers closely monitor their fluctuations to anticipate future trends based on underlying factors.

The study looked at the period from 2003Q1 to 2017Q4, concentrating on how the BIST-100 index was affected by interest rates, real effective exchange rates, FDI inflows, portfolio investment inflows, crude oil prices, and market activity. The results of the ARDL Bounds Test showed that these factors and the stock market index had a cointegrated long-run relationship, which prompted the application of an error correction model to evaluate the factors' long-term effects. The long-run analysis's findings showed that rising market activity, FDI inflows, portfolio investment inflows, and real effective exchange rates all had an upward tendency on the stock market index. On the other hand, an index decline was linked to higher interest rates and crude oil prices, indicating that growing operating and investment expenses are exerting a substantial negative pressure on market value.

As Turkey remains a developing nation reliant on physical investment, the study underscored the importance of lower interest rates to sustain economic growth. Moreover, Turkey's status as an energy importer highlighted the adverse impact of increasing energy prices on the economy, as evidenced by the negative influence of crude oil prices on the stock market.

International capital inflows, particularly portfolio investment and FDI, were found to positively impact the stock market value, with portfolio investment exerting a slightly stronger

influence due to its liquidity. Market activity was also observed to have a positive correlation with the stock market, a trend consistent with existing literature across various economies.

Lastly, the real effective exchange rate emerged as a significant determinant, reflecting the "real" value of the domestic currency in the global arena. Given Turkey's sensitivity to exchange rate fluctuations, the study emphasized the importance of lower inflation and nominal exchange rates to bolster the stock market value, underscoring the need for exchange rate stability and lower inflationary pressures.

In order to pinpoint the main forces responsible for the market's expansion in recent years, Ho (2017) carried out an inquiry into the macroeconomic variables impacting the growth of the "South African stock market". Particularly in Africa, the South African stock market has become a major player on the international stage. In terms of market size, it was rated 25th globally in 2015 and had the biggest stock market value in Africa. Surprisingly, in terms of market capitalization ratio, it ranked second worldwide in 2015. The study used the ARDL bounds testing approach to examine the macroeconomic factors that influenced the South African stock market from 1975 to 2015, taking into account its significant growth. The results showed that the expansion of the banking industry and economic expansion had a major, favorable impact on the evolution of the stock market throughout time. Conversely, trade openness and the rate of inflation had a major detrimental effect. Although there was a negative correlation between the real interest rate and the development of the stock market, the correlation was not statistically significant.

The short-term regression analysis yields similar findings, indicating that economic growth has a positive impact on South African stock market development in the short run. However, inflation rate, real interest rate, and trade openness have a negative influence on stock market development in the short term. These empirical results suggest that policymakers in South Africa should prioritize policies that stimulate economic growth, banking sector development, and inflation stability to foster long-term stock market development. By implementing such policies, they can create a conducive environment for the stock market to thrive, ultimately contributing to the country's economic growth and development.

However, caution is warranted in interpreting the negative correlation between trade openness and stock market development. The measure of trade openness used in this study, well-defined as the ratio of exports and imports of goods and services to GDP, may be influenced by factors such as the quality of domestic goods and services. Improving the quality of domestic

products could potentially reduce imports. Therefore, the findings regarding trade openness should not be misconstrued as advocating for protectionist policies that restrict international trade. Such policies could hinder economic growth, thereby impeding stock market development.

Ali (2015) emphasized the pivotal role of stock markets in Pakistan, as they serve as conduits for directing idle funds into productive investments, thus bolstering economic growth. Pakistan's stock market stands as one of the emerging markets globally. Utilizing the ARDL co-integration approach, the study revealed that "gross domestic savings and money supply" exert a positive influence on stock market development in Pakistan, both in the short and long terms, aligning with theoretical frameworks and existing literature (Raza et al., 2012; Adam and Tweneboah, 2009).

Although foreign remittances did not exhibit any noteworthy impact on stock market development in the long run, they showed an insignificant short-term effect. The F-statistic exceeded the upper bound in both models, confirming a co-integration relationship between the dependent and independent variables. Additionally, the model's stability was verified by the CUSUM line, which remained within the upper and lower critical bounds at a 5% significance level, indicating that the model's parameters remained stable over time. These findings suggest that foreign remittances do not play a significant role in shaping stock market development in the long run, but may have some short-term effects. The robustness of the model provides confidence in the reliability of these results.

The study suggested that macroeconomic indicators like inflation and money supply could serve as valuable tools for rational investors to forecast stock market prices. Monetary authorities are urged to utilize their policy tools while considering their impact on stock market development and price variability. Additionally, the study underscored the importance of encouraging savings behavior through appropriate government savings schemes, as higher savings rates lead to increased capital stock and, consequently, greater economic growth.

Kabeer (2017), delved into the influence of macroeconomic factors on stock markets performance in top SAARC Countries and China. In the first set, exchange rates exhibited significant positive impact on the Dhaka Stock Exchange in Bangladesh and the Colombo Stock Exchange in Sri Lanka, while in Pakistan, they had a significant negative impact on the Karachi Stock Exchange returns. This divergence is attributed to stable exchange rates in Bangladesh since 2011, a deliberate depreciation of the currency in Sri Lanka to attract investors, and an artificial decline in the US dollar by the newly elected government in Pakistan. Foreign Direct Investment

(FDI) had a significant negative impact on the Dhaka Stock Exchange returns in Bangladesh, an insignificant positive influence on the Karachi Stock Exchange returns in Pakistan, and a significant negative influence on the Colombo Stock Exchange returns in Sri Lanka. This discrepancy is attributed to favorable conditions for foreign investors provided by a strong political government in Pakistan, political instability affecting usability in Pakistan, and a decline in foreign investment due to weak government policies in Sri Lanka. Inflation had a significant positive impact on the Dhaka Stock Exchange returns in Bangladesh, while it had a significant negative impact on the Karachi Stock Exchange returns in Pakistan and the Colombo Stock Exchange returns in Sri Lanka. This discrepancy is attributed to the decline in international commodity prices such as crude oil and gold, which benefited importing countries like Bangladesh, Pakistan, and Sri Lanka, although the governments of Pakistan and Sri Lanka did not pass on these benefits to the general public due to efforts to reduce/control their financial budget deficit.

Overall, in the first group, similar economic conditions existed with similar nature of capitalism emerging economies, resulting in a higher R^2 value explained by the stock markets of Bangladesh, Pakistan, and Sri Lanka. Dhaka, Karachi, and Colombo stock exchanges were also influenced by the Shanghai Stock Exchange in China.

In the second group, exchange rates had a significant negative impact on the Bombay Stock Exchange returns in India and the Shanghai Stock Exchange returns in China. This is attributed to the stable US dollar in India due to strict government policies and a constant exchange rate in China due to high exports compared to imports. Foreign Direct Investment had an insignificant positive influence on the Bombay Stock Exchange returns in India and the Shanghai Stock Exchange returns in China, attributed to favorable conditions for foreign investors and stable economic policies. Inflation had a significant negative impact on the Bombay Stock Exchange returns in India and the Shanghai Stock Exchange returns in China, attributed to a reduction in international trade commodity prices due to declining US dollar rates.

Due to the nature of huge economies and comparable economic situations, the second group's prediction model had a higher statistical probability fitness. China is the world's largest trading partner for India, while India is ranked as tenth largest commercial partner of china. Global markets were greatly impacted by the New York Stock Exchange (NYSE) in the United States, especially the returns of the Bombay Stock Exchange in India and the Shanghai Stock Exchange in China.

Yartey (2010) conducted an empirical study on the drivers of stock market development in 42 emerging market countries between 1990 and 2004. The study used panel data and revealed three key findings. Firstly, the research identified the key factors driving stock market development in emerging economies, which included income level, domestic investment, banking sector development, private capital flows, and stock market liquidity. These factors were found to play a central role in shaping the development of stock markets in these countries. Second, it was discovered that there was a non-monotonic link between the growth of the banking industry and the stock market in these nations. When it came to funding investments, the banking industry first supported the stock market. However, as both industries became older, they started to fight with one another for capital. Third, the growth of the stock market in emerging nations was greatly impacted by institutional characteristics such as "bureaucratic quality, law and order, democratic accountability, and political risk".

Significant policy ramifications result from these findings for nations in emerging markets. First, measures that support both economic growth and financial system liberalization are necessary to enhance the development of the stock market. Second, building a strong banking industry is crucial, especially in the early phases of the stock market's development when the stock market enhances rather than replaces banking services. Thirdly, policies that promote domestic investment have the potential to greatly accelerate the growth of emerging economies' stock markets. Fourth, increasing stock market liquidity has a beneficial effect on stock market development, indicating that raising liquidity can successfully spur market expansion. Ultimately, the success of the stock market depends on the existence of reputable institutions since they reduce political risk, which is an important factor for investors. Thus, encouraging the establishment of institutions like effective bureaucracy, democratic accountability, and law and order is crucial for the growth of the stock market in emerging nations.

Khan (2015) examined how macroeconomic factors at the local, regional, and international levels affected stock returns in "Bangladesh, India, Pakistan, and Sri Lanka". The study determined the main economic factors influencing stock returns in various markets using PCA and regression analysis. Six local, six regional, and five worldwide economic variables were examined in the investigation. According to PCA results "real interest rates, real exchange rates, and economic activity" were relevant local factors. Treasury Bills (TB) were found to be particularly significant for Pakistan. World-wide variables were represented by worldwide financial assets and global

economic activity, whilst regional elements included commerce with neighboring regions and regional economic activity. Regression research showed that trade information, real interest rates, and real exchange rates all influenced South Asian stock market returns, whereas there was no increase in economic activity. Interregional commerce only had an indirect impact on stock returns in Bangladesh; stock returns in Pakistan and Sri Lanka were directly impacted by regional economic activity. On the other hand, stock returns in India were not explained by regional or local economic considerations. Rather, Indian market returns were impacted by prior stock returns in other South Asian nations as well as worldwide economic activity, a pattern not seen in the other three.

Overall, South Asian stock markets showed little integration with the world financial system, with the exception of India. As such, foreign investors that include stocks from this region in their global investing portfolio may reap the benefits of diversification. The results indicate that although investors in the Indian stock market should concentrate on global economic news and Pakistani stock returns, those in the Bangladeshi, Pakistani, and Sri Lankan stock markets should think about combining local and regional economic news into their investing selections.

A research by Nkwede (2017) examined the macroeconomic factors influencing bond market development in Nigeria, yielding insightful findings. The study revealed that exchange rate, interest rate, inflation rate, and banking sector development had a significant and negative impact on the capitalization of the Nigerian bond market. These results provide robust evidence supporting the notion that these macroeconomic determinants play a crucial role in shaping bond market development in Nigeria. The findings suggest that fluctuations in these macroeconomic variables can substantially influence the growth and stability of the bond market, underscoring the importance of considering these factors in policy and investment decisions.

Similarly, Githinji (2013) conducted a study on the impact of macroeconomic variables on bond market development in Kenya, yielding insightful findings. The research identified three key macroeconomic variables - exchange rate, interest rate, and gross domestic product (GDP) per capita - as having a positive and significant impact on bond market development. These variables were found to have a stimulatory effect on the bond market, promoting its growth and development. The study's results highlight the importance of these macroeconomic factors in fostering a vibrant bond market in Kenya, providing valuable insights for policymakers and market participants seeking to promote bond market development. This study aimed to explore the driving

forces behind bond market development in Nigeria from a macroeconomic perspective. It explored the effect and contributions of key macroeconomic variables on the Nigerian bond market. The empirical findings indicate that" exchange rate, interest rate, inflation rate, and banking sector development" exert a negative and significant influence on the capitalization of the Nigerian bond market. These factors emerge as strong determinants of bond market development in Nigeria. Additionally, savings, while positively related, also play a significant role in driving bond market development in the country. However, fiscal balance, bond yield, and foreign direct investment were not identified as strong determinants in this context. In conclusion, the study underscores the importance of interest rate, exchange rate, inflation rate, banking sector development, and savings as crucial macroeconomic drivers of bond market development in Nigeria. These findings have important policy implications, highlighting the role of macroeconomic factors as catalysts for the advancement of the Nigerian bond market

This study set out to identify and evaluate the main empirical factors that have shaped the development of bond markets in 22 emerging economies. By using the Prais-Winston estimating technique to reduce serial, contemporaneous, and panel heteroscedasticity, the results show that bond markets are largely influenced by a combination of institutional, structural, financial, and macroeconomic factors. More specifically, there is a positive correlation between larger bond markets and greater "economic growth, trade openness, improved investment profiles, higher bureaucratic quality, a larger and more concentrated banking sector, and higher foreign exchange volatility".

On the other hand, there are negative correlations between the development of the bond market and increased interest rate volatility and better fiscal balance. The results remain robust when examining the development of sovereign and corporate bond markets in relation to the same set of determinants. Notably, even after addressing the endogeneity of the explanatory variables, interest rate volatility continues to exhibit a negative and significant relationship with bond market development. However, the associations between exchange rate volatility and fiscal balance and bond market capitalization become insignificant, suggesting that these factors may not have a direct impact on bond market development once the endogeneity of the variables is accounted for. These findings provide valuable insights into the complex relationships between macroeconomic factors and bond market development, highlighting the importance of considering these factors in policy and investment decisions.

In the case of developed countries within the sample, the analysis reveals that bond market development is largely driven by macroeconomic fundamentals and economic size, with other developmental, institutional, financial, and structural variables having a negligible statistical and economic impact. This suggests that in mature economies, the development of bond markets is primarily influenced by core economic factors, such as GDP, inflation, and interest rates, rather than institutional or structural factors. This finding highlights the importance of sound macroeconomic management in fostering robust bond markets in developed countries. These findings have significant policy implications for countries seeking to develop their bond markets. To attract investors and foster a robust debt securities market, governments should prioritize economic development, macroeconomic stability, and prudent monetary policies to minimize interest rate and exchange rate volatilities. Additionally, enhancing governance institutions, reducing investment risk, and streamlining bureaucratic processes are crucial for creating a conducive environment for bond market growth. Furthermore, promoting the expansion and deepening of the banking system is essential for cultivating a liquid and vibrant bond market, which can effectively mobilize resources and support economic development (Smaoui, 2017). By implementing these measures, countries can create a favorable ecosystem for bond market development, promoting economic growth and financial stability.

The growth of the Asian bond market is crucial for funding the corporate sector and significant infrastructure demand of the region, especially in light of the 1997 Asian crisis, the ongoing global financial and economic crisis, and the ongoing European debt crisis. Despite the notable expansion of the Asian bond market in recent times, the amount of the bond market financing, especially for corporate bonds, remains relatively small. Determining the factors that influence the growth of the bond market is therefore crucial. Simple OLS, multivariate OLS, Fixed Effects, Random Effects, and GLS models were used in the analysis. In summary, the following factors significantly influence bond financing: (1) The size of the economy for government and corporate bonds; (2)

The degree of economic development for all bonds—government and corporate—the openness of the economy for all bonds—the size of the banking system for all bonds—and the interest rate variability for all bonds—all four factors are relevant. Strong bond markets can balance Asia's heavy reliance on the banking industry and offer other funding options while also enhancing the region's financial stability. Better coordination between the bond markets and bank

financing will come from a more targeted, hierarchical strategy. Asia must also make use of its enormous savings and global reserve to support the region's significant needs for profitable investment, particularly in infrastructure through the growth of bond markets. Plans for regional cooperation like the ABMI and ABF are crucial tools for supporting the growth of regional bond markets. Enhancing, broadening, and intensifying these endeavors is imperative, as is incorporating additional developing Asian economies like India and other significant economies in South and Central Asia. Multilateral development banks (MDBs), like the Asian Development Bank (ADB), are crucial to the growth of Asia's bond markets in this sense. Expanding the issuer base and creating a liquid corporate bond market are two new initiatives that might be beneficial. Asian economies must take a number of steps to further integrate and develop bond markets, such as: (i) harmonizing and enhancing financial regulation and credit and trading standards; Among other things, (ii) an investor-friendly legal and regulatory environment; (iii) the creation of novel financial instruments and the facilitation of greater access to both domestic and foreign investors; (iv) a regional guarantee mechanism; (v) a harmonized regional clearing and settlement system; and (vi) improved local and regional credit rating systems. Asia must raise a significant amount of money to finance the massive infrastructure projects required to improve connectivity both within and between its economies. Between 2010 and 2020, it is projected that Asia's infrastructure will require funding totaling over US$ 750 billion for water, sanitation, energy, transportation, and telecommunications (Bhattacharyay, 2010).

The majority of infrastructure projects are long-term in nature. Given this enormous demand, one potential means of filling financial shortages is to take advantage of Asia's substantial international reserves and savings to direct them toward infrastructure spending. Approximately US$ 3,390 billion was saved annually by the 11 major Asian economies in 2009, while US$ 4,686 billion was held in foreign exchange reserves. These savings are currently mostly invested at low returns in developed economy markets. This enormous financial resource might offer a practical answer to the issue of the financial divide.

Through bond markets, local and regional capital can be directed toward long-term infrastructure projects and other profitable investments. Mobilizing the necessary capital for improving Asian connectivity can be greatly aided by strengthening, integrating, and developing local bond markets, especially those that trade in local currencies. The justification for this investment is that it will not only boost home economies but additionally strengthen regional

integration and connectivity, which will raise demand locally and promote intraregional commerce, rebalancing Asia's growth away from a heavy reliance on exports to developed nations like the US and Europe. The following are some strategies (Fabella & Madhur, 2003) for the development of strong domestic bond markets: (1) Maintaining a stable macroeconomic environment with low inflation and stable interest rates; (2) Growing a robust government bond market that would serve as a benchmark for the corporate bond market; (3) Completing the post-crisis agenda of restructuring the banking sector; (4) Improving corporate governance; (5) Strengthening the regulatory framework for bond market; (6) Rationalizing tax treatment of bonds; (7) Broadening the investor base; and (8) Encouraging the development of regional bond market centers.

Furthermore, Asia needs to support bond issuers and investors from both inside and outside the region in order to further develop and integrate the bond market. To achieve this, an investor-friendly legal and regulatory environment, a regional guarantee system, unified credit and trading standards, a regional clearing and settlement system, and improved local and regional credit rating systems are needed. The development of the aforementioned bond market infrastructure has been greatly aided by the expertise and financial resources of the Asian Development Bank (ADB) and other multilateral development institutions, including the World Bank and International Finance Corporations. In the upcoming years, they must take a more active part in bolstering the Asian bond markets (Bhattacharyay, 2013).

3.4. Theoretical framework

Theoretical framework forms the foundation of this research, providing a structured approach to understanding the complex relationships between economic factors and capital market development. This framework draws on established theories and models from finance, economics, and social sciences, integrating them into a cohesive structure that guides the analysis and interpretation of data.

Theoretical framework actually, outlines the key concepts and theories that are relevant to the study. However, it also exhibits how the studies from relevant literature have defined these key concepts and presented the previous findings of those studies. Therefore, theoretical framework of this study will signify the outline of capital market development.

Basically, various theoretical frameworks have been used by different researchers to investigate the relationship between macroeconomic variables and the components of capital markets i.e. stock market and bond market. Whereas, the current study will adopt arbitrage pricing theory (APT) to highlight the relationship between the economic factors and capital markets. Arbitrage Pricing Theory (APT) by Ross's (1976) is actually the most widely recognized and considered as global asset pricing models among the other models. This theory posits that asset returns can be explained by their relationship with several common risk factors. Asset returns are influenced by numerous macroeconomic variables that have a direct or indirect impact on their performance. Therefore, this study is grounded in the theoretical framework of arbitrage pricing theory, which asserts that asset returns are influenced by multiple risk factors. In this context, various empirical studies (Khan, 2017; Jamaludin et al., 2017; Molefhi, 2021), based on arbitrage pricing theory, collectively acknowledge a significant relationship between macroeconomic variables and the capital market. Therefore, this study aims to explore the relationship between economic factors and the development of both Islamic and conventional capital markets in the relevant countries.

3.5. Conceptual framework

Conceptual framework illustrates the association amongst the dependent variable and the independent variables. We are basically, investigating the impact of economic factors on Islamic and conventional capital market development in some selected Asian countries. Therefore, to ascertain this influence, we will find out it on both markets. Whereas, assessment of the development structures of both the markets through the same and common economic factors will assist us to comprehend the foundations of capital markets in the selected Asian countries. And subsequently, will help in comparative analysis on the development of both Islamic and conventional capital. Therefore, the following Figures. Portrays the conceptual framework of the study.

Figure 3.3: Conceptual framework, impact of economic factors on dependent variable in case of Islamic stock market.

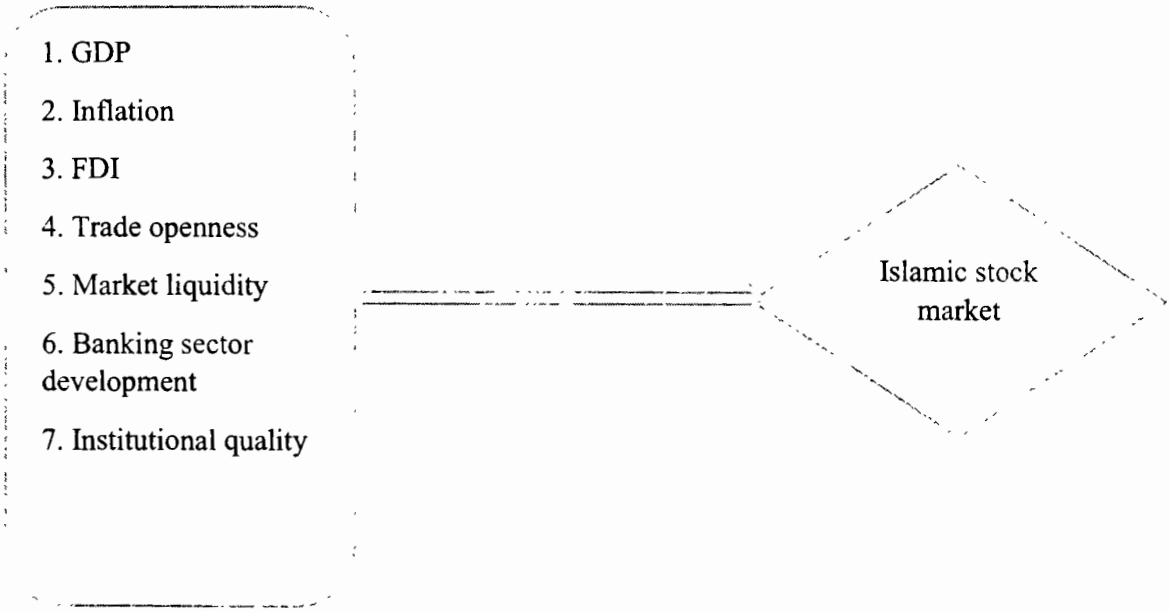


Figure 3.4: Conceptual framework, impact of economic factors on dependent variable in case of Sukuk market.

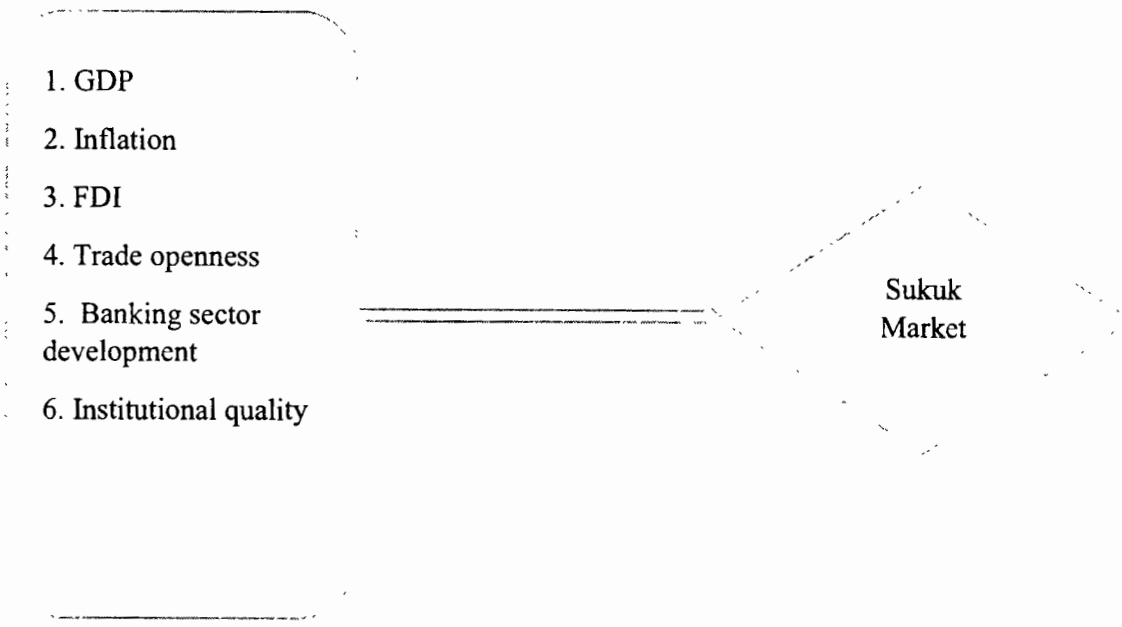


Figure 3.5: Conceptual framework, impact of economic factors on dependent variable in case of conventional stock market.

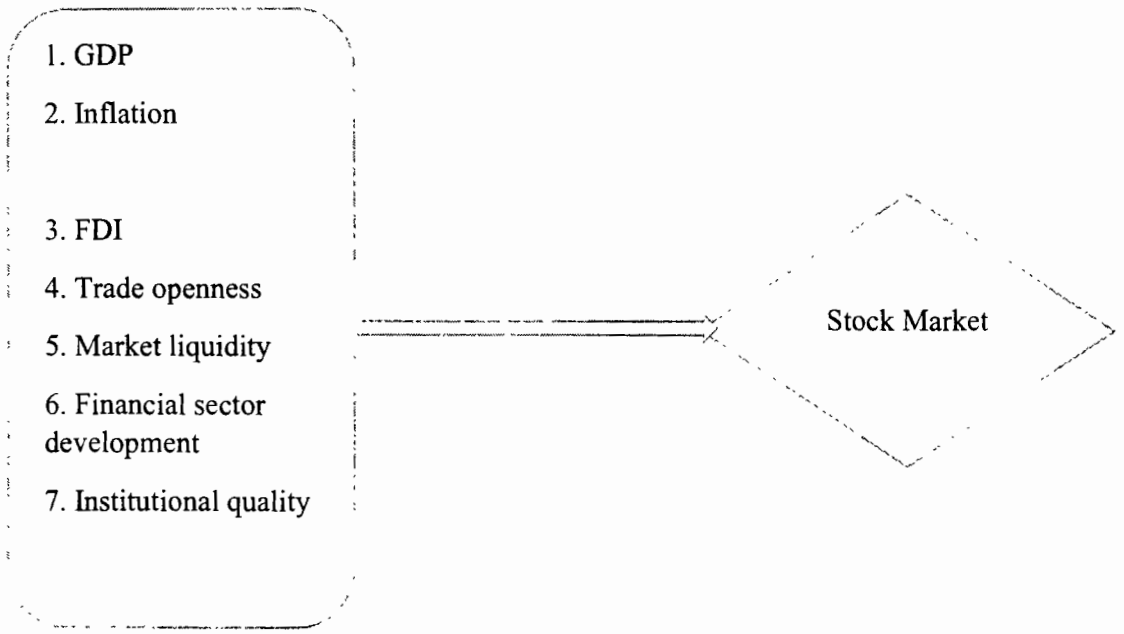
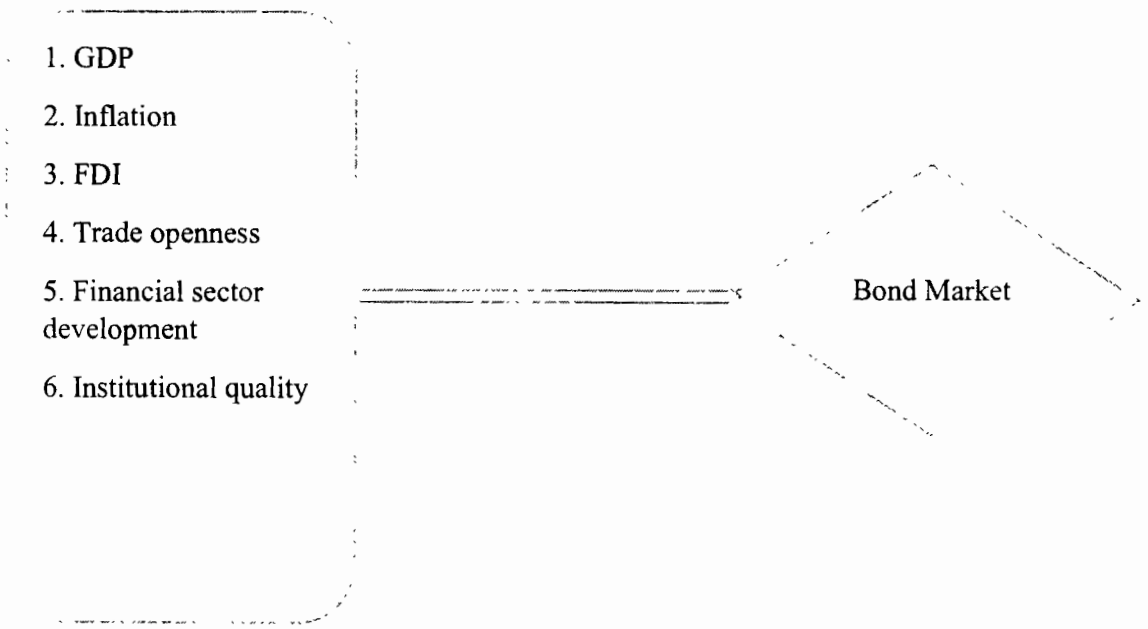


Figure3.6: Conceptual framework, impact of economic factors on dependent variable in case of bond market.



CHAPTER 4: METHODOLOGY

This chapter presents the research design, research approach, data types and sources, population, sampling technique and sample size determination, data collection procedures, reliability and data analysis techniques.

4.1 Research Design

Research design refers to the overall plan or structure that guides a research study. It outlines the framework for collecting, analyzing, and interpreting data. A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. It is basically a conceptual structure within which the proposed research is conducted and constitutes the blue print for the collection; measurement and analysis of data. As such the design includes an outline of what the researcher will do from writing the hypothesis and its operational implications to the final analysis of data (Kothari, 2004). It primarily helps the researcher to obtain relevant data and to accordingly fulfill the predefined objectives of the study. Hence, Research design is a crucial aspect of any research study as it outlines the overall structure, plan, and strategy employed to answer research questions or test hypotheses. There are several types of research designs, each with its unique characteristics and suitability for different types of research questions like; exploratory research, descriptive research and explanatory research (Bhattacherjee, 2012).

Therefore, in this context this research work was accomplished by using explanatory research design (to determine cause-and-effect relationships between variables) and also different inferential statistics tools were used to explain the relationship between the determinant factors, and their effect on the development of capital markets.

4.2 Research Approach

Research approaches are basically, plans and procedures for research that encompass the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation (John, 2014). Research approach refers to the strategy or plan that a researcher follows to conduct a study or investigate a particular problem or question. It outlines the systematic and logical sequence of steps that will be taken to gather, analyze, and interpret data. The choice of a research approach

depends on the nature of the research question, the goals of the study, and the type of data that needs to be collected.

Therefore, research approach guides the researcher in selecting the research design, data collection methods, and data analysis techniques. It is essential for ensuring the study's validity, reliability, and relevance to the research question or problem at hand. Researchers often carefully consider the pros and cons of different approaches before deciding on the most suitable one for their study. Hence, quantitative approach is deemed the most appropriate approach if the aim is to describe the degree of relationship between the variables. So quantitative approach helps researchers to test the relationships between variables (Creswell, 2012).

4.3 Data and Source

4.3.1. Methods of data collection

The task of acquiring data is started after the research problem has been defined and the study strategy and plan have been developed. When selecting the data collection technique for the study, the researcher should take into account two types of information: primary and secondary data. Primary data is the data that have just been collected and are special since they have never been obtained before. On the other hand, secondary data are those that have already been collected and processed statistically by another entity. The researcher would need to choose one or more data collection methods based on the type of data he would be using (and hence gathering) for his study. Primary data must be first gathered, whereas secondary data only requires compilation as part of the data collection process. As a result, the methods for gathering primary and secondary data are different. Therefore, keeping in view the nature of this study, we have employed secondary method of data collection to accomplish this study. Although, it is considered very risky to use the already available data. But with its pre-condition, it should be used only when finds reliable, suitable and adequate (Kothari, 2004).

4.3.2. Sources of data

The study is basically quantitative in nature, and will be based on secondary data, using panel data from ten Asian countries (Malaysia, Indonesia, UAE, Qatar, Bahrain, Bangladesh, Pakistan, Saudi Arabia, Turkey and Kuwait) for the period of 15 years from 2008- 2022. Therefore, with a vision

to achieve the pre-determined objectives of the study, economic factors i.e. macroeconomic variables, banking sector development and institutional quality will be employed in the present study to find out their influence on the development of Islamic and conventional capital markets in the selected countries. Moreover, the countries selected for study were chosen mainly on the basis of availability of their data. Hence, the data of both components of Islamic as well as conventional capital markets i.e. Islamic/conventional stock markets as well as Sukuk/bond markets, is obtained from various sources like; World Development Indicators, IMF, ICRG, Islamic Financial Services Board, Bloomberg and international Financial Statistics etc.

4.4 Empirical model

Empirical model, actually illustrate the impact of independent variables on the dependent variable. Therefore, to examine the factors that may impact the development of Islamic and conventional capital markets in the selected Asian countries. We will employ penal autoregressive distributed lag (ARDL) to bound cointegration technique to achieve the objectives. This technique will be employed because the variables used in the study contain different orders of integration, as indicated by the nature of variables. So, this technique is deemed suitable for different orders of integrations i.e. I (0) and I (1) or combination of both and has certain advantages comparatively to other single equation estimation techniques. Furthermore, the Autoregressive Distributed Lag (ARDL) model estimates both long-run and short-run coefficients simultaneously, thereby addressing issues related to omitted variables and autocorrelation (Kumar, 2012). Building on the empirical literature, the model specification is formulated as follows:

$$\Delta \mathrm{ISM}_{it} = \alpha + \sum_{i=0}^{n} \beta_1 \Delta ISM_{it-1} + \sum_{i=0}^{n} \beta_2 \Delta GDP_{it-1} + \sum_{i=0}^{n} \beta_3 \Delta INF_{it-1} + \sum_{i=0}^{n} \beta_4 \Delta FDI_{it-1}$$

$$+ \sum_{i=0}^{n} \beta_5 \Delta TOP_{it-1} + \sum_{i=0}^{n} \beta_6 \Delta \mathrm{ML}_{it-1} + \sum_{i=0}^{n} \beta_7 \Delta \mathrm{BSD}_{it-1} + \sum_{i=0}^{n} \beta_8 \Delta \mathrm{IQ}_{it-1}$$

$$+ \beta_1 ISM_{it-1} + \beta_2 GDP_{it-1} + \beta_3 INF_{it-1} + \beta_4 FDI_{it-1} + \beta_5 TOP_{it-1} + \beta_6 \mathrm{ML}_{it-1} + \beta_7 \mathrm{BSD}_{it-1}$$

$$+ \beta_8 \mathrm{IQ}_{it-1} + \varepsilon_{it} \quad \text{(3.1)}$$

$$\Delta SMC_{it} = \alpha + \sum_{i=0}^{n} \beta_1 \Delta SMC_{it-1} + \sum_{i=0}^{n} \beta_2 \Delta GDP_{it-1} + \sum_{i=0}^{n} \beta_3 \Delta INF_{it-1} + \sum_{i=0}^{n} \beta_4 \Delta FDI_{it-1}$$

$$+ \sum_{i=0}^{n} \beta_5 \Delta TOP_{it-1} + \sum_{i=0}^{n} \beta_{96} \Delta BSD_{it-1} + \sum_{i=0}^{n} \beta_7 \Delta IQ_{it-1}$$

$$+ \beta_1 SMC_{it-1} + \beta_2 GDP_{it-1} + \beta_3 INF_{it-1} + \beta_4 FDI_{it-1} + \beta_5 TOP_{it-1} + \beta_6 BSD_{it-1}$$

$$+ \beta_7 IQ_{it-1} + \varepsilon_{it} \quad \ldots\ldots (3.2)$$

$$\Delta SM_{it} = \alpha + \sum_{i=0}^{n} \beta_1 \Delta ISM_{it-1} + \sum_{i=0}^{n} \beta_2 \Delta GDP_{it-1} + \sum_{i=0}^{n} \beta_3 \Delta INF_{it-1} + \sum_{i=0}^{n} \beta_4 \Delta FDI_{it-1}$$

$$+ \sum_{i=0}^{n} \beta_5 \Delta TOP_{it-1} + \sum_{i=0}^{n} \beta_6 \Delta ML_{it-1} + \sum_{i=0}^{n} \beta_7 \Delta BSD_{it-1} + \sum_{i=0}^{n} \beta_8 \Delta IQ_{it-1}$$

$$+ \beta_1 ISM_{it-1} + \beta_2 GDP_{it-1} + \beta_3 INF_{it-1} + \beta_4 FDI_{it-1} + \beta_5 TOP_{it-1} + \beta_6 ML_{it-1} + \beta_7 BSD_{it-1}$$

$$+ \beta_8 IQ_{it-1} + \varepsilon_{it} \quad \ldots\ldots (3.3)$$

$$\Delta BMC_{it} = \alpha + \sum_{i=0}^{n} \beta_1 \Delta SMC_{it-1} + \sum_{i=0}^{n} \beta_2 \Delta GDP_{it-1} + \sum_{i=0}^{n} \beta_3 \Delta INF_{it-1} + \sum_{i=0}^{n} \beta_4 \Delta FDI_{it-1}$$

$$+ \sum_{i=0}^{n} \beta_5 \Delta TOP_{it-1} + \sum_{i=0}^{n} \beta_{96} \Delta BSD_{it-1} + \sum_{i=0}^{n} \beta_7 \Delta IQ_{it-1}$$

$$+ \beta_1 SMC_{it-1} + \beta_2 GDP_{it-1} + \beta_3 INF_{it-1} + \beta_4 FDI_{it-1} + \beta_5 TOP_{it-1} + \beta_6 BSD_{it-1}$$

$$+ \beta_7 IQ_{it-1} + \varepsilon_{it} \quad \ldots\ldots (3.4)$$

Where, Equation (1) represents Islamic market capitalisation (IMC) as the dependent variable, is the Share price multiplied by number of shares outstanding as a % of GDP, in equation (2) dependent variable is represented by Sukuk market capitalization (SMC), is the ratio of the amount outstanding of domestic debt securities to GDP, equation (3) shows conventional stock market capitalization (SM) as third dependent variable measured by Share price multiplied by number of shares outstanding as a % of GDP and in equation (4), we have bond market capitalization as dependent variable measured by Ratio of the amount outstanding of debt securities to GDP. And consequently, the independent variables as; GDP is real gross domestic product, INF is the measure of inflation rate, FDI is the foreign direct investment, TOP is trade openness, ML is market liquidity, BSD is banking sector development representing a scale of variables and IQ is institutional quality index. And finally ε_{it} is an error term assumed to be distributed with zero mean and constant variance, and Greek letters are parameters to be estimated.

4.5. Description of variables

Description of variables, typically refers to providing concise and informative explanations of the variables used in the study. This description is essential to understand the key components and factors of the study under investigation. It is also considered as the fundamental aspect of any research or analysis, which involves providing information on the nature, measurement, and units of the variables under consideration. Therefore, when describing variables, clarity and accuracy are vital to ensure that we can grasp the key components of the study and the relationships being examined. In this study, we are examining the impact of economic factors on the development of Islamic and conventional capital markets. The analysis involves several key variables, each one is carefully selected to capture impact dependent variables. The variables are described as follows:

4.5.1 Dependent variables

A dependent variable is a variable in a scientific study that is expected to be affected or influenced by changes in the independent variable. It is actually, the outcome or response that is measured and observed to determine the impact of the independent variables. This study typically represents four dependent variables i.e. Islamic stock market, Sukuk market, stock market and bond market. These variables represent, respective market capitalizations as their proxies through which they are measured.

4.5.1.1 Islamic stock market development

The Islamic stock market, which will be determined in this study by market capitalization expressed as a share of GDP, is the vital component of the Islamic capital market. This will be our first dependent variable, and the measuring proxy will be market capitalization. We will also take into account a number of pertinent economic aspects that could affect this variable.

4.5.1.2 Sukuk market development

The second and the most prominent component of our research is the Sukuk market, a vital segment of the Islamic capital market. To assess the development and growth of the Sukuk

markets. We will employ market capitalization of sukuk as a share of GDP as our measurement proxy. This implies that Sukuk market capitalization will serve as our second dependent variable.

4.5.1.3 Stock market development

From conventional side, our first dependent variable is stock market development measured with stock market capitalization as a share of GDP.

4.5.1.4 Bond market development

Similarly, bond market development is measured by bond market capitalization as a share of GDP. Therefore, both the components of conventional capital markets will be measured by their respective proxies.

4.5.2 Independent variables

In a scientific study, an independent variable is one that the researcher manipulates or controls to see how it affects the dependent variable. The independent variable is actually, the factor that researchers purposely change or vary to examine its impact on the dependent variable. Whereas, the purpose of manipulating the independent variable is to test hypotheses and determine whether changes in it, lead to changes in the dependent variable or not. We have selected, number of independent variables, which are typically chosen to demonstrate their impact on the dependent variables. Moreover, they are also measured through their respective proxies to represent their influence on the concerned variables.

4.5.2.1 Macroeconomic variables

Macroeconomic variables are key indicators that capture the overall performance and health of an economy. These variables provide insights into the economy's overall size, growth, stability, and prosperity, influencing businesses, investments, and policymaking decisions. They encompass a wide range of economic phenomena, such as gross domestic product (GDP), inflation, FDI and trade openness etc.

Gross domestic product

Gross domestic product is actually the total amount of goods and services produced in a country during a specified year. Therefore, if an economy is showing higher scores of GDP, it means that the country is economically stable and vice versa. So stable GDP is considered as the assurance for economic development of any nation. However, the existing literature reveals a positive and noteworthy association among stock prices and real GDP (Molefhi, 2021, Tsaurai, 2018, Maysami and Koh, 2000). Which implies, if GDP of any nation improves, it proportionally impacts a positive sign on all fields of economic activity. According to Mukherjee and Naka, (1995) and Ibrahim and Aziz, (2003), growth in real GDP will lead to affect the price of the stocks through the impact to corporate profit. This actually occurs due to increase in real GDP, and hence the expected future cash flow in company will increase and the price of the stock will also increase subsequently. Hence, indicates a positive affiliation among GDP and stock market development. Whereas, in case of bond market development, "GDP is deemed as a noteworthy macroeconomic indicator that has shown a substantial impact in prompting bond market development from years, with the bulk of professionals finding a significant link between economic development and bond market development. Whereas, the majority of the outcomes are noteworthy and good (Molefhi, 2021, Bhattacharyay, 2013; Cherif and Gazdar, 2010). Moreover, GDP per capita as purchasing power parity measures the economy's development stage". Higher-developed economies have healthier foundations and less volatile economic situations, which consequently encourages the development of solid financial markets; and as a result, exhibits a positive correlation between the two.

Similarly, Said and Grassa (2013), indicated that "GDP per capita has a strong impact on Sukuk and a positive correlation with SMD in ten countries from various geographies. Whereas, (Smaoui and Khawaja, 2016), on the other hand, demonstrated that there is no substantial bond between GDP per capita and SMD". Therefore, as per their point of view, some empirical research is required in the concerned subject to secure reliable results. However, they were of the view as the economy progresses, the development of the Sukuk market would improve.

Rationale: Assesses overall economic performance, influencing capital market growth and investor sentiment.

H1: GDP has a positive impact on the dependent variables.

Inflation

Inflation basically refers to a steady rise in the prices of goods and services in a given economy over time. Economic stability is indispensable for the development of any country and hence for capital markets as well. So the frequently used measure of economic stability is inflation rate measured by consumer price index (Molefhi, 2021). However, the relevant literature demonstrates that inflation and stock markets have controversial relationship. Though, some studies claim that inflation have positive bond with stock markets (Al-Jafari et al. 2011). But on contrary, there are also studies which exhibits negative association among inflation and stock prices. However, in case of Islamic stock markets, there is a positive association amongst the stock market and inflation (Hussin et al. 2012). Whereas, being a significant macroeconomic determinant, it has the potential to have a substantial impact on the entire price level of goods and services in a specific economy (Molefhi, 2021).

Therefore, raises interest rates, depreciating the value of fixed-rate instruments etc. As a result, the prices of fixed interest rate securities will fall. This is particularly true if the price of a fixed interest rate instruments continues to fall, because the set interest rate may not be sufficient to keep up with inflation. "Intriguingly, Shariah-compliant products may be subject to inflation, though not to the same extent as ordinary bonds, because inflation raises the market price of the underlying assets, the market price of the underlying assets rises in a positive way". As a result, (Said and Grassa, 2013) established a theory that inflation has no discernible impact on the development of the Sukuk market. They showed that there is no harmony among scholars on a single inflation measurement that has influenced the formation of SMDs.

Rationale: High inflation erodes investor confidence, affecting capital market stability.

H1: inflation has a positive impact on the dependent variables.

Foreign direct investment

A country or a private business enterprise from one nation establishes a commercial entity in another nation by founding a new corporation, acquiring the prevailing company, or joining a joint project in the host country. As a result, FDI is one of the most important factors that permit the flow of cash, technology, and other assets, all of which subsidize considerably to the growth of the host economy. As a result, foreign direct investment (FDI) plays an imperative role in emerging countries. Strong investment success in the host country indicates strong earnings-to-capital, which

will attract additional foreign investment. As a result, foreign direct investment has the potential to boost local company growth by complementing manufacturing and efficiency. Foreign direct investment was measured using private capital flows as a percentage of GDP (Yartey, 2008).

FDI inflows enhance stock market competition and thereby making them more efficient. There are high chances that multinational firms that bring FDI inflow end up listing their shares on the stock exchange of the host country. FDI can increase the liquidity of the stock markets if a portion of foreign investments is used to acquire shares in the host country (Tsaurai, 2018).

The country's financial development is inextricably related to foreign investment. In particular, foreign investment inflows are intimately tied to the development of the bond market in the beneficiary country (Bhattacharyay, 2013). This effect is particularly pronounced in economies with substantial domestic demand. In this hypothesis, we claim for a theoretical relationship between foreign direct investment and Sukuk. It's important to keep in mind, too, that while bond market openness attracts foreign investment, it doesn't guarantee that the money will be invested in bonds. As a result, the theoretical association amongst bond market development and foreign investment is uncertain, and it needs to be thoroughly explored in order to produce more accurate results.

Rationale: FDI influences capital market development through:

1. Capital inflows
2. Technology transfer
3. Investor confidence
4. Market integration
5. Economic growth

H1: FDI has a positive impact on the dependent variables.

TRADE OPNESS

Financial system of any economy benefits from trade openness in two ways. To begin with, increased demand for financial products and services supports financial market growth. This demand rises as a result of greater income risk and volatility linked to trade openness (Mohd et al, 2013). Second, increased stock market offers result from increased trade openness, which benefits financial market growth (Rajan and Zingales 2003). The economy that inclines to be more open, the stock market will expand more, because when an economy's openness is strong, international

financing from foreign investors will be easier to get by. Therefore, as a result, the development of the Islamic stock market will accelerate.

Trade openness of the economy attracts foreign direct investment into the financial system hence enhancing financial sector development (Tsaurai, 2018). Trade openness is a significant factor that has been examined in many research to determine its impact on the bond market (Rajan and Zingales, 2001; Bhattacharyay, 2013). As a result, studies show that it has a significant positive impact on bond market development in both developed and developing countries. Corporations operating in open markets require more funding sources to be competitive, As a result, it is easier to obtain resources from external funding when the economy is more available to foreign investors. Consequently, the development of the Sukuk market will be supported in the Sukuk issuing countries. Therefore, in a more open economy, Sukuk markets will prosper, but banks, as the leading finance sources, will often strive to maintain their market dominance by restricting the securities market's extension to the international market. The Sukuk market is expected to benefit from the openness that gives developing nations, in specific, easy contact to international savings or pools of capital. It also improves local capital market liquidity and lowers the cost of financing for industrial projects by increasing foreign capital flows. Hence, there is a link among trade openness and the development of the Sukuk market (Smaoui et al, 2017).

Rationale: Trade openness influences capital market development through:

1. Increased foreign investment inflows
2. Improved market efficiency and liquidity
3. Enhanced economic growth and stability
4. Increased competition and innovation
5. Better risk management and diversification

H1: trade openness has a positive impact on the dependent variables.

Market liquidity:

Liquidity actually, refers to how easily a security can be bought and traded in a secondary market. So a stocks liquidity means how quickly the shares of a stock can be bought and sold without extensively impacting the stock prices. Stocks with low liquidity may create complications to sell them and may cause loss and vice versa (Violeta, 2016). Liquid stock markets allow investors to access their savings with ease and enhance capital allocation. This increases the investors'

confidence in the stock market hence promoting stock market development in the long run (Tsaurai, 2018).

Rationale: Market liquidity influences capital market development through:

1. Facilitating trading and investment
2. Reducing transaction costs
3. Enhancing price discovery
4. Increasing market efficiency
5. Reducing systemic risk

H1: market liquidity has a positive impact on the dependent variables.

4.5.2.2 Variables of banking sector development

The banking sector is the backbone of any economy, playing vital role in facilitating financial transactions, mobilizing savings, and allocating credit to support economic growth and development. A well-developed banking sector is essential for promoting financial stability, enhancing access to financial services, and fostering economic prosperity. Banking sector development is a multidimensional concept that encompasses various dimensions, including financial deepening, increased accessibility, improved efficiency, and enhanced stability. A robust banking system not only supports economic growth but also helps to reduce poverty, promote financial inclusion, and increase economic opportunities. As such, banking sector development has become a key priority for policymakers, regulators, and industry stakeholders seeking to promote capital market development. Hence, the study aims to explore the impact of banking sector development on both Islamic and conventional capital markets in ten Asian countries.

Domestic Credit to Private Sector as a Ratio of GDP

Domestic Credit to Private Sector is a financial indicator that denotes the financial resources delivered to the private sector by financial institutions, such as banks, through loans, purchases of non-equity securities, trade credits, and other accounts receivable. It is a measure of the availability of credit to private businesses and individuals within an economy. Banks increase the quantity of money available for investment in stock market through pooling savings and reducing liquidity risk (Tsaurai, 2018). It is measured as domestic credit provided by the banking sector to GDP, is

always described in the literature as a determinant of bond market development. Whereas, it looks also very interesting to see the outcome of this variable on the development of Sukuk market as well (Mirza and Sultana, 2020).

Rationale: Domestic Credit to Private Sector (DCPS) as a ratio of GDP influences capital market development through:

1. Financial intermediation and resource allocation
2. Entrepreneurial finance and business growth
3. Investment and consumption financing
4. Risk management and diversification
5. Economic growth and stability

H1: Domestic Credit to Private Sector as a Ratio of GDP has a positive impact on the dependent variables.

Financial Depth (FD)

Financial depth is a concept in the field of economics and finance, encompassing the level of development and sophistication of a country's financial system. It is often measured by the size and activity of financial intermediaries of an economy. An extensive range of financial tools, services, and establishments that support effective resource allocation, risk control, and economic expansion are characteristics of a deeper financial system. At its core, financial depth reflects the ability of a financial system of an economy to support the economic activities by providing accessible and diverse financial products, which includes a vibrant banking sector to provide financing facilities. It is a measure of the size of the financial intermediaries of an economy, measured as the percentage of bank's liquid liabilities to gross domestic product (Levine, 1997; Adusei, 2013).

Rationale: Financial depth influences capital market development through:

1. Increased financial intermediation
2. Improved resource allocation
3. Enhanced investment opportunities
4. Better risk management
5. Economic growth and stability

H1: financial depth has a positive impact on the dependent variables.

Credit to Deposit Ratio

The Credit to Deposit Ratio (CDR) is a fundamental metric in the banking and financial sectors, providing a clear indication of a bank's lending efficiency and liquidity status. In essence, the CDR highlights the balance a bank maintains between its deposits and its lending practices. A higher CDR suggests that a significant portion of the bank's deposits is being used for loans, which can enhance profitability but may also pose liquidity risks. Conversely, a lower CDR indicates a more conservative approach to lending, which may ensure higher liquidity but could also result in underutilization of available funds and lower profitability. It is a measure of financial firmness within the country and the magnitude of banking penetration is measured as percentage of bank credit to bank deposits (Levine, 1997).

Rationale: CDR influences capital market development through:

1. Financial intermediation efficiency
2. Liquidity allocation
3. Risk management
4. Credit availability

H1: credit to deposit ratio has a positive impact on the dependent variables.

Savings ratio

The savings ratio, a critical indicator of a nation's financial well-being, exerts a significant influence on the development and growth of the capital market. As a primary source of funds for investment, savings play a vital role in shaping the trajectory of economic progress. A higher savings ratio is conducive to credit creation, which in turn fuels investment in the capital market. Consequently, an increase in the savings rate can lead to a surge in capital flows into investment projects through the stock market, thereby stimulating economic growth and development (Pradhan and Kumar, 2022). The savings ratio, therefore, serves as a key driver of capital market development, highlighting the importance of policies aimed at promoting a culture of savings and investment.

Rationale: Savings Ratio influences capital market development through:

1. Domestic resource mobilization
2. Financial intermediation

3. Investment financing

4. Economic growth

5. Financial stability

H1: savings ratio has a positive impact on the dependent variables.

4.5.2.3 Variables of Institutional Quality

In general, institutional quality can be defined as a set of rules that control and guide how people build expectations of one another. Traditional growth models often concentrate primarily on how people and physical capital explain economic performance both within and across countries and over time. These are closely related to the price and simplicity of conducting business. Specifically, it has been discovered that institutions have a significant impact on how human, physical, or both capital affect an economy's growth trajectory. It is well known that institutional factors account for much of the variation in economic and financial market performance between nations. Numerous investigators such as Williamson (1995) and Acemoglu et al. (2001), were of the view that, institutional characteristics are vital to a nation's economic performance. We define institutional aspects as those components that must exist in order to promote a corporate climate that is conducive to growth and success.

In fact, the goal of this study is to determine how institutional quality affects the growth of both Islamic and conventional capital markets. Because it is generally accepted that a nation's institutional strength could increase the attraction and trust of capital market investments. Perotti and Van Oijen (2001), noted that as political risk is mitigated over time, equity ownership progressively becomes more attractive. Yartey (2008), demonstrated a high correlation between political risk and institutions and the rise in stock market capitalization.

Similarly, in case of Sukuk market development, impact of institutional quality is considered as an important factor in determining the development structure of Sukuk markets in the domiciled countries. Basyariah et al. (2020), empirically found that institutional quality has a significant influence on the development of Islamic finance, especially Sukuk in the global market, i.e. in the five OIC countries. Likewise studied of (Said and Grassa, 2013 & Smaoui and Khawaja, 2017), also demonstrated that the quality of institutions has a positive impact in determining the development of Sukuk markets. Hence, the development of noble quality institutions (resolution of political risk) can be an imperative factor in the development of Islamic and conventional capital

markets in countries of study. Whereas subsequently, the development of eminent Institutions can also improve the charm of investment and will consequently lead to Islamic and conventional capital market development. Hence, we will employ the following indicators of institutional quality to find out their impact capital market development.

1. Bureaucracy quality

An evaluation of institutional power and bureaucracy is known as bureaucracy quality. This variable, which goes from 0 to 4, assigns higher scores to nations where the bureaucracy tends to be independent from political demands and has the authority and know-how to rule without ruthlessly changing laws or suspending government operations.

Rationale: Bureaucracy Quality influences capital market development through:

1. Efficient regulatory framework
2. Effective enforcement of laws
3. Transparency and accountability
4. Investor confidence
5. Business-friendly environment

H1: Bureaucracy quality has a positive impact on the dependent variables.

2. Corruption

Corruption Index is a metric used to assess the level of corruption in a country's political system. The index scores range from 0 to 6, with higher values indicating lower levels of corruption and lower values indicating higher levels of corruption. In other words, a higher score indicates a cleaner and more transparent political system, while a lower score suggests a more corrupt and opaque system.

Rationale: Corruption influences capital market development through:

1. Distorting market mechanisms
2. Reducing investor confidence
3. Increasing transaction costs
4. Undermining institutional effectiveness
5. Discouraging foreign investment

H1: control of corruption has a positive impact on the dependent variables.

3. Investment profile

The investment profile is a comprehensive evaluation of the factors that impact the risk associated with investing in a particular country or project. This risk assessment is quantified through a risk rating, which is calculated by combining three key subcomponents: contract viability/ expropriation, profits repatriation risk, and payment delays risk. This rating provides a comprehensive snapshot of the investment risk, enabling investors to make informed decisions.

Rationale: Investment Profile influences capital market development through:

1. Capital formation and allocation
2. Risk management and diversification
3. Investor confidence and sentiment
4. Market liquidity and efficiency
5. Economic growth and stability

H1: investment profile has a positive impact on the dependent variables.

4. Law and order

The law and order index evaluates the effectiveness and fairness of a country's legal system, as well as the extent to which citizens comply with the law. This index scores range from 0 to 6, with higher values indicating a strong and impartial legal system, where the rule of law is respected and enforced, and lower values indicating a weaker legal system with a higher incidence of lawlessness and corruption.

Rationale: Law and Order influences capital market development through:

1. Protecting property rights
2. Enforcing contracts
3. Maintaining market stability
4. Reducing uncertainty
5. Promoting investor confidence

H1: law and order has a positive impact on the dependent variables.

Table 1: Description of variables

Variables	**Proxy**	**Description**	**Source**
Islamic stock market	Market capitalization (MC)	"Share price multiplied by number of shares outstanding as a % of GDP"	IFSB
Sukuk market	Sukuk Market capitalization (SMC)	"Ratio of the amount outstanding of debt securities to GDP"	IFSB
Stock market	Market capitalization (MC)	"Share price multiplied by number of shares outstanding as a % of GDP"	WDI
Bond market	Bond market capitalization	"Ratio of the amount outstanding of debt securities to GDP"	WDI
Macroeconomic variables			
GDP	GDP	GDP at PPP	WDI
Inflation	INF	Consumer price index	WDI
FDI	FDI	Net FDI (% of GDP)	WDI
Trade openness	TO	Exports to GDP	WDI
Market liquidity	ML	shares traded in this month – shares traded previous month / shares traded in previous month	WDI

Variables of banking Sector Development			
Domestic credit to private sector		"Domestic credit to private sector by banks (% of GDP)"	WDI
financial depth		bank's liquid liabilities to gross domestic product	World bank
credit to deposit ratio		bank credit to bank deposits	World bank
Saving ratio to GDP		Gross savings to GDP	World bank
Variables of Institutional Quality			
Investment profile	IP	Scale of many variables	International country risk guide (ICRG)
Law and order	LO	Scale of many variables	
Control of corruption	CC	Scale of many variables	
Bureaucracy quality	BQ	Scale of many variables	

4.6 Estimation technique

Estimation technique is a vital tool in various fields, including economics and finance, which allows us to make informed decisions based on available data. Estimation involves using available data to infer the value of unknown parameters, quantify uncertainty, and predict future outcomes. The accuracy of estimation techniques has a direct impact on the quality of decision-making, making it essential to understand the strengths and limitations of various methods.

The foremost objective of this study is to ascertain the development structures of both Islamic and conventional capital markets in some selected countries. Therefore, in this pursuit, we will explore the impact of economic factors on the development of Islamic and conventional capital markets in the selected countries. Whereas, Molefhi (2019), says that empirically most of the economic variables are of non-stationary nature, due to their typical behaviour. Therefore, in this

context Nkoro and Uko, (2016), analysed various non-stationary series through some traditional econometric techniques, and accordingly exhibited that they may lead to spurious results. Hence to overcome such complications of non-stationary series, we have to employ cointegration technique to proceed for further analysis. Actually, the intention being that, Cointegration is a dominant tool for determining the occurrence of steady state equilibrium among variables. As a result, it has become an absolute prerequisite for any economic model that uses non-stationary series data. If the variables do not cointegrate, we will encounter spurious regression issues. Cointegration, on the other hand, occurs when the variables cointegrate.

Therefore, the "Granger (1981) and, Engle and Granger (1987), Autoregressive Distributed Lag (ARDL) cointegration technique or bound test of cointegration (Pesaran and Shin 1999 and Pesaran et al. 2001) and, Johansen and Juselius (1990), cointegration techniques" have become the solution to determining the long run association among series that are non-stationary, as well as reparameterizing them to the Error Correction Model (ECM). And subsequently, reparameterized results will provide the short-run as well as long run relationship of the underlying variables.

However, despite these robust techniques Granger (1981) and, Engle and Granger (1987) cointegration technique cannot be employed in case of variables that are integrated of different orders i.e. I (1) and I (0) whereas Johansen and Juselius (1990), and ARDL cointegration procedure can be applied. Furthermore, if one Cointegrating vector exists then we cannot apply Johansen and Juselius (1990) cointegration technique. Therefore, it becomes imperative to employ ARDL to bound cointegration approach (Pesaran and Shin 1999 and Pesaran et al, 2001). Regardless of whether the underlying variables are I (0) or I (1) or a combination of both, ARDL technique can be pragmatic. Therefore, this technique will help us to circumvent the processes of pretesting related with standard cointegration analysis which necessitates the classification of the variables into I (0) and I (1). Although the ARDL cointegration technique does not necessitate unit root pre-testing. However, we believe that the unit root test should be executed to determine the number of unit roots in the series under consideration in order to avoid ARDL model crash in the presence of an integrated stochastic trend of I(2).

Therefore, Penal ARDL model will be applied to find out the impact of economic factors on market capitalizations of Islamic and conventional capital markets in the selected sample. Whereas, this approach will applied after explicitly performing the preliminarily procedures to justify its application. So in this context, we will use pooled mean group estimator "which permits

short-term coefficients, including the intercepts, the adjustment speed to the long-term equilibrium values, and the error variances to be heterogeneous country by country, while the long-term slope coefficients are restricted to be homogeneous across the countries (pesaran et al, 1999).

CHAPTER 5: RESULTS AND DISCUSSIONS

This chapter presents the findings of the study, which are based on the analysis of the data collected. The results are presented in a clear and concise manner, using tables, figures, and text. The interpretation of the results is also provided, which explains the meaning and significance of the findings. Therefore, the results of this study provide insights into the relationship between economic factors and Islamic capital market development. Moreover, the analysis reveals the extent to which economic factors impact the development of Islamic capital markets operating in the selected ten Asian countries.

Consequently, the section current the results of the study, including the descriptive statistics, stationary tests, cointegration and penal ARDL to bound cointegration. The interpretation of the results explains the significance of the findings and their implications for the development of Islamic capital markets.

This section basically, stands as a testament of analysis and its contribution to knowledge. Therefore, witnesses the portrayal of the estimated results and their interpretation i.e. impact of economic factors on Islamic capital market development in the selected sample countries. Our findings are presented with the utmost precision and objectivity, devoid of speculative interpretations. The results are organized logically, starting with the broadest findings before delving into more detailed observations. This approach facilitates a coherent understanding of the data and its relevance to the broader research context.

The following subsections will detail the specific outcomes of our investigation, highlighting key data points and statistical evidence that support our conclusions. Each result is directly tied to the research questions posed, providing clear answers and insights that advance our understanding of the impact of economic factors on the development of Islamic capital markets.
As we navigate through the results, it is important to remember that these findings are based on the data collected and the context of this particular study. Therefore, in this context, we have accomplished the pre-defined objectives of the current study by examining the impact of macro-economic variables, banking sector development indicators and institutional quality indicators on market capitalizations of both Islamic stock markets and Sukuk markets in the countries of interest. Hence, to achieve the desired results by employing the appropriate econometric techniques, we have conducted three separate models in each section to avoid spurious results.

5.1 Impact of economic factors on Islamic stock market development in the selected countries:

This segment provide us the detailed discussion with verified results obtained through penal ARDL to bound cointegration approach. The estimated output highlights both the long-run as well short-run results. Therefore, to proceed the process of estimation, the preliminary stage was to check out the descriptive analysis followed by correlation matrix and Stationarity tests.

Descriptive Analysis

By providing brief explanations of the sample and data measures and by assisting in the identification of patterns, outliers, and possible linkages within the dataset, descriptive statistics aid in the description and comprehension of the characteristics of a particular data set. It organizes, summarizes, and presents the data in a proper way, usually through numerical or graphical methods. Moreover, this technique is used to gain insights into the variability, distribution, and shape of the data (Kothari, 2004).

Table 5.1: Descriptive Statistics

	ISM	GDP	INF	FDI	ML	TO
Mean	19.22394	10.16384	4.460706	1.849120	45.84583	88.15802
Median	17.70690	10.50426	5.427791	1.418248	23.14736	85.80691
Maximum	39.77789	12.00285	28.95059	11.45597	365.7665	191.8726
Minimum	12.05232	7.872991	-25.95842	-1.685509	0.941112	24.70158
Std. Dev.	5.672496	1.111151	9.787054	1.925195	62.06558	47.65089
Skewness	2.007542	-0.483682	-0.572631	1.758613	2.719103	0.411296
Kurtosis	7.666723	2.026737	3.978253	7.878645	10.97751	1.900327
Jarque-Bera	236.8700	11.76896	14.17878	226.0753	582.5923	11.78711
Probability	0.000000	0.002782	0.000834	0.000000	0.000000	0.002757
Observations	150	150	150	150	150	150

Descriptive statistics portrayed in **Table 5.1** exhibits distribution and variability of the variables. The results provided by descriptive statistics showed the average market capitalization of Islamic stocks for the period is 19.22 while the standard deviation of 5.67 shows that there was a small

dispersion of the market cap around the mean. The highest market cap for the period of the study is 39.77 while the lowest index was 12.05. The market cap of 19.22 is actually an indication for the highest market cap recorded in the selected countries during the period of the study. Moreover, the results reveal an average range of values 10.16 (GDP) and 88.15 (TO) across the variables of analysis. And the vales of mean and median demonstrate very low variability and symmetry. While, standard deviation shows that market liquidity is most volatile followed by trade openness and GDP is loaded as the least volatile among all other variables. Hence, the descriptive statistics also exhibit that there is small dispersion of all variables from mean. Furthermore, the statistics from the table reveal that the analysis of Skewness exhibit the distributions of FDI, ML and trade openness positively skewed, while GDP and inflation were negatively. The next measure is of Kurtosis, which measures the tails' heaviness, not the peak's sharpness, even though leptokurtic distributions also tend to have sharper peaks. The values from the table showing both leptokurtic as well as platykurtic behavior, all the values except GDP and trade openness are greater the 3, indicates both positive and negative kurtosis distribution across the sample. Consequently, Jarque-Bera test, provides us significance level or p-values with low (below 0.05) and high (above 0.05) values suggesting that the data is normally distributed or not. While, our statistical results from the Table show that all the probability values are smaller than 0.05 percent, infers that the null hypothesis of normal distribution is rejected.

Correlation Matrix

A correlation matrix is a statistical tool used to summarize the relationships between multiple variables. It provides a concise and visual representation of the strength and direction of the linear relationships between each pair of variables. The correlation matrix is essential component of data analysis, as it helps to identify patterns, trends, and correlations within the data. The correlation matrix is a table that portrays the correlation coefficients between each pair of variables. The coefficients range from -1 (perfect negative correlation) to 1 (perfect positive correlation), with 0 indicating no correlation.

Table 5.2: Correlation matrix

Correlation Probability	ISM	GDP	INF	FDI	ML	TO
ISLAMIC_ST	1.000000 -----					
GDP	-0.658131 0.0000	1.000000 -----				
INF	0.102987 0.2098	-0.263074 0.0011	1.000000 -----			
FDI	-0.040145 0.6257	0.151697 0.0639	-0.019890 0.8091	1.000000 -----		
ML	-0.178304 0.0290	-0.023768 0.7728	0.284170 0.0004	-0.011891 0.8852	1.000000 -----	
TO	-0.375736 0.0000	0.673061 0.0000	-0.254034 0.0017	0.422147 0.0000	-0.248738 0.0021	1.000000 -----

The empirical results from **Table 5.2** reveals correlations among the selected variables. It shows that most of the macro-economic variables are significant but negatively related with one another. In case of Islamic stock market capitalization, it reveals that only one variable have positive correlation signs i.e. inflation. Whereas, the matrix exhibits that they have significant relationship with Islamic stock market capitalization but have negative correlation as well.

Stationarity Tests

After, completing preliminary test of descriptive analysis and correlation matrix, we directly conducted Stationarity tests to assess whether the variables are stationary or not. Therefore, in this regard we have applied different penal unit root tests to check the unit roots of the variables for penal data i.e. Levin-Lin- chu (LLC), Im-Pesaran- Shin (IPS) and Maddala & Wu (MW) unit root tests (Appendix-A). On the other hand, the verified variable is deemed to be stationary or to lack unit roots if the absolute p-values of these tests fall below the 5 percent crucial limit. Conversely, if the tests' absolute p-values above the 5 percent critical value, it is determined that the variable under test is either non-stationary or has unit roots.

While, the estimated outcomes of these tests show that some variables are stationary at level and certain are stationary at first difference. Thus, this Stationarity nature of data i.e. I (0) and I (1), substantiates the application of penal ARDL procedure, which allows the combination of both the orders of stationary.

Panel Cointegration

This test is basically, the extension of cointegration tests of time series data to penal data settings. Likewise, time series cointegration it also determines whether there exists long-run equilibrium relationship between two or more variables across different cross-sections (e.g., countries, companies, regions) over time. So, the tests which has been opted for establishing the cointegration among the variables are given in the **Table 5.3.**

Table 5.3: Cointegration

Pedroni (Engle-Granger Based)

Statistic	Value	Probability	Decision
Within Dimension Heterogeneous intercepts without trends			
Panel V-Stat	0.199063	(0.4211)	Accept
Panel Rho-Stat	1.423491	(0.9227)	Accept
Panel PP-Stat	-27.26136	(0.0000)	Reject
Panel ADF-Stat	-3.798134	(0.0001)	Reject
Between Dimension Heterogeneous intercepts without trends			
Group Rho-Stat	3.416030	(0.9997)	Accept
Group PP-Stat	-14.39849	(0.0000)	Reject
Group ADF-Stat	-0.922065	(0.1782)	Accept
Kao (Engle-Granger Based)			
ADF	0.070042	(0.4721)	Accept

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The result in the **Table 5.3** demonstrates that, as shown by the panel PP- and panel ADF-statistics at the 1 percent statistical significance level for within-group data and penal statistics for between-group data, the null hypothesis of no cointegration is rejected. Therefore, it clearly shows that there is cointegration between the dependent variable and the explanatory variables in the nations that were chosen.

Lag Selection Criteria

Before, proceeding towards estimations process a step is performed to determine the lag length of the variables of consideration. Therefore, to overcome this issue we have applied automatic lag selection criteria to assess the optimal lag length. While, the results in the table exhibit that Akaike information criterion results are the most favorable and suitable with optimal lag two, for further process.

Table 5.4: Optimal Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2181.131	NA	7.50e+09	39.76602	39.91331	39.82576
1	-1470.648	1330.540	35470.95	27.50270	28.53379*	27.92092
2	-1409.336	108.1327*	22513.49*	27.04247*	28.95736	27.81916*
3	-1381.844	45.48677	26659.28	27.19716	29.99584	28.33232
4	-1356.041	39.87735	32983.77	27.38256	31.06504	28.87620

* indicates lag order selected by the criterion

LR: sequential modified

LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Table 5.5: Panel ARDL Model

Dependent Variable: D (ISLAMIC_ST)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
GDP	24.65888	3.025616	8.150034	0.0000
INF	0.130088	0.021158	6.148495	0.0000
FDI	0.671776	0.103356	6.499653	0.0000
ML	0.009814	0.004729	2.075092	0.0419
TO	-0.238462	0.010465	-22.78748	0.0000
Short Run				
COINTEQ01	-0.330996	0.203027	-1.630310	0.0179
D(GDP)	8.440378	12.10113	0.697487	0.4880
D(INF)	-0.062379	0.026869	-2.321596	0.0234
D(FDI)	-0.000686	0.180917	-0.003789	0.9970
D(ML)	0.808576	0.855219	0.945461	0.3479
D(TO)	0.037878	0.036439	1.039479	0.3024
C	-63.86522	39.02206	-1.636644	0.0065

Mean dependent var	-0.092036	S.D. dependent var	2.505397
S.E. of regression	2.199629	Akaike info criterion	2.443922
Sum squared resid	314.4940	Schwarz criterion	4.149949
Log likelihood	-98.29416	Hannan-Quinn criter.	3.137027

Panel ARDL model was applied to find out the impact of macro-economic variables on market capitalization of Islamic stocks in the selected sample. Whereas, this approach was opted after explicitly performed the preliminarily procedures to justify its application. Therefore, we have used the pooled mean group in this context, which allows the long-term slope coefficients to be homogeneous across the countries but allows the short-term coefficients, such as the intercepts, the adjustment speed to the long-term equilibrium values, and the error variances, to be heterogeneous country by country (Pesaran et al., 1999).

Accordingly, results from the table reveal that in long-run all the variables are significant, indicates that the economies of consideration are experiencing stable macroeconomic conditions. Which is clearly demonstrated by their impact on Islamic stock market capitalizations. While in short-run all are insignificantly related with the dependent variable. In summary, the insignificant impact of macroeconomic variables on Islamic stock markets in the short run can be attributed to the unique characteristics of Islamic finance, including Sharia compliance, asset backing, and limited exposure to interest rates, ethical considerations, risk-sharing mechanisms, local market dynamics, and liquidity constraints. These factors collectively contribute to a distinct market environment where the influence of macroeconomic variables may be muted or delayed compared to conventional financial markets.

Therefore, in long-run the estimates reveal that a percentage increase in GDP will lead to 24.65 percent increase in Islamic stocks market cap in the selected sample. In other words, there is a positive relationship between GDP growth and Islamic stock market performance, with a multiplier effect of 24.65. This means that Islamic stocks are highly sensitive to changes in GDP, and even a small increase in GDP can lead to a significant increase in Islamic stock market capitalization. These estimates reveal that GDP, is a fundamental driver of stock market development. During a typical growth, a company's increased production leads to bigger sales demands and higher earnings. This phenomena raises investors' expectations for the company's future growth, which in turn raises the stock price. It implies that corporate earnings often rise in tandem with an expansion of the economy, as a result of increased investment, consumer spending, and business activity. This growth translates into higher stock prices as investors anticipate greater future earnings and are willing to pay more for shares. Additionally, a growing economy can attract foreign investment, which overall boosts the stock market. These results are in line with the studies of Kassim and Mustafa (2017), irfan et al. (2021) and Hussin (2012), who established this outset that GDP has a positive and significant relationship with Islamic stock market development.

Similarly, in case of inflation we found that in long-run it has a positive and substantial impact on Islamic stock market capitalization across the selected sample. As indicated by a percentage increase in inflation will lead to 0.13 percent increase in market cap in the selected sample. These findings are highly supported by, According to Mohd. Hussin et al. (2012), there is a positive correlation between stock market performance and inflation, suggesting that as inflation increases, stock market performance also improves. This finding reinforces the notion that

investing in the stock market can serve as a hedge against inflation, preserving wealth and potentially leading to increased stock valuations and, consequently, enhanced market capitalization. Furthermore, our findings align with the research conducted by Kassim and Mustafa (2017), which suggested that positive inflation leads to a surge in stock prices, resulting in an increase in Islamic stock value. This implies that Shariah-compliant companies benefit from inflationary pressures, as producers can pass on higher input costs to consumers. Additionally, the Islamic stock market appears to be an effective safeguard for asset values, protecting them from erosion due to inflation.

Likewise, FDI has also shown positive and significant impact on the market cap of Islamic stocks in the sample. Which indicates a percentage increase in FDI will lead to an increase of 0.67 percent in Islamic stock market capitalization. These estimates exemplify that FDI is considered as a fuel to any economy as it often brings with capital, technology, and managerial expertise. In the context of Islamic countries, where infrastructure and human capital may be lacking in some areas, FDI can play a crucial role in fostering economic growth and development. As the economy grows, so does the demand for goods and services, leading to increased profits for companies listed on the stock market. These findings are in line with the theory established by Irfan et al. (2021), who examined the relationship between Islamic stocks and FDI. They were of the view, that FDI has a substantial impact on Islamic stock markets.

Accordingly, in the long-run market liquidity has also shown positive and significant impact on Islamic stock market capitalizations across the selected Asian countries. The estimates from the table reveal that a percentage increase in market liquidity will lead to an increase of 0.04 percent in market capitalizations of Islamic stocks. These estimates indicate that Shariah compliant investment practices often attracts a particular segment of investors who prioritize ethical investing. Therefore, the liquidity of Islamic stocks becomes crucial in maintaining investor confidence and attracting more investors to the market, thus influencing market capitalization Higher the liquidity in Islamic stocks means there is a high volume of shares being traded, which typically results in tighter spreads between the bid (buy) and ask (sell) prices and less price volatility when large quantities of shares are bought or sold. Moreover, Investors usually consider a stock's liquidity as a critical factor when making investment decisions because it affects not only the ease of trading but also the risk associated with holding the stock. On the other side, Stocks

with low liquidity might be subject to higher price volatility and could pose challenges when trying to execute large trades without impacting the market price.

Similarly, the results of long-run demonstrate that trade openness has a significant but negative impact on market cap. Which means that a percentage increase in TO leads to -0.238462 decline in market cap in the sample. These estimates explicitly demonstrate that trade openness can bring opportunities for growth and development, but its impact on Islamic stock market capitalization can be negative as well. Because Islamic financial markets, like any other financial markets, are sensitive to external factors such as global economic conditions, geopolitical events, and policy changes. Trade openness actually, increases the exposure of an economy to these external factors, and can bring benefits such as access to new markets and technologies, but at the same time also exposes the economy to greater volatility and risk.

However, Islamic finance operates under Islamic law, which prohibits certain financial practices such as interest (riba), uncertainty (gharar), and investments in businesses involved in activities deemed as haram (forbidden) such as alcohol, gambling, and pork products. Whereas, trade openness can bring any kind of business, whether permissible or prohibited. This framework shapes the structure and functioning of Islamic financial markets, including stock markets. Therefore, due to limited access to foreign exposure trade openness can have negative impact the Islamic stocks of the interested economies.

Last but not least, the negatively signed error correction term, which expresses the rate of change from the short to the long run, is substantial at 1%. It gauges how soon after a shock the dependent variable reaches its long-run equilibrium. Moreover, a negative and significant ECT indicates that the dependent variable is moving towards its long-run equilibrium. In other words, the ECT measures the extent to which the dependent variable needs to be adjusted to return to its equilibrium state.

5.2 Impact of banking sector development on Islamic stock market development in the selected countries:

The results and findings section is a central part of any research, wherein the empirical evidence collected are presented in a clear and systematic manner. Whereas, the findings section lays the foundations for understanding the implications of a research and sets the stage for subsequent analysis and discussion. Therefore, in this context this segment presents a detailed discussions on the results obtained through penal ARDL to bound cointegration technique. We have applied the same procedure as in previous model to ascertain the estimates. Therefore, for simplicity we have proceeded with the preliminary step of Stationarity test, following with the suited approach to reach at the convenient results.

Stationarity Test

Begin, with Stationarity test to find out whether the data set has unit root or not. So in this pursuit, we have employed different penal unit root test to check out the Stationarity of the variables (Appendix-A). The decision rule is that if the absolute p-value of the LLC test, IPS test, ADF test or that of the PP test is less than 5 percent critical value, then it is declared that the tested variable is stationary or does not have unit roots. If, on the other hand, the absolute p-value of the LLC test, IPS test, ADF test or that of the PP test is greater than 5 percent critical value, then it is adjudged that the tested variable is non-stationary or has unit roots.

Therefore, by following the rule of thumb while doing stationary tests, we found that some of the variables are Stationarity at level and some at first difference. These Stationarity test results prompted us to use the appropriate econometric technique. So the penal unit root test results suggested us to employ the penal ARDL to bound cointegration to ascertain the reliable results for accomplishing the objectives of the study.

Panel Cointegration

This sections highlights, whether there exists long-run relationship between the variables or not. Therefore, in this context we have employed panel Engle and Granger based cointegration test proposed by Pedroni and kao test to find out the relevant results.

Table 5.6: Cointegration Test

Statistic	Value	(p-value)	Result
Within Dimension Heterogeneous intercepts without trends			
Panel V-Stat	-2.487886	(0.9936)	Accept
Panel Rho-Stat	1.805761	(0.9645)	Accept
Panel PP-Stat	-7.066549	(0.0000)	Reject
Panel ADF-Stat	-2.666596	(0.0037)	Reject
Between Dimension Heterogeneous intercepts without trends			
Group Rho-Stat	2.788439	(0.9974)	Accept
Group PP-Stat	-7.472301	(0.0000)	Reject
Group ADF	-0.971496	(0.1657)	Accept
Kao (Engle-Granger Based)			
ADF	-0.98994	(0.0000)	Reject

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The results presented in Table 4.6 reveal two distinct groups: Within Dimension and Between Dimensions. The table shows that the null hypothesis of no cointegration is decisively rejected, as evidenced by the penal PP-statistics and panel ADF-statistics at a 1% significance level for both within-group and between-dimension analyses. Furthermore, the ADF-statistics in the Kao test also confirm the presence of cointegration among the variables. Based on these findings, we conclude that a long-run relationship exists among the variables, indicating a significant connection between them in the long term.

Panel ARDL Model

This section highlights, the estimates of penal ARDL model with optimal lag length of one using the Akaike information criterion (Appendix-D). This application is based on the cointegration results, which suggested it as the appropriate econometric technique to reach out at the unbiased results. As a result, the same pooled mean group estimator procedure is chosen, allowing for the heterogeneity of short-term coefficients such as intercepts, the rate at which long-term equilibrium values are adjusted, and error variances from country to country, but limiting the long-term slope coefficients to be homogenous throughout the sample (Pesaran et al., 1999).

Table 5.7: Panel ARDL Model

Dependent Variable: D (ISLAMIC_ST)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
DCPS	-0.033853	0.028990	-1.167752	0.2461
CDR	0.000528	0.025793	3.897453	0.0002
FD	0.126171	0.032148	3.924686	0.0002
SRG	0.103318	0.025483	4.054361	0.0001
Short Run				
COINTEQ01	-0.314557	0.144170	-2.181848	0.0318
D(DCPS)	-0.145082	0.136926	-1.059563	0.2923
D(CDR)	0.089829	0.077927	1.152730	0.2522
D(FD)	-0.050270	0.189624	-0.265103	0.7916
D(SRG)	0.909614	0.767158	1.185694	0.2390
C	-0.426077	1.190134	0.358008	0.0212

Mean dependent var	-0.092036	S.D. dependent var	2.505397
S.E. of regression	1.774389	Akaike info criterion	2.315339
Sum squared resid	270.7672	Schwarz criterion	3.599877
Log likelihood	-109.6504	Hannan-Quinn criter.	2.837206

The results in the table exhibit that all the long-run variables of banking sector development except domestic credit to private sector has shown significant impact on Islamic stock market capitalization across the sampled countries. Conversely, the estimates also reveal that all the short-run variables having insignificant relation with Islamic stock market capitalization.

Therefore, begin with the long-run estimates, Domestic credit to private sector (DCPS) has shown insignificant impact on Islamic stock market capitalization across the sample. These findings explicitly justifies the notion that Islamic stock markets are not closely tied to domestic

credit activities due to their unique principles and practices. Investors in Islamic markets may prioritize Sharia-compliant investments, which might not necessarily align with the sectors benefiting from domestic credit facilities

However, likewise in the long-run credit to deposit ratio (CDR) has shown positive and significant impact on Islamic stock market capitalization across the sample. Which indicates that a percentage increase in CDR may lead to an increase 0.0052 percent in market capitalization of Islamic stock in the countries of interest. This minute improvement in market cap of Islamic stocks indicate that credit to deposit ratio and Islamic stocks are not aligned with each other due Shariah principals followed by the later. This infers that changes in credit to deposit ratio may not have substantial impact the Islamic stocks, because the investors in Islamic markets may not avail the facilities of credit to deposit ratio.

Similarly, financial depth (FD) has also positive and significant relation with market cap of Islamic stocks across the sample. The estimates show positive coefficient of FD, which means a percentage increase in FD will results 0.12 percent increase in market capitalization. This significant impact of financial depth, on Islamic stock markets indicates that well-developed banking sector may stimulate market cap of Islamic stocks by providing the facilities of enhancement in investor's confidence, facilitating access to capital and fostering economic growth etc.

Likewise, the estimates of the long-run demonstrate that savings ratio has also a positive and significant impact on dependent variable. It shows that a percentage increase in saving ratio will lead to an increase of 0.103 percent in Islamic stock market development in the selected countries. This suggests that as more money is deposited in banks, a greater savings ratio typically results in an increase in the quantity of capital available for investment. Banks that engage in Islamic finance use these deposits to invest in Sharia-compliant products and ventures. Therefore, increased savings can result in having more money accessible to invest in Islamic stocks and other approved financial products.

Lastly, the error correction term (ECT) is statistically significant at a 1% level and has a negative sign, indicating the speed of adjustment from short-term deviations to long-term equilibrium. The ECT measures how quickly the dependent variable returns to its equilibrium state after a shock. The negative sign suggests that the dependent variable is converging towards its long-term equilibrium, implying a corrective mechanism that restores equilibrium. In essence, the

ECT represents the extent of adjustment needed for the dependent variable to return to its equilibrium state, highlighting the dynamic nature of the relationship.

Hence, on the basis of these findings, we draw a conclusion that Islamic stock markets have a comprehensive relationship with a well-developed banking sector. The results show that a strong banking industry has a big impact on the expansion and stability of Islamic stock markets. The growth of the banking industry is inevitable to the development of the Islamic stock market because it increases investor trust, improves liquidity, and offers comprehensive financial intermediation services. Furthermore, a strong banking industry provides alternative investment avenues and facilitates the creation of Islamic financial instruments, which expands the reach and complexity of Islamic capital markets. In the end, the mutually beneficial relationship between the expansion of the Islamic stock market and the banking sector highlights how essential a healthy financial system is to the advancement of economic prosperity inside Islamic financing frameworks.

5.3 Impact of institutional quality on Islamic stock market development

The last segment, of this chapter presents the findings on institutional quality and Islamic stock market developments of the selected countries. Like, the previous section we have applied the same procedure to ascertain the results. Therefore, begin with the preliminary step of Stationarity tests, followed by other appropriate tests to find out the impact of institutional quality on the dependent variable.

Stationary Tests

This is the most important step in analyzing penal data to see whether there is presence of root unit in the variables or not, so that the relationship between variables in the equation becomes valid. This testing method in this research model is based on the LLC test, IPS test, ADF test and PP test (Appendix-A). As a result, when using these tests, the conclusion is made that the tested variable is stationary or lacks unit roots if the absolute p-values of these tests are less than the 5 percent critical value. Conversely, if the tests' absolute p-values above the 5 percent critical value, it is determined that the variable under test is either non-stationary or has unit roots. However, some variables are stationary at level and some are stationary at first difference, according to the anticipated results of these experiments. Thus, this Stationarity nature of data i.e. I (0) and I (1), authenticates the application of penal ARDL procedure, which allows the combination of both the orders of stationary.

Panel Cointegration Test

This segment shows the whether there occurs long-run relationship among the variable or not across different cross sections over time. This approach is mostly used in panel data analysis, where the data involves observations over multiple time periods and across various cross-sections. Therefore, for this purpose the following approaches of cointegration were applied to reach at the conclusions.

Table 5.8: Cointegration Test

Statistic	Value	p-Value	Decision
Within Dimension Heterogeneous intercepts without trends			
Panel V-Stat	-2.445436	(0.9928)	Accept
Panel Rho-Stat	3.014690	(0.9987)	Accept
Panel PP-Stat	-3.569303	(0.0002)	Reject
Panel ADF-Stat	-0.181919	(0.4278)	Accept
Between Dimension Heterogeneous intercepts without trends			
Group Rho-Stat	3.926962	(1.0000)	Accept
Group PP-Stat	-6.655218	(0.0000)	Reject
Group ADF	0.709649	(0.7610)	Accept
Kao (Engle-Granger Based)			
ADF	-0.74994	(0.0000)	Reject

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The results displayed in the **Table: 5.8** show that null hypothesis of no cointegration is rejected in by all tests. The table show that penal PP- stat and group PP-stat in within dimension and between dimensions has explicitly rejected no-cointegration as indicated by 1 % level significance respectively. Hence, we conclude that there occurs a long-run relationship amongst the variables, and makes further techniques valid to find out the impact of institutional quality on the dependent variable.

Table 5.9: Panel ARDL Model

Dependent Variable: D (ISLAMIC_ST)

Method: ARDL Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
BQ	1.058008	0.414410	-2.553046	0.0124
COR	0.780535	0.239484	3.259240	0.0016
IP	-0.023037	0.085018	-0.270971	0.7871
LO	1.323996	0.325424	4.068529	0.0001
Short Run				
COINTEQ01	-0.370979	0.064425	-5.758291	0.0000
D(BQ)	0.911098	0.472485	1.928312	0.0571
D(COR)	-0.351330	0.265839	-1.321593	0.1898
D(IP)	0.429910	0.545165	0.788587	0.4325
D(LO)	-0.084692	0.440615	-0.192214	0.8480
C	-5.096589	0.700648	7.274110	0.0000

Mean dependent var:	-0.092036	S.D. dependent var:	2.505397
S.E. of regression:	2.154332	Akaike info criterion:	2.506236
Sum squared resid:	399.1386	Schwarz criterion:	3.790773
Log likelihood:	-123.9677	Hannan-Quinn criteria:	.028102

Based, on the results presented in the above table, we infer that all long-run variables except IP have shown significant impact on Islamic stock market capitalization. While, in short-run only variable of Bureaucracy Quality (BQ) is significantly related with market cap of Islamic stocks in the selected countries. Therefore, begin with the long-run estimates, the table reveals that Bureaucracy Quality (BQ) has shown positive and significant impact on market cap of Islamic stocks. Which means a percentage increase in Bureaucracy Quality (BQ), the Islamic stocks will show a surge of 1.05 percent in overall market cap across the sample. These findings signify, that good quality of bureaucracy is imperative for any market as it may enhance the regulatory

efficiency, ensure compliance with Shariah principles, foster transparency, promote innovation, and stabilize the market through effective oversight.

Similarly, in case of control of corruption the estimates reveal with a percentage increase in control of corruption, the Islamic stocks market cap will show an increase of 0.78 percent. Which clearly indicates that control in corruption is one of the fundamental indicators of Islamic stock market development in the sampled countries. The results suggest that political corruption may be a threat to investment because it can distort the financial and economic landscape, decrease the effectiveness of business and government by allowing individuals to rise to positions of power through favoritism rather than merit, and introduce inherent instability into the political process. As a result, it suggests that the best measure of a thriving stock market is to control over corruption.

Correspondingly, the indicator of law and order has also shown positive and significant relationship with Islamic stock market development in the selected countries. It shows that a percentage increase in law and order will lead to an increase of 1.32 percent in Islamic stock market cap. This relationship demonstrates that law and order is among the main determinants of Islamic stock market development, as it provide a regulatory environment, promote investor confidence, ensure market integrity, manage risks, and facilitate market expansion. Therefore, a conducive legal framework is essential for realizing the full potential of Islamic finance and fostering sustainable growth in Islamic stock markets.

Lastly, the error correction mechanism (ECM) plays a vital role in our analysis. It, represents the speed of adjustment from the short run to the long run, is statistically significant at a 1% level and bears a negative sign. This indicates that any short-term deviations from the long-term equilibrium are corrected quickly, and the dependent variable converges towards its equilibrium state. This correction mechanism ensures that the relationship between the variables reverts to its long-term equilibrium, underscoring the dynamic nature of the relationship. The significance of the ECM at a 1% level highlights the robustness of this correction mechanism.

In summary, institutional quality has a significant influence on the growth of the Islamic stock market. According to the research findings, strong institutional frameworks that are marked by high-quality bureaucracy, effective anti-corruption measures, and law and order may be crucial in boosting investor trust and drawing both foreign and domestic capital to Islamic financial markets. Furthermore, maintaining market integrity and stability is contingent upon efficient regulation and oversight, which in turn promotes sustainable development and growth. On the

other hand, obstacles like inconsistent regulations, corruption, and inadequate governance can obstruct market development and prevent it from reaching its maximum potential. As a result, attempts to improve institutional quality through changes that reinforce legal frameworks, promote transparency, and cultivate a culture of good governance must be given top priority by legislators, regulators, and market participants. Islamic stock markets have the potential to become dynamic and robust players in the global financial landscape, contributing to financial inclusion and economic development, provided that these obstacles are addressed and a supportive atmosphere is created.

Conclusion:

This section aimed to investigate the empirical relationship between economic factors and Islamic stock market capitalization across ten selected countries. To achieve this, we employed three separate models: macroeconomic variables, banking sector development, and institutional quality. Using the penal ARDL approach, we established bound cointegration in all three models, ensuring robust results. Our findings indicate that all economic factors have a significant impact on Islamic stock market development, highlighting the importance of these factors in shaping the growth and development of Islamic stock markets.

The empirical results for Model I indicate that all the macroeconomic variables, have shown significant impact on Islamic stock market capitalization. Notably, while trade openness has a significant but negative effect, while all other variables exhibits a positive and significant influence on Islamic stock markets. These findings explicitly exhibit, that a stable macroeconomic environment substantiates the development of Islamic stock market capitalizations across the selected countries.

The results from Model II demonstrate that all banking sector development indicators except domestic credit to private sector (DCPS) are significantly associated with Islamic stock market capitalizations in the long run, although they fail to show significance in the short run. These findings unequivocally suggest that a robust and developed banking sector is essential for the growth and development of Islamic stock markets, emphasizing the critical role of banking sector development in fostering a vibrant Islamic stock market system.

Finally, Model III examines the influence of institutional quality on Islamic stock market development across the sampled countries. The results reveal that all institutional quality variables, with the exception of investment profile (IP), have a significant long-term relationship with Islamic stock market development. This indicates that the development of Islamic stock markets in the selected countries is largely contingent upon the strength and vitality of its institutions, highlighting the role of institutional quality in fostering a robust Islamic stock market framework.

5.4 Impact of economic factors on Sukuk market development in selected countries

The findings presented in this section stem from an extensive research endeavor aimed at comprehensively examining the impact of economic factors on Sukuk market development in the selected countries. Through careful data collection, analysis, and interpretation, this section endeavors to shed light on key aspects surrounding Sukuk market development, offering valuable insights into its dynamics and implications.

Like, the previous section, we provide a detailed discussion with verified results obtained through penal ARDL to bound cointegration approach. The estimated output highlights both the long-run as well short-run results. Therefore, to proceed the process of estimation, the preliminary stage was to check out the Stationarity tests by skipping the descriptive statistics and correlation results.

Stationary Tests

A Stationarity test is a statistical method used to ascertain whether a time series is stationary or not. Stationarity refers to the property of a time series in which its statistical characteristics such as mean, variance, and autocorrelation structure do not change over time.

The penal unit root test is a statistical method used to analyze time series data, particularly in the field of econometrics, to determine whether a given variable exhibits a unit root or not. A unit root implies that the variable is non-stationary, meaning it does not have a constant mean and variance over time. Non-stationary data can pose challenges in statistical analysis, as it violates assumptions of many traditional models. The penal unit root test is particularly valuable because it addresses some limitations of conventional unit root tests, such as the Augmented Dickey-Fuller (ADF) test and the Phillips-Perron (PP) test. These traditional tests often suffer from low power, especially when dealing with small sample sizes or data contaminated by structural breaks or outliers. There are various stationary test which can be used to check the unit roots of the variables for penal data i.e. Levin-Lin- chu (LLC), Im-Pesaran- Shin (IPS) and Maddala & Wu (MW) unit root tests. The decision rule for these tests is as follows: if the absolute p-values are less than 0.05 (5% critical value), the variable is considered stationary (lacking unit roots). Conversely, if the absolute p-values exceed 0.05, the variable is deemed non-stationary (having unit roots). The results in (Appendix-A) reveal varying levels of significance, indicating that some variables are stationary I (0)) while others are not. To achieve Stationarity, first differencing was applied to the

non-stationary variables. The penal unit root test at the first difference shows p-values less than 0.05 for all variables, confirming their Stationarity at the first difference.

Lag selection criteria

The lag length determines how far back in the time series the model will look to forecast future values. A well-chosen lag can help in capturing the underlying patterns such as seasonality, trends, and cycles. If the lag is too short, the model might miss out on important information, leading to biased or inefficient predictions. Conversely, selecting too many lags can lead to over fitting, where the model performs well on the training data but poorly on unseen data.

The optimal lag refers to the appropriate number of time lags to consider when modeling a time series data. Choosing the right lag is crucial as it can significantly impact the accuracy of your model's predictions and help to capture underlying patterns and dependencies in the data. There are various lag selection criteria's given in the table, but the optimal results extracted by AIC are most favorable and optimistic for further analysis. Therefore, the results from the **Table 4.10** reveal that lag four is optimal, on the basis of highest values of AIC lag selection criteria.

Table 5.10: Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3278.369	NA	6.27e+21	64.37979	64.50846	64.43189
1	-2726.584	1038.654	2.05e+17	54.05067	54.82272	54.36330*
2	-2688.356	68.21053	1.59e+17*	53.79130	55.20673	54.36446
3	-2664.790	39.73886	1.65e+17	53.81942	55.87822	54.65310
4	-2637.397	43.50697*	1.60e+17	53.77249*	56.47467	54.86670

Note: * indicates lag order selected by the criterion.

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Panel Cointegration Test

Panel cointegration test is a statistical method employed to assess the long-run relationship between variables in a panel. It serves as a fundamental tool in examining the equilibrium relationships among multiple time series variables observed over both cross-sectional and time dimensions. The following panel cointegration tests were employed to ascertain the existence of cointegration among the variable of interest for further analysis.

The results in the **Table: 5.11** show that two tests of cointegration were applied to find out the long-run relationship between the variable. So in this context, the findings from Pedroni test reveal that both within and between the dimensions rejects the null hypothesis of no-cointegration as indicated by the by the panel ADF-statistics at 1 percent statistical significance level in within the group and is also rejected by the penal ADF- statistics between groups. However, Kao test also rejects the null hypothesis of no-cointegration by having one percent level of significance. This indicates the presence of cointegration between the dependent and independent variables of study. Hence, we conclude on these basis that this existence of cointegration makes it eligible and appropriate as per the techniques employed in the study.

Table 5.11: Cointegration Test

Statistic	Value	Probability	Decision
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	1.343977	0.1222	Accept
Panel Rho-Stat	4.888673	1.0000	Accept
Panel PP-Stat	2.748696	0.9972	Accept
Panel ADF-Stat	-3.211767	0.0003	Reject
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	4.842143	1.0000	Accept
Group PP-Stat	-4.04405	0.0013	Reject

Group ADF-Stat	-3.558423	0.0002	Reject
Kao (Engle-Granger Based)			
ADF	-2.881859	0.0020	Reject

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

Panel ARDL Model

The existence of cointegration among the variables, enables us to present both the long-run and short-run results of penal ARDL with optimal lag length of four using by Akaike information criterion.

The estimates in the table portray the impact of macro-economic variables on Sukuk market capitalization by using pooled mean group estimator of penal ARDL to bound cointegration. This estimation system is dependent on the maximum likelihood technique is considered the most predictable because it represents the individual characteristics (country, region, and so forth.) and gives a superior assessment of the long-term relationship.

Therefore, by employing this technique the long-run results show that all the variables have shown significant impact on Sukuk market capitalization. In case of GDP, a percentage increase will lead to an increase of 9.84 percent in Sukuk market capitalization across the selected sample. Similarly, in short-run a percentage increase in GDP leads to an increase of 2.44 percent in Sukuk market capitalizations of selected countries. These estimates exhibit that a sound economic situation may have a favorable link with market capitalizations of Sukuk issuing countries.

Table 5.12: Panel ARDL Model

Dependent Variable: D (SKMC)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
GDP	9.84E-12	4.35E-12	2.260738	0.0263
INF	-1.55E-08	4.39E-09	-3.531131	0.0007
FDI	-0.27E-08	1.68E-08	-3.145956	0.0023
TO	1.27E-08	3.74E-09	3.408381	0.0010
Short Run				
COINTEQ01	-0.436625	0.089328	-4.887875	0.0000
D(GDP)	2.44E-11	1.37E-11	1.778456	0.0789
D(INF)	-2.26E-09	2.73E-09	-0.827271	0.4104
D(FDI)	2.19E-08	1.88E-08	1.166719	0.2465
D(TO)	2.30E-08	2.04E-08	1.125055	0.2637
C	-9.21E-08	1.14E-07	-0.805377	0.0228

Mean dependent var	3.02E-08	S.D. dependent var	5.34E-07
S.E. of regression	4.46E-07	Akaike info criterion	-26.07721
Sum squared resid	1.71E-11	Schwarz criterion	-24.79267
Log likelihood	2019.791	Hannan-Quinn criter.	-25.55534

A growing GDP usually supports the development of a country's financial markets. As the economy grows, there tends to be a diversification in financial services including banking, insurance, and capital markets. This development helps in creating a conducive environment for the issuance and trading of Sukuk, providing better liquidity and market depth. These findings are consistent with study of Mirza and Sultana (2020) and Basyariah (2021), by backing the significant effect on the development of the Sukuk market in GCC countries as well.

Subsequently, the estimates in table exhibit that in long-run inflation has a significant but negative impact on Sukuk market capitalization across the sample. Which indicates that a

percentage increase in inflation may lead to a decrease of -1.55 percent in Sukuk market capitalization. These estimates display consistency with the studies of Mirza and Sultana (2020), Ariyana (2020), and Basyariah (2021). The findings also justify the theoretical opinion that Inflation erodes the real purchasing power of people. Investors seeking to preserve capital, might shift their preferences towards assets that potentially offer inflation-adjusted returns, such as equities or commodities, leading to a decrease in demand for Sukuk (Al-raeai, et al., 2018).

The results in table also reveal that variable of FDI has also shown significant impact on Sukuk market capitalization in long-run across the selected sample. The empirical findings show that with a percentage increase in FDI, the Sukuk market cap will decrease by -0.27 percent across the sample of countries.

Conversely, the estimates reveal that trade openness have positive and significant impact on Sukuk market cap across the sample. The table shows that a percentage increase in trade openness may lead to an increase of 1.27 percent in Sukuk market cap. This indicates, trade openness significantly and favorably influences the growth of the Sukuk market. This suggests that the more openness to trade, the easier it is to obtain outside finance, and the faster local Sukuk development marketplace. Predominately, trade openness plays a crucial role in Sukuk or bond market development of any economy. It refers to the extent to which countries or economies permit trade with other countries or economies. More open economies do less to suppress the securities market because entrenched interests may be unable to impose regulations that restrict rival sources of supply when the economy is subjected to international competition. These trade openness estimates are similar with the findings of Mirza and Sultana (2020) and Sukuk (Al-raeai et al. 2018). Finally, the coefficient on the error correction term is substantial with a negative anticipated sign, implying that errors in the short run are corrected back to equilibrium in the long run. The relevance of the ECT at the 1% level demonstrates the robustness of this corrective process.

5.5 Impact of banking sector development on Sukuk market development

In this segment, we present the findings of our study, followed by a comprehensive discussion that interprets these results in the context of existing knowledge. The results are detailed to underscore their relevance and reliability, providing a robust framework for the subsequent analysis. Our discussion aims to separate the implications of these findings, drawing on both theoretical footings

and empirical precedents to provide understanding of their significance. This analysis not only addresses the objectives outlined earlier but also explores unexpected outcomes and their potential implications. Thus for simplicity, we have embarked on this segment with the preliminary step of stationary tests followed by cointegration and penal ARDL results.

Stationarity Tests

In this preliminary step, we have tested the Stationarity of our data to confirm whether the data unit root or not. Therefore, in this pursuit we applied the same tests of penal unit root test, like pervious segment to find out the Stationarity orders of the data. These results are given in (Appendix-A), exhibit that some of the variables of banking sector development are integrated of order zero or I (0) and other variables were not stationary at level. Therefore, these variables were first differenced with a view to obtain their Stationarity values. Afterwards, results for first difference obtained from penal unit root at difference show that p-values of all variables were less than 0.05, suggesting that these variables are stationary at first difference. Therefore, it is justified to apply the ARDL procedure, which permits the combination of the two stationary orders.

Panel Cointegration

Panel Cointegration testing provides valuable insights into the long-run relationships among the variables in panel datasets. Thus same procedure and tests were employed in this section as well, which are displayed in the **table: 5.13** below:

Table 5.13: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-0.27292	0.8051	Rejected
Panel Rho-Stat	0.32264	0.9306	Rejected
Panel PP-Stat	-3.27549	0.1691	Rejected
Panel ADF-Stat	0.63532	0.0082	Accepted
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	2.932832	0.9983	Rejected
Group PP-Stat	-2.422632	0.0000	Accepted
Group ADF	-2.121090	0.0052	Accepted
Kao (Engle-Granger Based)			
ADF	2.654936	0.0000	Accepted

The results displayed above in the table, reveal that null hypothesis of no cointegration is rejected as highlighted in the Pedroni test of cointegration. It shows that ADF stats in both within and between the dimensions has rejected null hypothesis of no-cointegration at one percent significance level respectively. Moreover, PP stat in between the dimension and **kao** test has also rejected the null hypothesis of no-cointegration. Therefore, presence of long-run relationship among the variables with optimal lag length of one using the Akaike information criterion (Appendix-E), justifies the application of penal ARDL approach for further estimation.

Panel ARDL Model

The ARDL model addresses the challenges by integrating both short-run dynamics (through autoregressive terms) and long-run relationships (through distributed lag terms) within a unified framework. In a panel context, this allows for the examination of both individual-specific effects and time-specific trends while capturing the potential interdependencies among different entities over time.

Table 5.14: Panel ARDL Model

Dependent Variable: D (SKMC)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
DCPS	6.52E-09	1.91E-09	3.406990	0.0010
FD	2.52E-09	3.98E-09	0.632591	0.5285
SRG	1.96E-08	9.24E-09	2.118297	0.0367
Short Run				
COINTEQ01	-0.395513	0.073823	-5.357615	0.0000
D(DCPS)	2.31E-08	1.12E-08	2.061144	0.2420
D(FD)	-7.29E-09	5.38E-09	-1.355302	0.1785
D(SRG)	8.02E-07	8.18E-07	0.981595	0.3287
C	-2.35E-08	1.60E-07	-0.146556	0.0008

Mean dependent var	3.02E-08	S.D. dependent var	5.34E-07
S.E. of regression	4.78E-07	Akaike info criterion	-26.23600
Sum squared resid	2.22E-11	Schwarz criterion	-25.17224
Log likelihood	2020.700	Hannan-Quinn criter.	-25.80383

This section highlights the results of both long-run and short-run, using pooled mean group estimator of penal ARDL. We have employed the same procedure of penal ARDL to find out the impact of banking sector development on Sukuk market development in the selected sample.

Therefore, in this pursuit the estimates of long-run in the table depict that two variables are significantly related with Sukuk market capitalization. While in short-run all the variables are insignificant. So, the long-run results show that with a percentage increase in domestic credit to private sector by banks indicate an increase of 6.52 percent in Sukuk market capitalization across the countries consideration. These results shows consistency with the findings of M. Ilo, et al. (2018), that a larger banking sector size is associated with a larger bond market capitalization. This

implies that bank and bond market intermediation is complementary with each other rather than substitutes.

However, these results contradict the findings of Smaoui et al. (2017) and Al-Raeai et al. (2019), who reported a negative relationship between banking sector development and Sukuk market development. According to their studies, countries with more advanced banking systems tend to have less developed Sukuk markets, suggesting that banking intermediation and Sukuk market intermediation act as substitutes rather than complements. In other words, a well-developed banking sector reduces the reliance on Sukuk, hindering the growth of the Sukuk market.

Similarly, the long-run results in the table portray that financial depth (FD) had an insignificant and positive impact Sukuk market development in the selected countries. It shows a percentage increase in FD leads to an increase of 24.20 percent in Sukuk market capitalization. These findings show consistency with the study of sultana and Mirza (2020), as they have also found an insignificant impact of FD on Sukuk market development.

Thus we conclude, that financial depth of the banking industry can have a big impact on how the Sukuk market develops by improving liquidity, encouraging improved risk management techniques, encouraging product innovation, and guaranteeing a stable and encouraging regulatory framework. The good effect is contingent upon the degree to which the expansion of the banking industry is in line with the tenets of Islamic finance, and on the efficient regulation of the Sukuk and banking sectors to prevent systemic concerns.

Lastly, the long-run estimates of saving ratio also show a positively significant impact on Sukuk market capitalization across the sample. The results demonstrate that a percentage increase in savings ratio (SR) will lead to an increase of 1.96 percent in Sukuk market capitalization across the countries of consideration. These findings comply with the theory of Al-raeai et al. (2018), that similar to banks and financial intermediaries, Sukuk markets offer a means of combining surplus unit savings and allocating them to profitable ventures. However, savings may flow through the banking system rather than the Sukuk market if the banking industry is more established. This would indicate that banks are better able to finance both themselves and corporations through deposits in nations with high saving rates.

Lastly, the ECT measures how far the variables are from their equilibrium state. It's used to capture short-term dynamics and adjustments back to the long-run equilibrium. It is used to estimate the speed of adjustment towards the long-run equilibrium relationship between variables.

A significant ECT indicates that the variables are deviating from their long-run relationship and are adjusting back to equilibrium. Therefore, the ECT is significant at 1 percent and negatively signed, which shows the robustness of this correction mechanism.

5.6 Impact of Institutional Quality on Sukuk Market Capitalization

This section presents the research findings in a logical and structured format, beginning with a brief overview of the main results. This summary is followed by a detailed discussion that objectively assesses the extent to which the research objectives were achieved. This systematic approach provides valuable insights into the outcomes of the study. facilitating a thorough evaluation of the research objectives and their alignment with the actual findings.

Overall, this section is integral to the research process, bridging the gap between data collection and theoretical understanding, it serves as a testament to the rigor and depth of the study Therefore, we conclude the chapter with this section by testing Stationarity followed by cointegration and penal ARDL results.

Stationarity Test

This is the preliminary step, in which we have tested Stationarity of the data to find whether the data has unit root or not. This section uses panel unit root tests, such as the Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1981), Phillip Perron (PP) (Perron, 1988), Levin et al. (2002) (LLC), and Im et al. (2003) (IPS), to assess the time characteristics of the variable utilized in this study. According to the decision rule, the tested variable is deemed stationary or devoid of unit roots if the absolute p-value from the LLC, IPS, ADF, or PP tests is less than the 5 percent critical value. Conversely, if the PP test, LLC test, IPS test, or ADF test's absolute p-value exceeds the 5 percent critical value it is determined that that there are unit roots or that the tested variable is non-stationary. Whereas, after employing these tests we found different orders of Stationarity i.e. at level and at first difference (Appendix-A). Therefore, the results suggested that penal ARDL as the appropriate estimation technique to be employed for ascertaining the final outcomes.

Panel Cointegration

This section, exhibits a stable, long-run relationship among the variables across different cross-sectional units in the panel. The same procedure and tests were employed in this section as well, which are displayed in the **table: 5.15** below:

Table 5.15: Cointegration Test

Statistic	**Value**	**Probability**	**Conclusion**
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-1.498717	0.8051	Accepted
Panel Rho-Stat	2.561341	0.9306	Accepted
Panel PP-Stat	-0.091341	0.1691	Accepted
Panel ADF-Stat	0.639084	0.0082	Rejected
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	2.932832	0.9983	Accepted
Group PP-Stat	-2.422632	0.0000	Accepted
Group ADF	-2.121090	0.0052	Rejected
Kao (Engle-Granger Based)			
ADF	-4.121316	0.0000	Rejected

The results showed above in the table, reveal that null hypothesis of no cointegration is rejected as highlighted in the Pedroni test of cointegration. The estimated outcomes from penal cointegration test demonstrates that the established hypothesis is rejected by ADF stats in both within and between the dimensions at one percent significance level respectively. Moreover, it shows that PP stat in between the dimension and ADF in **kao** test has also rejected the null hypothesis of no-cointegration. Therefore, results from the table explicitly reveal that there exists a stable long-run relationship among the variables with optimal lag length of one using the Akaike information criterion (APPENDIX), and accordingly vindicates the application of penal ARDL approach for further estimation.

Panel ARDL Model

Given the presence of cointegration, we show both the long and short run findings of the panel ARDL (1,1,1,1,1) in Table below, with an optimal lag length of one using the Akaike information criteria (Appendix-F).

Table 5.12: Panel ARDL Model

Dependent Variable: D (SKMC)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
BQ	7.32E-09	1.05E-07	0.069822	0.0005
COR	5.20E-07	1.49E-07	-3.488438	0.0008
IP	-1.70E-08	2.85E-08	-0.595433	0.5531
LO	5.33E-07	1.35E-07	3.958510	0.0002
Short Run				
COINTEQ01	-0.266118	0.064863	-4.102766	0.0001
D(BQ)	1.13E-07	1.11E-07	1.023744	0.3088
D(COR)	5.73E-08	5.82E-08	0.983951	0.3279
D(IP)	6.66E-08	7.05E-08	0.945245	0.3472
D(LO)	-1.25E-07	9.65E-08	-1.296284	0.1983
C	-2.09E-07	1.01E-07	2.063937	0.0420

Mean dependent var	3.02E-08	S.D. dependent var	5.34E-07
S.E. of regression	4.94E-07	Akaike info criterion	-26.34489
Sum squared resid	2.10E-11	Schwarz criterion	-25.06035
Log likelihood	2039.866	Hannan-Quinn criter.	-25.82302

The results highlighted in the above table show both long-run and short-run estimates of penal ARDL, using pooled mean group estimator. Whereas, this section has also employed the same technique and procedure to ascertain the impact of institutional quality on Sukuk market development across the selected sample.

Therefore, the estimates from the table reveals that all the variables of institutional quality except investment profile in long-run have significant impact on Sukuk market development in the selected countries. Long-run estimates in case Bureaucratic Quality exhibit that a percentage increase in this variable will lead to an increase of 7.32 percent improvement in Sukuk market capitalization across the selected countries. This indicates that Countries with better bureaucratic quality system are likely to experience more vibrant and resilient Sukuk markets, attracting both domestic and international investors. However, these results are inconsistent with the study of Smaoui & Khawaja (2017), who advocates negative and insignificant relation between the two variables.

Similarly, the estimates in the table show that the coefficient of corruption is positive with 1% significance of level. It means that a percentage increase in control of corruption will clearly have an increase of 5.20 percent in Sukuk market capitalization in the selected countries. The study carried out by Smaoui & Khawaja (2017), justifies these results by advocating that the lower the level of corruption in the political system, the larger the Sukuk market development.

Subsequently, the results show that law and order is positive and significantly related with Sukuk market development in the selected sample. It means a percentage increase law and order will lead to an improvement of 5.33 percent in Sukuk market capitalization. These results show consistency with the study of sultana and Mirza (2020) and Basyariah et al. (2021), who generalized that law and order is the essential indicator of Sukuk market development. It is believed that people's economic activities will be steadier and more likely to rise in tandem with the law and order if public faith in the law and order is higher. An increase in the index of law and order may have an impact on public confidence when making investment decisions, particularly with regard to Sukuk instruments. Therefore, law and order indicator is decisive for issuers because it gives them confidence to issue Sukuk in the nation, particularly in light of laws and regulations that assist investors and issuers in bringing the Sukuk market back to life.

And lastly, the error correction part represents the speed of adjustment from the short run to the long run, is significant at 1 percent and negatively signed. Which signifies the extent to which the variables are out of equilibrium and need to adjust to return to their long-run relationship.

Conclusion:

This main objective of this section, was to empirically assess the impact of economic factors on the development of Sukuk market capitalization across the ten selected countries. Therefore, for simplicity we have opted three separate models i.e. macro-economic variables, banking sector development and institutional quality to find out their impact o Sukuk markets. After, employing penal ARDL to bound cointegration on all three distinct models to acquire the robust results. We found that all the economic factors have significant relation with Sukuk market development.
In case of model I, we found that the empirical results reveal that only two macroeconomic variables i.e. GDP and inflation have shown significant impact on Sukuk market capitalization. Although, inflation was significant but with negative impact, which means only GDP have shown positive and significant impact on Sukuk markets both in long-run as well as in short-run. While the all other variables were insignificant throughout the model.

In model II, all the banking sector development indicators were significantly related with Sukuk market in long-run, but were found insignificant in short-run. The results from model II explicitly, reveal that a well-developed banking sector is inevitable for Sukuk market development.

Lastly, model III which describes the impact of institutional quality on Sukuk market development across the sample. The findings of this model show that all variables except IP of institutional quality are significantly related with Sukuk market development in long-run. Which clearly indicates that Sukuk market development in any nation is dependent on the vibrant quality of institutions.

CHAPTER 6: RESULTS AND DISCUSSIONS

This chapter examines into the empirical findings obtained through our inclusive methodology, with a focus on addressing the research questions posed at the beginning of this study. The subsequent analysis of stock market development is designed to provide a detailed interpretation of the results, shedding light on the insights gathered and their implications. Through, the evidences, we aim to uncover meaningful patterns, trends, and relationships that inform our understanding of the research questions, ultimately contributing to the broader body of knowledge in this field. While, embarking on this analytical journey, it is vital to recall the foundational pillars upon which our objectives were established. The theoretical footings, as thoroughly discussed in the literature review, provide a lens through which the results can be viewed, offering insights into their broader implications. It is through this prism that the data's narrative will be interpreted, highlighting both the anticipated and the unforeseen revelations that have emerged.

Therefore, this sections will meticulously present the data, employing a variety of analytical tools and techniques to ensure a comprehensive examination of the results. This detailed exposition is not merely an end in itself but a means to navigate deeper into the understanding of variables. The results and interpretations section stands as evidence of analysis and its contribution to knowledge. Therefore, this section witnesses the portrayal of the estimated results and their interpretation i.e. impact of economic factors on stock market development in the selected countries.

6.1 Impact of macro-economic variables on stock market development

Descriptive Analysis

Descriptive analysis is often the first step in data analysis, providing insights into the characteristics of the data and guiding further exploration or hypothesis testing. It helps in identifying patterns, outliers, and potential relationships within the dataset. Descriptive statistics basically, refers to that branch of statistics which centers on summarizing and describing the characteristics of a dataset. It involves techniques for organizing, summarizing, and presenting data in a meaningful way, typically through numerical or graphical methods. Descriptive statistics is used to gain insights into the variability, distribution, and shape of the data (Kothari, 2004).

The descriptive statistics portrayed in **Table 6.1**, exhibits the distribution and variability of the variables employed in the analysis. The table exhibits the statistical manner of data from 2008-2022 across ten countries. The variables of study, shown in the table are: SMC (stock market capitalization), and GDP (gross domestic product), INF (inflation), FDI (foreign direct investment), ML (market liquidity), and TO (trade openness). The findings from the table revealed that the range of average values is from 2.001(FDI) to 39726.33 (GDP) across the variables. Whereas, the mean and median values are almost close which suggest low variability and symmetry. Standard deviation which is the measure of dispersion or deviation from mean, ranges from 1.957 (FDI) to 36798.58 (GDP). Skewness shows that all the variables except inflation are positively skewed.

In case of Kurtosis, if the value is equal to 3 then normal distribution and pattern is called mesokurtic. If the value is > 3 then pattern is called leptokurtic that are associated with simultaneously peaked and fat tail. But when value of kurtosis is less than 3 it is called platykurtic and is associated with simultaneously less peaked and have thinner tail. The kurtosis value is often compared to the kurtosis of a normal distribution, which is 3 (using the "excess kurtosis" calculation, where excess kurtosis = kurtosis - 3). Positive excess kurtosis indicates a leptokurtic distribution, while negative excess kurtosis indicates a platykurtic distribution. It's important to note that kurtosis is a measure of the tails' heaviness, not the peak's sharpness, even though leptokurtic distributions also tend to have sharper peaks (Kothari, 2004). So, the values in our case showing both leptokurtic as well as platykurtic behavior, five values are greater than 3 while only one of the value is less than 3 with the maximum value of 163219.5 and minimum value of -25.12981.

Lastly, Jarque-Bera test, which evaluates whether the Skewness and kurtosis of the data significantly deviate from those of a normal distribution. If the calculated test statistic exceeds a critical value, it suggests that the data are not normally distributed. Therefore, a significant Jarque-Bera test result indicates non-normality in the data. As for the probability associated with the Jarque-Bera test, it refers to the significance level or p-value. This probability indicates the likelihood of observing a test statistic as extreme as the one calculated from the sample data, assuming the null hypothesis of normality is true. A low p-value (typically below a chosen significance level, e.g., 0.05) suggests that the null hypothesis of normality should be rejected, indicating that the data are not normally distributed. Conversely, a high p-value suggests that there

is insufficient evidence to reject the null hypothesis, implying that the data may be approximately normally distributed (Olayungbo, 2021). Whereas, our statistical results from the **Table: 5.1** portrays that all the probability values are lesser than 0.05 percent implies that the null hypothesis of normal distribution is rejected.

Table 6.1: Descriptive Statistics

	SMC	GDP	INF	FDI	ML	TO
Mean	64.89524	39726.33	5.004067	2.001721	48.95321	87.06178
Median	51.26790	27708.43	5.446449	1.540657	27.03758	71.12015
Maximum	345.3530	163219.5	28.95059	11.45597	365.7665	191.8726
Minimum	12.79160	2625.406	-25.12981	-1.685509	0.941112	24.70158
Std. Dev.	57.52333	36798.58	9.160380	1.957004	64.69983	50.11380
Skewness	2.879171	1.321939	-0.515167	1.692663	2.534350	0.458078
Kurtosis	13.33498	4.577467	4.394840	7.579912	9.837706	1.765650
Jarque-Bera	787.3334	53.31653	16.91530	182.4527	407.5084	13.29166
Probability	0.000000	0.000000	0.000212	0.000000	0.000000	0.001299
Observations	150	150	150	150	150	150

Correlation matrix

Correlation matrix is basically, a table showing correlation coefficients between variables. Each cell in the table shows the correlation between two variables. The value of a correlation coefficient ranges between -1 and 1. A correlation of 1 indicates a perfect positive correlation, meaning that as one variable increases, the other variable increases at a constant rate. And -1 indicates a perfect negative correlation, meaning that as one variable increases, the other variable decreases at a constant rate. Consequently, 0 indicates no correlation, meaning there's no linear relationship between the variables.

The diagonal of the correlation matrix typically shows ones (1s) because each variable is perfectly correlated with itself. Therefore, Correlation matrices is used to examine the relationships between variables and to identify potential factors for further analysis.

Table 6.2: Correlation matrix

Correlation Probability	SMC	GDP	INF	FDI	ML	TO
SMC	1.000000					

GDP	0.244688	1.000000				
	0.0042	-----				
INF	-0.259513	-0.217814	1.000000			
	0.0024	0.0112	-----			
FDI	0.100894	0.074241	-0.090004	1.000000		
	0.2443	0.3921	0.2992	-----		
ML	-0.242807	-0.110908	0.295095	-0.050200	1.000000	
	0.0045	0.2003	0.0005	0.5631	-----	
TO	0.289504	0.503905	-0.274807	0.456704	-0.241696	1.000000
	0.0007	0.0000	0.0013	0.0000	0.0047	-----

The empirical results from **Table 6.2** reveals correlations among the selected variables. It shows that most of the macro-economic variables are significant and positively related with one another. In case of stock market capitalization, it reveals that only two variables have negative correlation signs i.e. inflation and market liquidity. Whereas, the matrix exhibits that they have significant relationship with SMC but have negative correlation as well.

Panel Unit Root Test

To ascertain, the association between dependent and independent variables, the study initially breaks down the stationary properties of the series and by applying different penal unit root test to obtain robust results and avoid spurious results over the other customary unit root tests for little

samples. There are several stationary tests that may be used to determine the unit roots of variables in penal data, including the "Levin-Lin-Chu (LLC), Im-Pesaran-Shin (IPS), and Maddala & Wu (MW) unit root tests". The judgment rule is that if the absolute p-values of these tests are less than the 5% critical value, it is determined that the tested variable is stationary or lacks unit roots. If the absolute p-values of these tests above the 5% threshold limit, the tested variable is declared non-stationary or has unit roots (Olayungbo, 2021). Therefore, on the basis of above mentioned context, results shown in (Appendix-A) reveals different levels of significance, which indicates that some variables stationary at level while some are non-stationary. Therefore, to meet the prerequisites of Stationarity, we have applied another alternative procedure i.e. penal unit root test at first difference portrayed (Appendix-A).

In conclusion, the penal unit root test at the level reveals that some variables are integrated of order zero I (0)) while others are non-stationary at the level. To achieve Stationarity, first differencing was applied to the non-stationary variables. The results show that all variables have p-values less than 0.05 at the first difference, indicating Stationarity. These Stationarity results justify the application of the ARDL approach, which is deemed an appropriate model for testing the impact of macroeconomic variables on stock market development. This is because some variables are stationary at levels, while others are stationary at first difference (Nkoro and Uko, 2016). The ARDL approach can effectively handle this mix of stationary and non-stationary variables, providing robust estimates of the relationships between the variables.

Lag Selection Criteria

Applying, ARDL approach, one critical step is to determine the optimal lag lengths for the autoregressive terms and the lagged values of the independent variables. This selection is crucial for model accuracy, avoiding over fitting, and ensuring the statistical significance of the variables. Therefore, it is the common issued faced in ARDL technique i.e. lag length selection. Hence to overcome, this issue we have used the Akaike information criterion, Schwarz information criterion and Hannan-Quinn information criterion to acquire an optimal lag. These criteria's are usually used for optimal lag selection, in the context of the ARDL model. Consequently, considering the Criteria of selecting optimal lag, the results in **Table 6.3** revealed that the results extracted by AIC are the most favorable and optimistic for further analysis. Thus, the results reveal that lag one is optimal, on the basis of the values of AIC lag selection criteria.

Table 6.3: Lag Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3282.699	NA	2.88e+21	66.43837	66.59565	66.50201
1	-2669.215	1140.212	2.47e+16	54.77203*	55.87299*	55.21748*
2	-2603.646	113.9186*	1.37e+16*	54.17467	56.21931	55.00193
3	-2573.457	48.79108	1.57e+16	54.29205	57.28037	55.50113
4	-2549.548	35.74230	2.08e+16	54.53632	58.46832	56.12721

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion"

Panel Cointegration Test

Panel Cointegration Test is basically, used to determine whether a long-run equilibrium relationship exists between two or more variables across different cross-sections (e.g., countries, companies, regions) over time. This approach is particularly useful in panel data analysis, where the data involves observations over multiple time periods and across various cross-sections. Panel cointegration test is basically, an extension of cointegration tests of time series data to panel data settings (Olayungbo, 2021). There are various methods, for testing cointegration in panel data, for that purpose the following tests has been used in the study:

1. **Pedroni Test**: Developed by Peter Pedroni, it is one of the most widely used panel cointegration tests. Pedroni's framework allows for heterogeneity across the different panels, meaning it does not assume identical cointegration vectors across the panels. The test provides several statistics, both within-dimension (assuming common cointegration vectors across panels) and between-dimension (allowing for heterogeneous cointegration vectors), to test the null hypothesis of no cointegration against the alternative hypothesis of cointegration (Pedroni, 2004).

2. **Kao Test:** Similar to the Pedroni test, the Kao test is another approach to testing for cointegration in panel data. However, Kao's test assumes homogeneity in the cointegration vector across the cross-sections (Tsaurai, 2018).

Table 6.4: Panel Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-2.06957	0.9808	Accept
Panel Rho-Stat	2.71048	0.9966	Accept
Panel PP-Stat	-4.41646	0.0000	Reject
Panel ADF-Stat	-2.35525	0.0093	Reject
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	3.01736	0.9987	Accept
Group PP-Stat	-4.93676	0.0000	Reject
Group ADF	-0.568532	0.7152	Accept
Kao (Engle-Granger Based)			
ADF	-0.98994	0.1611	Accept

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The Pedroni (2004) panel cointegration test can be used to determine the cointegration analysis between and within groups in the sampled nations. Two groups comprise the groupings. The second portion of the test statistics is calculated between groups, whereas the first four are determined using the panel statistics within group. As demonstrated by the panel PP-statistics and panel ADF-statistics at the 1 percent statistical significance level for both the within-group and group-to-group PP-statistics, respectively, the result in Table 5.5 indicates that the null hypothesis of no cointegration is rejected. This implies that the dependent variable and the explanatory factors of the chosen nations cointegrate.

Panel ARDL Model

The panel ARDL results portrayed in the above Table, shows both the long-run and short-run results, estimated from penal ARDL (1, 1, 1, 1, 1, 1,), using Akaike info criterion (AIC) in (Appendix-G). We used the pooled mean group estimator, which allows the long-term slope coefficients to be homogeneous across the countries but allows the short-term coefficients, such as the intercepts, the adjustment speed to the long-term equilibrium values, and the error variances, to be heterogeneous country by country (Pesaran et al., 1999). Therefore, in this context the estimates from the above mentioned approach presented in the table reveals long-run in the first part of the table and short-run results in the second part. Thus starting from the long-run estimates, we found that four independent variables have significant impact on the stock market development across the sample countries. The estimates reveal that an increase in these variables may lead to increase in stock market development in the long-run. However, inflation shows insignificant impact on stock market capitalization in the long-run.

Long-run estimates from the table reveal that GDP has significant impact on the development of stock markets in the selected countries. These results basically, demonstrate that in the long-run, an increase in GDP in the sample countries will have positive impact the stock market development. The coefficient of GDP is positive and have also significant impact on the stock market capitalization in the long-run, which indicates that stable economic condition will have positive influence on stock market development. These results are consistent with Sin-Yu (2017) and with the study of Molefhi (2021).

The estimated results in case of inflation in long- run depicts that it has significant influence on stock market capitalization across the sample countries. This reveals that, higher rates of inflation are associated with less liquid and smaller equity markets. However, in the short-run a percentage increase inflation will lead to a decline of 0.4 % in stock market capitalization. Which indicates that increase in inflation will reduce the purchasing power means value of money will fall, which can reduce the value of future cash flows from stocks, leading to a decline in stock prices. On the other hand, to combat inflation, central banks may raise interest rates, which can increase borrowing costs for companies and reduce consumer spending, which may also lead to

lower stock prices. Whereas, these findings are consistent with the study of Sin-Yu (2017), which justifies the short-run relation findings established in our case.

Similarly, the long-run results disclose that FDI has significant impact on the development structure of stock markets. Claessens and Rhee (1993) argue that foreign direct investment has a positive long-term impact on capital markets. They point out that equity portfolio flows can benefit the efficiency of domestic capital markets by leading to further liberalization and development of domestic equity markets. It then further improves the mobilization and allocation of domestic resources. So in this context, the long-run results indicate that a percentage increase in FDI will lead an increase of 0.43% in stock market capitalization. While on the other side, short-run results demonstrate that FDI has negative and insignificant relation with stock market development.

Subsequently, the long-run results displayed in the table reveals that the coefficient of market liquidity is positive and is significantly influencing the stock market capitalizations in the sample countries. These, results indicate that in long-run a percentage increase in stock market liquidity will lead to an increase of 0.011% in stock market capitalization. These long-run estimates of market liquidity are alike with the study of Tsaurai (2018). This slight augmentation in stock market capitalization is justified by various studies as a substantial prospective step on the way of stock market development. This notion is justified, that Liquid stock markets allow investors to access their savings with ease and enhance capital allocation. This increases the investors' confidence in the stock market hence promoting stock market development in the long run (Yartey & Adjasi, 2007).

Similarly, the estimates demonstrate that in long-run trade openness is showing a positive and significant impact on stock market capitalization. The results display, that a percentage increase in trade openness will lead to an increase of 0.011% in stock market capitalization in the long-run across the sample. Our findings align with the research of Rajan and Zingales (2003), who found that trade openness positively influences financial market development. By reducing the incentives of incumbent financial intermediaries to limit competition, trade openness promotes investment, bank lending, and overall financial market growth. Similarly, Braun and Raddatz (2005) observed that financial systems improve when countries liberalize their trade sectors. Our results also corroborate the findings of Tsaurai (2018), who identified a significant positive relationship between trade openness and stock market capitalization. However, in the short term,

our analysis reveals a negative and insignificant relationship between these two factors, highlighting the complex dynamics at play.

Moreover, the result shows that the coefficient of the error correction term is positive and statistically significant. It shows that when the variables drift apart from the equilibrium level by 1 per cent in the short run, it will adjust 0.52per cent in the long run, indicates the goodness of fit of the model.

Table 6.5: Panel ARDL Model

Dependent Variable: D (SMC)

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
GDP	2.79E-05	9.23E-06	3.027800	0.0037
INF	-0.001550	0.001424	1.088573	0.008
FDI	0.432405	0.041557	10.40520	0.0000
ML	0.011413	0.005559	2.053199	0.0446
TO	0.011168	0.001756	6.359823	0.0000
Short Run				
COINTEQ01	-0.293414	0.161710	-1.814449	0.0748
D(GDP)	-0.000133	8.49E-05	-1.561505	0.1238
D(INF)	-0.004727	0.002074	-2.279771	0.0263
D(FDI)	-0.024450	0.055494	-0.440594	0.6611
D(ML)	0.000131	0.004304	0.030444	0.9758
D(TO)	-0.002163	0.004673	-0.462930	0.6451
C	-0.529757	0.307760	1.721332	0.0005

Mean dependent var	0.044375	S.D. dependent var	0.264358
S.E. of regression	0.227823	Akaike info criterion	-0.549572
Sum squared resid	3.010391	Schwarz criterion	0.981120
Log likelihood	102.6230	Hannan-Quinn criter.	0.072300

6.2 Impact of banking sector development on stock market development

Like the previous section, main focus of this model is also on to ascertain the impact of independent variables on the dependent variable. Although, in former section we have provided all the necessary details with all statistical and econometric procedures, mainly to comprehend the estimation process. But in this section, we have started from preliminary test of Stationarity followed by cointegration and penal ARDL analysis.

Panel Unit Roots

In this preliminary step, we have established Stationarity tests to confirm whether the data is stationary or not. Therefore, in this context, we have applied the same penal root tests procedure (Levin-Lin- chu (LLC), Im-Pesaran- Shin (IPS) and Maddala & Wu (MW)) used in the first model to determine the presence of unit root in the series. Accordingly, after conducting the penal unit root test, the results in appendix reveal a combination of two Stationarity orders i.e. some variables are stationary at level and some at first difference (Appendix-A).

Cointegration Test

The purpose of the co-integration test is to determine the possibility of a long-term relationship between the dependent variable and the independent variables. Therefore, the approaches used to test Cointegration among the variables of study are portrayed in **Table 5.6**.

Table 6.6: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-2.75383	0.9971	Accepted
Panel Rho-Stat	3.67643	0.9998	Accepted
Panel PP-Stat	4.32648	0.0008	Rejected
Panel ADF-Stat	3.66637	0.9999	Accepted
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	2.73021	0.9968	Accepted
Group PP-Stat	-4.63011	0.0000	Rejected
Group ADF	-1.44117	0.0748	Accepted
Kao (Engle-Granger Based)			
ADF	1.4761	0.0001	Rejected

According to "Pedroni's (2004) panel cointegration test, the estimates in the table show cointegration analysis of the tested data both within and between the groups. The first four test statistics are calculated using the panel statistics within dimensions, while the second portion is determined between dimensions. On the other hand, **table 6.6** results show that, for both inside and between the dimensions, the panel pp-statistics and group pp-stat at the 1 percent statistical significance level reject the null hypothesis that there is no cointegration". This shows that the dependent variable and the independent variables are cointegrated. As a result, these estimates show that the same process was used to get both the short- and long-term findings.

Panel ARDL Model

Given the presence of cointegration, the table below shows the results of both long-run and the short run panel ARDL (1,1,1,1,1) with optimal lag length of one using the Akaike information criterion (Appendix-H).

Table 6.7: Panel ARDL Model

Dependent Variable: D (SMC)

Method: ARDL

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
DCPS	0.050290	0.005831	8.624362	0.0000
FD	0.546517	0.092876	5.884377	0.0000
CDR	0.509723	0.105969	4.810118	0.0000
SRG	-0.171526	0.071932	2.384559	0.0193
Short Run				
COINTEQ01	-0.681501	0.163650	-4.164390	0.0001
D(DCPS)	-0.378216	0.619744	-0.610277	0.5433
D(FD)	0.589820	0.440213	1.339851	0.1838
D(CDP)	0.531478	0.362420	1.466470	0.1462
D(SRG)	2.699535	2.658597	1.015398	0.3128
C	-2.454327	0.599003	4.097355	0.0001

Mean dependent var	0.041324	S.D. dependent var	0.242332
S.E. of regression	0.194286	Akaike info criterion	-0.981825
Sum squared resid	3.246244	Schwarz criterion	0.302712
Log likelihood	137.6369	Hannan-Quinn criter.	-0.459958

The long-run results in the table reveal that all the variables of banking sector development have significant relationship with stock market development in the sample countries. Whereas, in case of Domestic credit to private sector (DCPS), the coefficient is 0.050% with significant impact on stock market capitalization. So the long-run estimates, indicate that a percentage increase in Domestic credit to private sector will lead to an increase of 0.050% in stock market capitalization. This infers that an expansion of domestic credit to private sector will ultimately help in improving the stock market capitalization. Because domestic lending to the private sector has a major role in stimulating economic activity, influencing consumer spending and investment, and influencing general market mood. This expansion can usually signal an increase in investments in businesses,

leading to economic expansion. Over time, this economic progression can boost corporate earnings and investor confidence, which are positive for stock market performance. These outcomes and propositions are potentially backed by studies like khan (2017) and Tsaurai, (2018).

Similarly, the long-run estimates show that financial depth (FD) has positive and significant impact on Islamic stock market cap. The estimates exhibit a percentage increase in financial depth (FD) in long-run will lead to an increase of 0.546% in stock market capitalization in the selected countries. It indicates, financial depth can play an essential role in fostering the development of stock markets in the long-run, by providing liquidity, diversification opportunities, transparency, and regulatory frameworks that attract investors and support economic growth. These outcomes regarding the role of financial depth in stock market development are consistent with the findings of Guru and Yadav (2019).

Likewise, the estimates elucidate that in the long-run credit to deposit ratio (CDR) is showing positive and significant impact on stock market capitalization. Which indicates, that a percentage increase in credit to deposit ratio will lead to an increase of 0.50% in stock market capitalization. These results are in consistency with the study of Guru and Yadav (2018). Therefore, a higher credit-to-deposit ratio typically indicates increased lending activity by banks. When banks lend more, it stimulates economic activity, leading to higher corporate earnings and subsequently boosting stock market capitalization. Similarly, higher credit-to-deposit ratios suggest that banks have more liquidity available for lending purposes. This liquidity injection into the financial system can fuel investment in financial assets, including stocks, contributing to upward pressure on stock prices and market capitalization.

Conversely, the estimates reveal that in long-run a percentage increase in saving ratio to GDP will lead to a decrease of -0.171% in stock market capitalization. Total saving of banks has a negative effect on stock market development implying that banks total savings reduces stock market development. It means, the negative impact of a high saving ratio on stock market development can primarily be attributed to the reduced flow of capital into the stock market. Therefore, Savings are typically held in banks or in the form of other low-risk financial instruments, which do not contribute directly to the stock market. This preference for saving over investment can lead to the reduced capital flows into the stock market, limiting its liquidity and potentially its growth. These, findings are highly consistent with the study of Ilo (2018). However, after having an explicit examination of the estimates portrayed in the table, we conclude that

financial intermediaries do not have a significant effect on stock market development in the short run. Lastly, coefficient of error term an indicator for goodness of fit of the model, indicate that the coefficient for error correction term is significant with negative expected sign (-2.454327), indicating that more than 245 percent of errors in the short run are corrected back to its equilibrium in the long run.

The long-run estimates of this study explicitly exhibit, that banking sector development has a significant relationship with stock market development across the countries of consideration. These findings indicate a well-developed banking sector supports growth and stability of the stock market by facilitating capital mobilization, enhancing investor confidence, managing risks, and performing essential intermediary functions. Therefore, on the basis of these findings we can generalize that a well-developed banking sector may play a substantial role in the overall development of stock markets. These outcomes also justifies the theory of Ilo (2018), who advocates the relationship between the banking sector and the stock market is largely conclusive.

6.3 Impact of institutional quality on stock market development

This section highlights the impact of institutional quality indicators on stock market development across the sample. Whereas, the literature demonstrates that institutions are crucial for the effectiveness of market-based economies (Rutherford, 2001). Moreover, the literature provides us amicable evidences regarding the nexus between financial system and the quality of institutions (Levine, 1997). Therefore, in this context we have developed a distinctive model framework to find out the association between stock market capitalization and institutional quality indicators in the selected countries. Like, the previous section we started with the preliminary step of stationary tests followed by penal cointegration test and penal ARDL estimations.

Stationery Test

Similarly, with the previous sections, we started this section with the establishment of unit root tests to find out whether the data is stationary or not. So in this pursuit, we conducted the same stationary tests applied in the previous models, to check the Stationarity orders of the data, which is explicitly postulated in the (Appendix-A).

Therefore, on the basis of the results obtained from the stationary test, we conclude that some of the variables of institutional quality are integrated of order zero or I (0) and other variables were not stationary at level, therefore, in this context these variables were first differenced with a view to obtain their Stationarity values. Afterwards, results for first difference obtained from penal unit root at difference show that p-values of all variables were less than 0.05, suggesting that these variables are stationary at first difference. Hence, justifies the application of penal ARDL procedure, which allows the combination of both the orders of stationary.

Cointegration

This step is to establish the presence of cointegration among the variable of interest i.e. to ascertain the long-run relationship between the variables. Therefore, the same procedure and approach is applied in this model as well, which is explicitly shown in the **Table: 6.8** below.

Table 6.8: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-0.27292	0.6075	Accepted
Panel Rho-Stat	0.32264	0.6265	Accepted
Panel PP-Stat	-3.27549	0.0005	Rejected
Panel ADF-Stat	0.63532	0.7374	Accepted
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	1.53077	0.9371	Accepted
Group PP-Stat	-5.54478	0.0000	Rejected
Group ADF	0.42669	0.6652	Accepted
Kao (Engle-Granger Based)			
ADF	-0.18008	0.4286	Accepted

The results, "presented in the table reveal that the null hypothesis of no cointegration is rejected as indicated by the penal PP stat in both within and between the dimensions respectively. Therefore, the ascertained results suggests that there is the presence of cointegration among the dependent and independent variables. So with the presence of cointegration among the variables depicted in the **Table: 6.8,** with optimal lag length of one using the Akaike information criterion shown in (Appendix-I)".

Panel ARDL Model

This section highlights, results of both long-run and short-run, estimated from penal ARDL (1, 1, 1, 1, 1, 1,), using Akaike info criterion (AIC). We opted the same procedure, employing pooled mean group estimator, which permits short-term coefficients including the intercepts, the adjustment speed to the long-term equilibrium values, and the error variances to be heterogeneous country by country, while the long-term slope coefficients are restricted to be homogeneous across the countries (pesaran et al, 1999).

Table 6.9: Panel ARDL Model

Dependent Variable: D (SMC)

Method: ARDL

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
BQ	0.532898	0.065969	-8.077953	0.0000
COR	0.129903	0.076696	1.693731	0.0939
IP	1.055655	0.092319	11.43491	0.0000
LO	0.082068	0.106051	-0.773856	0.0411
Short Run				
COINTEQ01	-0.522368	0.154659	-3.377546	0.0011
D(BQ)	0.212999	0.085213	2.499624	0.0143
D(COR)	-0.021931	0.088998	-0.246427	0.8059
D(IP)	-0.168396	0.278520	-0.604610	0.5470
D(LO)	-0.277369	0.306725	-0.904292	0.3684
C	-0.998252	0.359159	2.779412	0.0067

Mean dependent var	0.041324	S.D. dependent var	0.242332
S.E. of regression	0.196396	Akaike info criterion	-0.697667
Sum squared resid	3.317152	Schwarz criterion	0.586871
Log likelihood	116.3250	Hannan-Quinn criter.	-0.175800

The results from the table demonstrate that all the variables have significant impact on the development of stock market across the selected countries. The long-run results suggests that a percentage increase in Bureaucracy Quality will lead to 0.53 percent increase in stock market development. The most important thing in this outcome is that, good quality bureaucracy have a positive and significant impact on the dependent variable both in the long-run and short-run. These, estimates reveal that despite the time span, good quality of bureaucratic system is inevitable in all circumstance. These results are consistent with the studies of Yartey (2008), which also advocates

the good quality bureaucracy is the main determinant of stock market development in any economy, because they tend to reduce political risk, enhance regulatory capacity, and support the viability of external finance. Our findings confirm that a high-quality bureaucracy is essential for stock market development, as it enhances a country's regulatory capacity. The results show that bureaucratic quality has a significant and positive impact, indicating that an effective and autonomous bureaucracy provides a stable and supportive environment for the economy. This is particularly important in minimizing policy reversals when governments change, fostering confidence and stability in the market. Countries with independent and professional bureaucracies, characterized by established recruitment and training mechanisms, are highly rated in this regard. By ensuring a competent and apolitical bureaucracy, countries can create a favorable business environment that promotes economic growth and stock market development.

The next impacting variable in the model is corruption, which also shows significant relation with stock market development in long-run. Long-run results from the table show that a percentage increase in control of corruption will lead to 0.12 percent increase in stock market capitalization in the selected countries. These results are consistent with the study of Yartey (2008), which demonstrates that corruption in political system may pose threat to investment by distorting the economic and financial environment, reducing the efficiency of government and business by enabling people to assume positions of power through backing rather than ability, and introducing inherent instability into the political process. Therefore, it indicates that control in corruption is the ultimate indicator for vibrant stock market development. Hence, in stock market, corruption largely leads to poor corporate governance and inefficient regulations resulting in unethical practices in the market (Manasseh et al., 2017).

Similarly, in case of investment profile, the results from the table reveal that in long-run it has positive and significant impact on the development of stock markets across the countries of consideration. Therefore, the results portrayed in the table reveal that a percentage increase in investment profile will lead to an increase of 1.05 percent in stock market development across the countries. These significant estimates complies with the results of Yakubu (2021), which proficiently supports this verdict that investment profile index has a significant impact on the development of stock markets. Whereas, the results from the table indicates that the selected countries has a good investment profile as explained by the results. Moreover, in the long-run a positive investment profile may attract substantial foreign investments, which is crucial for the

development of stock markets and the overall economy. This infers a better investment profile of an economy may induce the investors to invest in the market. Although, the long-run estimates highlight significant relationship between stock market development and investment profile. But in case of short-run it expounds insignificant and negative relationship between the dependent and independent variables. These results explicitly demonstrate that investment profile index across the countries may not be immediately apparent in the short run.

Likewise, the results from the table exhibit that in long-run the variable of law and order has positive and significant impact on the development of stock market in the selected sample. These estimates demonstrates that a percentage improvement in law and order actually leads to an improvement of 0.08 percent in stock market development, which infers that vibrant legal system is inevitable for successful stock market in the countries of consideration. These results are also consistent with the studies of Yartey (2008 and 2010), which shows that law and order is positive and statistically significant in explaining stock market development. Therefore, the results imply that the development of a good legal system is an important determinant of stock market development. However, the results reveal insignificant relation between the variables in short-run, which means that law and order may not immediately influence the stock market in the short-run.

Lastly, error correction term coefficient serves as a goodness of fit indicator for the model. The results show that the coefficient (-0.998252) is statistically significant and has a negative sign, indicating a robust error correction mechanism. This suggests that approximately 99% of short-term deviations from the long-run equilibrium are corrected in the long-run, demonstrating the model's ability to revert to its equilibrium state in the long run. Thus, overall results of this model show that good quality institutions such as bureaucratic quality, corruption, investment profile and law and order are important for stock market development because they tend to reduce political risk, enhance regulatory capacity, and support the viability of external finance.

Conclusion

This chapter, explored the impact of economic factors on the development of stock markets across a sample of ten countries, using yearly data from 2008-2022. Whereas, the prime objective of this endeavor was to determine the impact of economic factors on stock market development, measured with market capitalization using penal ARDL to bound cointegration framework.

The study revealed that all the macro-economic variables except inflation are significantly impacting the market capitalizations in the long-run. Therefore, on the basis of these findings we conclude that the opted macro-economic variables are the significant determinants of stock market developments in long-run across the selected sample. However, the short-run results explicitly reveal that all macro-economic variables except inflation are insignificant. Hence, these findings exhibit that macro-economic stability is inevitable for the development of stock markets across the countries of consideration.

Similarly, in case of banking sector development all the variables in long-run show significant impact on the stock market capitalization across the sample. While, in short-run all variables are insignificant, indicates that Changes in banking sector development may not immediately transform into changes in stock market capitalization, and vice versa. There can be lag effects as market participants assess and respond to new developments in both sectors, leading to a lack of immediate correlation.

And lastly, this section reveals the impact of institutional quality on stock market capitalization. It shows that all the opted variables have significant relationship with stock market development in the long-run. While, only bureaucratic quality have shown significant impact in short-run as well, indicating irrespective of time period good quality of bureaucracy is inevitable for stock market development across the selected countries.

Hence, these findings explicitly, demonstrate that development of stock markets is conclusively dependent on the stable macroeconomic conditions, well developed banking sector and better quality of intuitions. Moreover, these findings also reveal that in long-run, these economic factors can play an amicable part in developing stock markets of the selected sample of countries.

Bond market

This section shows, the results and interpretations on the Impact of economic factors on bond market development across a sample of ten countries. Like stock market section, this section also encompasses three different models in pursuance to investigate the impact of different indicators on bond market development across the countries of consideration. Accordingly, following the same procedure as pervious, we have proceeded with as:

6.4 Impact of macro-economic factors on bond market development

This model precisely highlights the impact of macro-economic variables on bond market development. Therefore, we have embarked likely with the appropriate procedures to start the estimations. Although, we have executed certain statistical operations, but for simplicity those exercises are not displayed here. We have provided the primary statistical results i.e. descriptive statistics and correlation in (Appendix-B & C), which we found of little importance to analyze and interpret. Therefore, we start this model with stationary tests to assess whether the concerned data is stationary or no-stationary, with a view to proceed for further empirical estimations.

Panel Unit Root Test

This segment highlights, time properties of the variables tested with panel unit root tests i.e. Augmented Dickey-Fuller (ADF), Phillip Perron (PP), Levin-Lin-Chu t-rho stat (LLC) and (IPS). According to the decision rule, the tested variable is deemed stationary or devoid of unit roots if the absolute p-value from the LLC, IPS, ADF, or PP tests is less than the 5 percent critical value. Conversely, it is determined that the tested variable is non-stationary or has unit roots if the absolute p-value of the LLC, IPS, ADF, or PP tests is larger than the 5 percent critical threshold (Olayungbo, 2021). Therefore, by following the rule of thumb while employing stationary tests, we found that some of the variables are Stationarity at level and some at first difference (Appendix-A). These Stationarity test results prompted us to use the appropriate econometric technique. So the penal unit root test results suggested us to employ the penal ARDL to bound cointegration to ascertain the reliable results for achieving the objectives of the study.

Panel Cointegration Test

In this segment, we tested whether the variables of consideration have long-run relationship with one another or not. This test actually, examines cointegration across different entities over time.

Table 6.10: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	1.163977	0.1222	Accept
Panel Rho-Stat	4.688673	1.0000	Accept
Panel PP-Stat	2.768696	0.9972	Accept
Panel ADF-Stat	-3.461767	0.0003	Reject
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	4.712148	1.0000	Accept
Group PP-Stat	-3.021435	0.0013	Reject
Group ADF	-3.558423	0.0002	Reject
Kao (Engle-Granger Based)			
ADF	-0.98994	0.1611	Accept

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The results presented in Table 5.10 reveal a two-part structure. The first four test statistics are calculated within the panel group, while the second part is calculated between the groups. The "findings show that the null hypothesis of no cointegration is decisively rejected, as indicated by the panel ADF statistics at a 1% significance level within the group and also rejected by the penal PP-Stat and ADF statistics between groups. This provides strong evidence of cointegration between the dependent and independent variables under study, suggesting a long-run equilibrium relationship between them". Hence, on the basis of the estimates we concluded that there is a long-run relationship between the variables, which marks the further estimations as eligible and appropriate as per the techniques employed in the study.

Table 6.11: Panel ARDL Model

Dependent Variable: D (BMC)

Method: ARDL

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
GDP	0.071200	0.000143	496.4212	0.0000
INF	0.432896	0.118513	3.652715	0.0004
FDI	0.619415	0.977098	6.339607	0.0000
TO	0.425219	0.097654	4.354325	0.0000
Short Run				
COINTEQ01	-0.148297	0.187334	-0.791620	0.0308
D(GDP)	0.111235	0.110949	1.002579	0.3189
D(INF)	-0.383632	0.128321	-2.989629	0.4336
D(FDI)	-3.351462	2.587816	-1.295093	0.1988
D(TO)	0.462227	0.360467	1.282302	0.2032
C	-0.245578	29.20521	-0.768896	0.0041

Mean dependent var	8.308652	S.D. dependent var	67.23931
S.E. of regression	56.02471	Akaike info criterion	6.898101
Sum squared resid	269934.1	Schwarz criterion	8.182639
Log likelihood	-453.3576	Hannan-Quinn criter.	7.419968

The results of the panel ARDL model are displayed in the table to analyze the impact of macro-economic variables on bond market development in selected sample. We employed pooled mean group estimator of the ARDL model and all parameters are from utilizing the PMG technique, as

treated by (Pesaran et al., 1999). This estimation system is dependent on the maximum likelihood technique is considered the most predictable because it represents the individual characteristics (country, region, and so forth.) and gives a superior assessment of the long-term relationship. In this manner, the PMG estimators acquired are asymptotically and normally conveyed, as expressed by (Pesaran et al., 1999). The estimated results in the above Table reveal that in long-run all the variables have significant impact on bond market development. However, in short-run all variables are insignificantly related with the bond market cap in the selected countries.

So in this context, long-run estimates from the table reveal that GDP has positive and significant impact on bond market development. In the long-run it shows, a percentage increase in GDP will lead an increase of 0.071 percent in bond market capitalization. Thus, these results witness that a healthy and stable economic situation has a positive influence on bond market development. These results comply with the studies of Molefhi (2021), Pradhan et al. (2018) and Ugbam et al. (2023).

Similarly, the long-run estimates reveal that inflation has also positive and significant influence on bond market capitalization. Empirically, it means that a percentage increase inflation is leading to an increase of 0.43 percent increase in bond market capitalization. These long-run results has justifications in the notion, that inflation can have significant and positive relation with bond market capitalization through various channels like; adjustments in interest rates to reflect the loss in purchasing power, which may lead to the new issuance of bonds and helps in increasing the overall market capitalization These findings support Molefhi (2021) and Eichengreen et al. (2008), who argue that when bank lending rates are high, firms are more likely to use bond financing.

However, the short-run estimates show significant but negative impact on bond market capitalization. Short -run results, indicate that inflation can significantly impact bond markets, typically it may lead to higher interest rates which may lead to decrease in the value of bonds. High inflation may also reduce bond issuance, as it may raise the price of bonds and hence becomes expensive for businesses. These outcomes are in consistence with the study of (Molefhi, 2021).

Likewise, in the long-run FDI has proved to be positive and significantly influencing the bond market capitalizations in the countries of consideration. The empirical estimates explicitly highlight, that a percentage increase in FDI is leading in a substantial increase of 0.61 percent in market capitalization. This percentage indicates that FDI brings with new investment, technology,

and management expertise, boosting economic growth and activity, which in turn increases demand for bond financing. Thus, an increase in foreign direct investment will lead to increase in investment in the bond market. It indicates, increase in bond market investment would increase the volume of bond market capitalization as more bonds will be issued and the market would expand (leading to greater development). These empirical findings comply with the outcomes of Friday (2020), claims FDI as the significant determinant of bond market capitalization.

And likewise, the estimates demonstrate that trade openness has significant, but negative impact on market capitalization both in long-run and short-run. Therefore, in empirical sense, a percentage increase (improvement) in trade openness in long-run, will lead to an increase of 0.42 percent of bond market capitalization in the countries of consideration. These findings indicate that open economies attract foreign investors, providing access to new capital sources, which ultimately expands bond markets. Therefore, Trade openness signals a country's commitment to economic liberalization, enhancing its creditworthiness and attracting investors to its bond market arena. These results highly comply with the findings of Akindele et al. (2017), suggesting that bond markets develop faster in more open economies.

And lastly, the error correction term coefficient, a key indicator of model fitness, reveals statistically significant results with a negative coefficient of -0.24, suggesting a strong correction mechanism, whereby approximately 24% of short-term deviations from the long-run equilibrium are reconciled in the subsequent period, underscoring the model's capacity to restore equilibrium in the long run.

6.5 Impact of Banking Sector Development on Bond Market Capitalization

Similarly, with the previous segment of this chapter, the objective of this section is to exactly assess the impact of independent variables on dependent variable. Likewise, for simplicity we have skipped interpretation of certain statistical procedures like, descriptive statistics and correlation. Therefore, we have started with the preliminary step of Stationarity tests to establish an appropriate econometric technique for achieving the prime objectives of this section.

Penal Unit Root Test

In this preliminary step, we tested the Stationarity of the variables to ascertain the presence of unit root among the variables. Therefore, in this context we employed these tests: Augmented Dickey-Fuller (ADF), Phillip Perron (PP), Levin-Lin-Chu t-rho stat (LLC) and (IPS), to check the stationary among the variables. Thus applying these tests we found that some of the variables are stationary at level and some are stationary at first difference (Appendix-A). Accordingly, the most appropriate econometric technique to proceed for estimations is penal ARDL to bound cointegration. This econometric technique is feasible for differenced Stationarity outcomes i.e. I (0) and I (1).

Panel Cointegration Test

Prior to applying the penal ARDL technique to achieve the desired results, it is essential to confirm the presence of cointegration among the variables in question. To accomplish this, we utilize the panel cointegration test developed by Pedroni (2004), which is based on the Engle and Granger approach. This test is particularly useful as it enables cointegration analysis both within and between the sampled countries, providing a comprehensive understanding of the long-run relationships between the variables. By employing this test, we can reliably determine whether cointegration exists among the variables, thereby justifying the application of the penal ARDL technique.

Table 6.12: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	1.968784	0.0245	Accept
Panel Rho-Stat	2.849601	0.9978	Accept
Panel PP-Stat	-0.950746	0.1709	Accept
Panel ADF-Stat	-2.454940	0.0090	Reject
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	3.848640	0.9999	Accept
Group PP-Stat	-4.418649	0.0000	Reject
Group ADF	-4.168567	0.0000	Reject
Kao (Engle-Granger Based)			
ADF	-0.98994	0.1611	Accept

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

The results presented in Table 5.12 exhibit a two-part structure, with the first four test statistics calculated within the panel group and the second part calculated between groups. The findings conclusively reject the null hypothesis of no cointegration, as indicated by the panel ADF statistics at a 1% significance level for both within and between groups. Moreover, the pp-statistics in the between-group analysis also confirm the presence of cointegration among the variables. Based on these results, we conclude that a long-run relationship exists among the variables of interest, thereby justifying the application of the penal ARDL method for further analysis. This outcome suggests that the variables are bound together by a shared long-term trajectory, paving the way for a more in-depth examination of their dynamic interactions using the penal ARDL approach.

Table 6.13: Panel ARDL Model

Dependent Variable: D(BMC)

Method: ARDL

Fixed Regressors: C

Selected Model: ARDL(1, 1, 1, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Long Run				
CDR	0.105494	0.154023	0.684926	0.0052
DCPS	0.313911	0.288436	-1.088320	0.0095
FD	0.498889	0.277186	1.799834	0.0754
SRG	-0.430497	0.442838	-3.230293	0.0018
Short Run				
COINTEQ01	-0.252389	0.218043	-1.157524	0.0003
D(CDP)	1.054025	0.740002	1.424353	0.1580
D(DCPS)	0.317449	1.779855	0.178357	0.8589
D(FD)	-4.738937	6.082893	-0.779060	0.4381
D(SRG)	-7.673671	8.449379	-0.908193	0.3663
C	-0.317710	19.89028	1.597318	0.0009

Mean dependent var	8.308652	S.D. dependent var	67.23931
S.E. of regression	29.95273	Akaike info criterion	6.351791
Sum squared resid	77156.26	Schwarz criterion	7.636329
Log likelihood	-412.3843	Hannan-Quinn criter.	6.873658

Building on the establishment of cointegration, we present the long- and short-run results of the panel ARDL (1,1,1,1,1) model in the Table, with an optimal lag length of 2 determined using the Akaike information criterion (Appendix-J). The ARDL (1,1,1,1,1) specification is the optimal

distributed lag structure at the estimation level. We employ the pooled mean group estimator approach, which allows for heterogeneity in short-term coefficients, intercepts, adjustment speeds to long-term equilibrium values, and error variances across countries, while restricting long-term slope coefficients to be homogeneous across countries (Pesaran et al., 1999). This approach enables us to capture both the shared long-term relationships and country-specific short-term dynamics. The results displayed in the above Table exhibit that in long-run all the indicators of banking sector development are significantly related with bond market capitalization, while in short-run all the variables are insignificant. So in this context, long-run estimates reveal that in case of credit deposit ratio (CDR) coefficient is 0.105494 with significant impact on the market capitalization of bond in the sample countries. Which means with a percentage increase in CDR, the bond market capitalization will show a growth of 0.10 percent. This infers, higher CDR indicates more lending by banks, which can lead to increased economic activity, boosting demand for bond financing. It also suggests more efficient financial intermediation, channeling savings into productive investments, including bonds.

Similarly, the long-run estimates of Domestic credit to private sector (DCPS) also shows positive and significant impact on bond market capitalization. Empirically, it means a percentage increase in DCPS will lead an increase of 0.313911percent in bond market capitalization in the countries of interest. This means that increased DCPS indicate a stronger financial system, improving the creditworthiness of bond issuers, and attracting investors to the bond market, increasing capitalization. Thus, increase in DCPS will increase economic activity, leading to a greater demand for bonds, and subsequently increasing bond market capitalization. This argument complies with the findings of M. Ilo, et al. (2018), that a larger banking sector size is associated with a larger bond market capitalization. This implies that bank and bond market intermediation is complementary with each other rather than substitutes.

Subsequently, in case of financial depth the results reveal that it has also positive and significant impact in long-run on bond market capitalization in the selected countries. As shown by the empirical findings, a percentage increase in FD will lead to an increase of 0.49 percent in bond market capitalization. This signifies, increase in financial depth (FD) means a more developed financial system, including better regulatory frameworks, increased transparency, and improved investor protection, attracting investors and thus increasing market capitalization.

Similarly, the results from the table reveal that in long-run saving ratio is also significant but is negatively impacting the bond market capitalization. Empirically, it means that with a percentage increase in savings ratio, the bond market capitalization show a decline of -0.43 percent in the selected sample. These findings indicate, higher savings ratio may lower investments, as funds are being saved rather than invested, leading to decreased demand for bonds, and subsequently decreasing bond market capitalization.

These results are consistent with the study of M. Ilo, et al. (2018), which also highlights that increased savings ratio halts the bond market capitalization.

Lastly, the significant and negative ECT coefficient shows that any short-run disequilibrium is corrected over time, and the system converges back to its long-run equilibrium. This is a desirable outcome, as it indicates that the bond market capitalization adjusts to its equilibrium level, ensuring stability in the long run. These estimates portray that there is a strong correlation between a more developed banking system and a larger institutional investor base. Moreover, a well-developed banking system might increase investor demand for securities through improved distribution channels. Hence, a larger banking sector size is associated with a larger bond market, implies that bank and bond market intermediation is complement to each other rather than substituting.

6.6 Impact of Institutional Quality on Bond Market Capitalization

Lastly, this segment portrays the impact of institutional quality indicators on the development of bond markets across the countries of interest. Similar to previous models, we have opted the same methodology to accomplish the stated objective. Therefore, we have initiated the process with Stationarity test to embark on and thoroughly accomplish the proceedings.

Panel Unit Root Tests

Likewise, the previous section we have employed the same procedures of Stationarity to find out whether the data is stationary or not. So in this context, same Stationarity test were applied as depicted in (Appendix-A). Whereas, on the basis of the results (appendix), we conclude that a mixture of Stationarity orders were detected i.e. I (0) and I (1). Therefore, the most suitable econometric technique to employ was penal ARDL, while reaching at the proper conclusions.

Panel Cointegration Test

Before, applying ARDL model it was necessary to check whether there exists a long-run relationship among variable or not. Therefore, by conducting cointegration test, we opted the same procedure as pervious to find out this relationship.

Table 6.14: Cointegration Test

Statistic	Value	Probability	Conclusion
Within Dimension (Heterogeneous intercepts without trends)			
Panel V-Stat	-1.56850	0.9416	Accepted
Panel Rho-Stat	1.667311	0.9523	Accepted
Panel PP-Stat	-1.664808	0.0480	Accepted
Panel ADF-Stat	-2.001847	0.0000	Rejected
Between Dimension (Heterogeneous intercepts without trends)			
Group Rho-Stat	2.932794	0.9983	Accepted
Group PP-Stat	-1.050322	0.1468	Accepted
Group ADF	-1.188882	0.0000	Rejected
Kao (Engle-Granger Based)			
ADF	-0.18008	0.4286	Accepted

Pedroni test for cointegration
Ho: No cointegration
Ha: All panels are cointegrated

Kao test for cointegration
Ho: No cointegration
Ha: All or Some panels are cointegrated

Whereas, we have applied the same techniques of cointegration as the previous sections, and the results from the table reveal that the null hypothesis of no cointegration is rejected as shown by ADF statistics of both between and within the groups respectively. Hence, on the basis of these results, we conclude that there exists long-run relationship between bond market capitalization and institutional quality indicators in the countries of consideration.

Table 6.15: Panel ARDL Model

Dependent Variable: D (BMC)

Method: ARDL

Fixed Regressors: C

Selected Model: ARDL (1, 1, 1, 1, 1)

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Long Run				
BQ	0.477767	54.91941	0.815334	0.0071
COR	0.162397	125.4494	-1.341096	0.0234
IP	0.309202	29.92972	-1.105658	0.0020
LO	0.664323	134.2845	1.239401	0.0186
Short Run				
COINTEQ01	0.010784	0.018348	0.587740	0.5582
D(BQ)	17.68505	11.98800	1.475229	0.1438
D(COR)	1.909570	3.895194	0.490237	0.6252
D(IP)	8.171384	9.880165	0.827049	0.4105
D(LO)	24.83030	28.34235	0.876085	0.3834
C	-0.158945	1.717115	0.616700	0.0091

Mean dependent var	8.308652	S.D. dependent var	67.23931
S.E. of regression	39.72831	Akaike info criterion	6.601206
Sum squared resid	135737.1	Schwarz criterion	7.885744
Log likelihood	-431.0905	Hannan-Quinn criter.	7.123073

The results portrayed above in the table reveal both the long and the short run results of the panel ARDL (1,1,1,1,1), with optimal lag length of three using the Akaike information criterion (Appendix-K). The estimates in the table reveal that in long-run all the variables have shown positive and significant impact on the development of bond market capitalization in the selected sample. Therefore, in this context, the long-run estimates of BQ exhibit that a percentage increase in BQ leads to 0.47 % improvement in market capitalization. These findings exhibit that a good quality of bureaucracy assists in to optimize the market cap of bonds in the selected sample. As the theory suggests, bureaucracy plays a pivotal role in shaping investor confidence, market integrity, and ultimately, the growth and stability of the bond market.

In contrast, bureaucratic quality is expected to have a positive impact on bond markets, as it indicates the flexibility and resilience of a country's political and business environment in response to changes in government. This means that long-term decisions can be made with confidence, without fear of sudden and drastic changes with each new government. As a result, a stable and reliable bureaucracy fosters a favorable environment for bond markets to thrive, attracting investors seeking long-term investment opportunities. These findings comply with the theory of Akindele et al. (2013), who advocates the significant relationship between Bureaucratic quality and bond market capitalization.

Consequently, the indicator of control in corruption also reveals a positive and significant impact on bond market cap. The findings from the table reveal that with a percentage increase in control of corruption, the bond market cap will show an increase of 0.16 percent. This indicates, control of corruption is a vital indicator as it increases investor confidence, can attract more investors to the bond market and ultimately may lead to an increase in bond market capitalization.

Similarly, the long-run the estimates in the above table reveal positive and significant impact of investment profile on bond market capitalization across the sample. It empirically, shows that a percentage increase in investment profile may lead to an increase of 0.30 percent in bond market capitalization throughout the selected sample. It indicates that the overall attractiveness of the selected countries for investment is better, which means improved creditworthiness, making

bonds more attractive to investors and increasing demand, which leads to higher capitalization. Moreover, a higher score in investment profile would imply lower investment risk, which will ultimately optimize the bond market capitalization.

And likewise, law and order has also exhibited positive and significant impact on market capitalization of bond market in the selected countries. The estimates from the table reveal that a percentage increase in law and order will lead to an increase of 0.66 percent in bond market capitalization. It is an assessment of the popular observance of the law and the strength and impartiality of the legal system. Law and order, encompassing regulatory frameworks, enforcement mechanisms, and judicial systems, serve as the substratum upon which investor confidence, market integrity, and transparency are built. Consequently, the impact of effective legal systems on bond market development cannot be overstated. The overall results of this model are consistent with the study of Akindele et al. (2013), who has explicitly highlighted the significant relationship between these variables.

Finally, the results in the table show that the error correction term coefficient is statistically significant with a negative sign (-0.15), indicating that the model exhibits long-run equilibrium dynamics. Specifically, the findings suggest that over 15% of short-run deviations from equilibrium are corrected in the long run, underscoring the model's ability to capture persistent relationships between the variables. This error correction mechanism ensures that the model converges to its long-run equilibrium, providing a robust basis for analyzing the relationships between the variables.

Conclusion

This section is based on comprehensive assessment on impact of economic factors on bond market development in the selected sample. The prime objective of this section was to empirically assess the relationship between economic factors and bond market. Three economic factors were employed in the study i.e. macro-economic variables, banking sector development and institutional quality factors, to find out their impact on market capitalizations of bond markets across ten Asian countries. Hence, on the basis of the findings we conclude that majority of the economic factors have significant impact on bond market capitalization. Accordingly, in this context, all the macroeconomic variable show a significant impact on bond market capitalization in long-run, while in short-run only GDP and trade openness are significantly related with market cap.

Similarly, in case of banking sector development, the findings reveal that in long-run all the variable have shown significant relationship with bond market capitalization, But in short-run all the variables are insignificant across the sample.

And lastly, the findings on impact of institutional quality on bond market capitalization reveal that only indicator of government stability has shown insignificant relation with bond market. However, the other indicators are significantly related with market cap, showing that improved institutional setup is unavoidable for the development of bonds across the selected countries.

Hence, in nutshell we conclude that economic factors are of vital importance for the development of markets in any economy. Their stability and improved nature will ultimately propel an economy towards the developed arena. Moreover, on the basis of the findings of this chapter, we conclude that capital market development is predominantly dependent on well-developed economic indicators.

CHAPTER 7: COMPARATIVE ANALYSIS OF ISLAMIC AND CONVENTIONAL CAPITAL MARKETS

Comparative analysis basically, involves examining and analyzing similarities and differences between two or more subjects, phenomena, theories, or any other entities. Whether the subject matter of comparative analysis is literature, historical events, scientific theories, empirical evidences or anything else, the key is to methodically explore both the commonalities and distinctions to gain deeper comprehensions into the subject matter. In this part of the study, we have explored the fundamental steps and considerations for crafting a compelling comparative study, covering everything from selecting subject matter to structuring the analysis effectively. Therefore, in the above context, we have comprehensively carried out a comparative analysis of Islamic and conventional capital markets based on the empirical findings given in chapter four and five of this study.

Similarities

Islamic and conventional capital markets are guided by distinct financial principles and philosophical foundations, play pivotal roles in the global financial ecosystem, providing essential venues for capital formation and investment activities. Both markets operate with the primary goal of mobilizing resources for economic development, involving the issuance and trading of various financial instruments such as stocks, bonds, and other securities. However, the functioning and structuring of these instruments diverge significantly due to the adherence to different sets of ethical and operational guidelines.

One of the core similarities between Islamic and conventional capital markets is their shared objective to serve as a nexus for investors and enterprises seeking capital. Both markets facilitate the pooling of funds from investors, which are then allocated to various projects and businesses, driving economic growth and innovation. Moreover, both markets employ similar financial infrastructures, including stock exchanges, clearing houses, and regulatory bodies that ensure transparency, fairness, and efficiency in financial transactions.

Despite their differences, particularly the Shariah law's prohibition of interest (riba), excessive uncertainty (gharar), and speculation (maysir), Islamic capital markets have developed instruments similar to those in conventional systems, such as sukuk (Islamic bonds) reflecting conventional bonds, but structured in compliance with Islamic principles. This adaptation

highlights a fundamental alignment in mechanisms to attract and manage investments, although tailored to meet specific religious criteria in Islamic finance.

Understanding these similarities, provides a deeper insight into how Islamic finance has been integrated into the global financial system, complementing conventional methods by offering alternative, ethically-aligned investment opportunities. This integration not only enhances the inclusivity and diversity of global financial options but also promotes cross-cultural and economic cooperation on a global scale. Therefore, on the basis of the aforesaid statements on the similarities among Islamic and conventional capital markets, the comparative analysis between the markets is as follows:

Similarities between Islamic and Conventional Stock Market Development

The similarities section interpret, comparative analysis between the markets opted on the basis of the components under study. Therefore, a separate comparison procedure was chosen among the selected components of the markets, to find out the impact of economic factors on the development structures of Islamic and conventional stocks markets in the selected Asian countries.

We begin, our comparative analysis with similarities on impacts of economic factors on the development of Islamic and conventional stock markets across the sample. The economic factors opted to find out their impact on the development structures of the markets encompassed on macroeconomic variables, banking sector development and institutional quality indicators.

Therefore, the findings, in case of the impact of macroeconomic variables in long-run on both the markets, reveal that GDP, FDI, ML and TO are significantly related with the development of both Islamic and conventional stock markets. Moreover, the estimates exhibit that a percentage increase in the aforesaid variables except TO will lead to a substantial improvement in both the market structures. However, in short-run only inflation has shown significant impact on both the markets with negative coefficient. These findings explicitly reveal that despite the distinct market fields and geographical locations, these macroeconomic variables are inevitable for the development of both the market structures.

The rationale behind the impact of GDP on stock markets is rooted in the expectation that as an economy expands, corporate earnings and revenues are likely to grow, thereby boosting investor confidence and increasing the value of stocks. An expanding economy typically leads to higher employment, increased consumer spending, and greater business investments, all of which can drive stock market performance. However, in the long run, a stable and growing economy, as

evidenced by robust GDP figures, generally supports a healthy stock market environment by enhancing investor confidence and fostering a conducive atmosphere for investment.

FDI, on the other hand, is crucial as it represents investment made by a company or individual in one country in business interests in another country, in the form of either business operations or acquisition of business assets in the other country, including interest in joint ventures. FDI not only injects capital into the recipient economy but also brings in expertise, enhances technology transfer, and creates new jobs, thereby boosting economic growth and, consequently, stock market development. Markets with high levels of FDI tend to exhibit higher liquidity and more dynamic capital markets.

Market liquidity, defined as the extent to which a market allows assets to be bought and sold at stable, transparent prices, is a vital component in the stock market ecosystem. High liquidity indicates a high volume of trading activity, which generally results in lower transaction costs and faster execution of trades. This makes the market more attractive to both domestic and international investors, facilitating easier entry and exit, thereby encouraging more robust trading and more efficient price discovery.

In summary, the cooperation between GDP growth, robust FDI flows, and strong market liquidity creates a conducive environment for the development of stock markets. Each element not only supports but also amplifies the efficacy of the others, contributing collectively to the resilience and growth of financial markets.

Banking sector development

This section will highlight the similarities between Islamic and conventional stock markets across the selected sample. As the findings from both the markets demonstrate that a well-developed banking industry has a big impact on the expansion and stability of stock markets. The growth of the banking industry is critical to the development of the stock markets because it increases investor trust, improves liquidity, and offers critical financial intermediation services.

Moreover, the findings reveal that all variables except DCPs of banking sector development has proved comprehensive indicators of stock market development in the selected countries. Whereas, the variables have shown significant impact on both the markets, indicated by the positive coefficients of FD and CDR. However, saving ratio shows significant but negative impact in case of conventional stock market capitalization. The study's findings clearly

demonstrate that the growth of the banking industry affects both of the marketplaces in the countries under examination. Furthermore, these results show that a strong banking industry can promote the expansion and stability of both markets by boosting investor confidence, simplifying capital mobilization, controlling risks, and carrying out crucial intermediary tasks. We may therefore draw the broad conclusion that the total growth of both Islamic and conventional stock markets may be significantly influenced by a well-developed banking sector.

Institutional Quality

Institutional quality is the backbone of any thriving market based economy. It encompasses the rules, norms, and organizations that shape economic activity, and provide the foundation for growth and development of markets. Effective institutions promote stability, predictability, and fairness, creating an environment conducive to investment, innovation, and progress. The findings of this study exhibit that institutional quality has a profound impact on stock market development, as it influences the overall investment climate and investor confidence. The findings show that all the selected variables of institutional quality except investment profile has significant impact on the both the markets. These similarities indicate that the selected indicators of institutional quality i.e. Bureaucracy Quality, control of corruption and law and order have shown significant impact on both Islamic and conventional stock markets across the selected sample.

The findings in case of impact of bureaucracy quality in both long-run as well as in short-run have shown positive and significant impact on Islamic and conventional stock markets in the selected sample. Which means that better quality of bureaucracy is inevitable for the development of markets, as it provides all those necessary measures which are indispensable for the development of markets. Its quality, efficiency, and adaptability play pivotal roles in shaping the development path of various sectors, including the stock markets. The quality of Bureaucracy, often associated with red tape and rigidity, can also be a catalyst for stability, transparency, and investor confidence when effectively managed.

Therefore, in the context of stock markets, where prompt decision-making and regulatory oversights are paramount, the efficacy of bureaucratic structures can profoundly influence market dynamics and investors sentiment. Thus a robust bureaucracy fosters an environment, conducive to market growth by implementing and enforcing regulations that safeguard investor interests, ensure fair practices, and maintain market integrity.

Similarly, Control of corruption is also fundamental for the sustainable development of stock markets, serving as a cornerstone for fostering investor confidence and ensuring fair, transparent, and efficient financial systems. As the findings clearly exhibit that control of corruption is found as significant indicator for the development of both the markets in the selected sample. We can infer from the findings that Corruption undermines the integrity of market mechanisms, distorts pricing signals, and erodes investor trust, deterring both domestic and foreign investment. Consequently, robust anti-corruption measures are indispensable for fostering vibrant stock markets that contribute to economic growth, job creation, and wealth generation.

Consequently, Law and order serve as the bedrock of societal stability, providing a framework within which individuals and institutions can thrive. In the realm of finance, particularly in the development of stock markets, adherence to robust legal structures is utmost. As the findings from both the markets reveal that law and order is the significant indicator for the development of both Islamic and conventional stock markets. At its core, it means the development of stock markets is inherently intertwined with the evolution of legal and regulatory frameworks. In nutshell, law and order is among the fundamental pillars of the development of stock markets. As it, provides the necessary framework for market participants to operate with confidence, facilitating capital formation, investment, and economic growth. Subsequently, stock markets continue to evolve in an increasingly interconnected world, thus importance of robust legal and regulatory structures cannot be overstated.

Similarities between Sukuk and Bond Market De 'opr 't

This section highlights similarities between the impa :omic factors on the development of Sukuk and bond markets across the selected countrie the previous section same factors were employed to detect the development structures of Su and bond markets.

Therefore, in this context we will start with the impact of macroeconomic factors on both the markets. On the basis of the findings, we conclude that in long-run as well as in short-run only GDP has shown positive and significant impact on both the markets. Which explicitly, indicate that irrespective of market conditions a healthy and stable economy witnesses well- velo markets. The study on capital market development by Molefhi (2021), justified this notion . stable economy may have a significant influence on the development of markets.

Similarly, in case of banking sector development, the findings demonstrate that only financial depth shows positive and significant impact on both the market structures across the sample. The financial depth of a market actually, reflects its ability to provide efficient financial services and instruments, plays a vital role in the development of various financial markets, including Sukuk and bond markets. Both the market structures serve as main instruments for raising capital, although within different regulatory and ethical frameworks. Despite these differences, the impact of financial depth on both markets exhibits such notable similarity. A deeper financial market typically facilitates greater liquidity, enhances investor confidence, and promotes robust regulatory frameworks, which are essential for the growth and stability of both Sukuk and bond markets. Thus, this similarity between the markets witness that financial depth proves as a comprehensive indicator of Sukuk and bond market development in the selected Asian countries.

Lastly, we present similarities on the impact of institutions quality on development of Sukuk and bond markets across the sample. The findings show that only quality of bureaucracy and law and order has shown positive and significant impact on the development of both the markets in the selected sample. Therefore, on the basis of findings on quality of bureaucracy, we conclude that it plays a pivotal role in shaping the efficiency and effectiveness of financial markets. Both Sukuk (Islamic bonds) and conventional bond markets are profoundly influenced by the administrative competence and regulatory frameworks established by these institutions. As it infers that High-quality bureaucracy may ensures transparent, consistent, and predictable regulatory environments, which are decisive for investor confidence and market stability. This, in turn, may lead to increased market participation, and hence enhanced liquidity. Despite the differences between Sukuk, which must comply with Islamic law, and conventional bonds, both markets benefit similarly from robust bureaucratic oversight.

Hence, efficient bureaucratic processes can streamline issuance procedures, enforce legal protections, and ensure adherence to financial regulations, thereby fostering a trustworthy and dynamic financial ecosystem. Understanding the impact of bureaucratic quality on these markets can provide valuable insights into how to optimize regulatory frameworks to support the growth and resilience of both Sukuk and conventional bond markets. Similarly, law and order also highlights the positive and significant impact on the development of both Sukuk and bond markets in the selected countries. Which means that despite the market frameworks, law and order is inevitable for the development of both the market structures.

Law and order actually, encompass a broad spectrum, including the enforcement of contracts, the protection of investor rights, and the integrity of financial systems. These elements are crucial in fostering investor confidence, which in turn drives market liquidity and overall growth. For Sukuk, compliance with Sharia law adds another layer of complexity, necessitating robust legal systems to ensure adherence to Islamic finance principles. Similarly, bond markets thrive in environments where transparent regulations and effective legal enforcement mitigate risks and enhance predictability. Therefore, the impact of law and order on both Sukuk and bond markets is a critical factor that shapes their performance, accessibility, and appeal to investors, underscoring the universal necessity for stable and reliable legal frameworks in the financial sector.

The capital markets serve as pivotal components of the financial system, facilitating the flow of funds between investors and entities in need of capital. These markets are broadly categorized into conventional and Islamic capital markets, each characterized by distinct principles and operational frameworks. Conventional capital markets operate on principles of interest (riba), profit maximization, and risk transfer mechanisms, and are typically driven by Western financial theories and practices. In contrast, Islamic capital markets are grounded in the principles of Shariah law, which prohibits interest and speculative activities, and emphasizes risk-sharing, ethical investments, and asset-backed financing. This distinction not only reflects differing religious and ethical foundations but also leads to variations in financial instruments, regulatory frameworks, and investor behaviors within each market. Understanding these distinctions is essential for investors, regulators, and financial professionals as they navigate the complexities and opportunities presented by these parallel financial systems. Therefore, this section will highlight the distinctions, based on the findings of impacts of economic factors on the development of Islamic and conventional capital markets in the selected Asian countries.

Distinctions between Islamic and conventional stock markets

In the above context, we begin this section of comparative analysis with distinctions between Islamic and conventional stock markets. While, this distinction between the markets is based on the same economic factors I.e. macro-economic variables, banking sector development and institutional quality.

Therefore, in case of macroeconomic variables, the findings show that only variable of inflation has shown dissimilar impact in both the markets. The findings reveal that in long-run inflation has shown insignificant impact on conventional stock market, while on Islamic stock market it has shown significant impact with substantial increase in stock market capitalization. This means that in long-run inflation has significant impact on Islamic stock market capitalization. This positive and significant impact indicates that an increased inflationary situation leads to an augmentation in Islamic stock market capitalization.

Similarly, in case of banking sector development, only two variables have shown distinct impacts on the markets. The findings demonstrate that in long-run DCPS has shown positive and significant impact on the conventional stock market capitalization in the countries of interest. While, in case of Islamic stock market capitalization it has shown insignificant impact on the market. This is evident from the fact that Islamic stock markets are not closely tied with domestic credit activities due to their unique principles and practices. Investors in Islamic markets may prioritize Sharia-compliant investments, which might not necessarily align with the sectors benefiting from domestic credit facilities

However, from the other side, we can infer that an expansion of domestic credit to private sector will ultimately help in improving the stock market capitalization. Because domestic lending to the private sector has a major role in stimulating economic activity, influencing consumer spending and investment, and influencing general market mood. This expansion can usually signal an increase in investments in businesses, leading to economic expansion. Over time, this economic progression can boost corporate earnings and investor confidence, which are positive for stock market performance.

Likewise, the findings reveal that savings ratio has also shown distinct impact on the markets, although it is significant in both the markets but with positive impact on Islamic stock market and negative on conventional stock markets. This distinction clearly indicates, that

increased ratio of savings may lead to surge in Islamic stocks but at the same time may lead to a decline conventional stocks across the selected sample.

In case of Islamic stocks, we infer that as more money is deposited in banks, a greater savings ratio typically results in an increase in the quantity of capital available for investment. Banks that engage in Islamic finance use these deposits to invest in Sharia-compliant products and ventures. Therefore, increased savings can result in having more money accessible to invest in Islamic stocks and other approved financial products. A robust saving ratio ensures that banks can support economic activities through well-structured and Shariah-compliant financial products, thereby fostering investor confidence. This, in turn, attracts more participants to the Islamic stock market, promoting its growth and development.

However, on the other side Total saving of banks has a negative effect on stock market development implying that banks total savings reduces stock market development. It means, the negative impact of a high saving ratio on stock market development can primarily be attributed to the reduced flow of capital into the stock market. Therefore, Savings are typically held in banks or in the form of other low-risk financial instruments, which do not contribute directly to the stock market. This preference for saving over investment can lead to the reduced capital flows into the stock market, limiting its liquidity and potentially its growth.

And lastly, this section highlights the distinct impacts of institutional quality indicators on the development of both the markets in the selected countries. Whereas, the findings show that most of the indicators of institutional quality have similar impacts on both the markets, but in case of investment profile they have exhibited distinct impacts on the markets. In case of conventional stocks, it has shown positive and significant impact, which means that a better investment profile of an economy may induce the investors to invest in the market. However, on the other hand investment profile has shown negative and insignificant impact on Islamic stock market capitalizations across the selected nations of the study.

Distinctions between Sukuk and bond markets

This section of the study encompasses the distinct impacts of economic factors on the development of both the markets (Sukuk and bond markets) across the selected countries of this study. Therefore, it comprehensively highlights the impacts of macroeconomic variables, banking sector

development and institutional quality indicators. Hence, the separate nature of these variables on both the markets are comparative elucidated as:

We, begin the comparative dissimilarities of both the debt markets with the impact of macro-economic variables. Based, on the findings we simplify that only FDI and TO has exhibited distinct impacts on Sukuk and bond market development. In case of FDI, it has negative and insignificant relation with Sukuk market capitalization, but having positive and significant relation with bond market development.

Therefore, it means that this insignificant impact may arise due to the risky nature of Sukuk structures compared to conventional bonds due to their unique structures and the complexity of Shariah compliance. This perception can lead to a reluctance to invest, limiting the impact of FDI on Sukuk market development. These findings are justified by the study of Aman et al. (2021), signifying the insignificant relationship between the two variables is because of the small size of Sukuk markets. However, in case of conventional bond market it has demonstrated a positive and significant relationship with the bond market capitalization. It indicates that an increase in foreign direct investment will lead to increase in investment in the bond market. Which means, an increase in bond market investment would increase the volume of bond market capitalization as more bonds will be issued and ultimately the bond market would expand (leading to greater development). This distinct nature is clearly justified by the fact, that Sukuk and bond market have different investor basis which attracts the foreign investments as per their framework and regulatory norms. Whereas, Sukuk market attracts foreign investments from those sections, who prioritize their investments on the basis of Islamic injections. Thus, have limited FD base as compared to conventional bond market, which provides a defined rate of return and hence induces the larger share comparatively.

Similarly, another macroeconomic variable have shown distinct impacts on both the markets. Whereas, our comparative analysis is explicitly based on the findings obtained in chapter four and five of this study. Therefore, we proceed as per the results extracted in the previous chapters as mentioned. This distinction between the impacts of trade openness on the development of Sukuk and bond market reveal that it has insignificant impact on Sukuk market capitalization. While in case of bond market capitalization it has significant but negative relationship.

One of the main causes of the Sukuk market is the variation in national legal and regulatory frameworks. Islamic law, which forbids interest and mandates that underlying assets produce the

returns, must be complied with by Sukuk structures. The degree of Sharia conformity and the interpretation of Islamic finance regulations varies throughout nations, which might impede the standardization required for wider market acceptability and the impact of trade openness on market expansion.

Moreover, Sukuk market is predominantly concentrated in a few countries, like Malaysia, Saudi Arabia, and the UAE. This concentration means that the broader impacts of global trade openness might not substantially affect the overall market, as the key regions are already well integrated economically and financially with each other.

However, in case of conventional bond market, trade openness has shown significant but negative impact on bond market capitalization. These findings reveal that trade openness can have a negative impact on bond market development. This adverse effect can be attributed to factors such as increased external economic vulnerabilities, heightened competition from foreign financial markets, and potential macroeconomic instability. By investigating into these elements, we can better understand how the globalization of trade, despite its many benefits, might also impede the growth and robustness of domestic bond markets.

Similarly, this section on distinct findings between the markets, highlights comparative analysis on impact of banking sector development on market capitalizations of both the market structures. The findings reveal that only one indicator (savings ratio) of banking sector development has shown different impacts on the markets. Although, it portrays that savings ratio has significant impact on both the market structures, but has shown negative impact in case of bond market development.

This difference indicates that Sukuk markets offer a means of combining surplus unit savings and allocating them to profitable ventures. However, savings may flow through the banking system rather than the Sukuk market if the banking industry is more established. This would indicate that banks are better able to finance both themselves and corporations through deposits in nations with high saving rates.

However, in case of bond markets, a high savings ratio in the banking sector can lead to a surplus of funds within banks, which may reduce the incentive for banks to invest in or underwrite bonds. Instead, banks might prefer to extend loans directly to businesses and consumers, which can offer higher returns compared to the relatively stable but lower yields from bonds.

Lastly, this comparative analysis highlights the distinct impacts of institutional quality on the market capitalization of Sukuk and bond markets in the selected countries. The findings reveal that only one dissimilarity is found between the markets that is in case of investment profile, which highlights that it has insignificant impact on Sukuk market, but shows positive and significant impact on bond market capitalization across the countries selected in this study.

We infer from these differential findings, that the development of debt markets influenced by investment profile of market participants plays a critical role. In the realm of conventional bond markets, the investment profile encompasses the risk, investment horizons, and liquidity preferences of investors, which makes a significant impact on bond market capitalization. Conversely, the Sukuk market is governed by principles of Islamic finance, exhibits a distinct response to the investment profiles of its participants. Despite the growing popularity and global reach of Sukuk, the impact of investor profiles on Sukuk market development appears to be less prominent. This divergence stems from the intrinsic characteristics of Sukuk, including their compliance with Shariah principles, asset-backed nature, and the socio-religious motivations of investors.

Conclusion:

In conclusion, the development structures of Sukuk and bond markets are distinctly influenced by economic factors i.e. macroeconomic factors, banking sector development and institutional quality indicators, reflecting their unique structural and operational frameworks. Sukuk, is actually a Sharia-compliant structure, particularly influenced by the availability of Islamic finance infrastructure, regulatory environments, and the depth of the Muslim investor base. Factors such as religious adherence and the development of Islamic financial institutions play a crucial role in fostering the growth of the Sukuk market. In contrast, conventional bonds are more directly impacted by these economic factors with positive or negative impacts. Economic stability, investor confidence, and transparent regulatory frameworks are vital for the bond market's expansion. While both markets benefit from economic growth and stability, the Sukuk market's reliance on Islamic finance principles and ethical investments creates a unique set of developmental dynamics distinct from those influencing conventional bond markets.

Coefficient equality test

In regression analysis, the coefficient equality test is decisive as it enables to ascertain whether the coefficients of several predictors are statistically equivalent or not. In this context, we can determine whether the predictors' effects on the dependent variable are similar or different impacts to this test. When comparing the effect sizes of several variables in a model, it is especially helpful. By carrying out this test, we guarantee the validity and resilience of our regression models, allowing for more precise data interpretation and decision-making. Therefore, in context we have conducted coefficient equality tests among all regression models to have a comprehensive understandings of different impacts on the markets. The following analysis illustrates the comparative impacts of economic factors on both the markets structures:

Long-Run coefficients equality tests of macroeconomic variables and stocks markets (Islamic and convention):

- GDP has a significant positive coefficient in both models, but the magnitude is much higher in Model 1.
- INF shows a significant coefficient in Model 1 and a significant negative coefficient in Model 2.
- FDI has a positive and highly significant coefficient in both models, with Model 2 having a lower magnitude.
- ML has similar coefficients and significance levels in both models.
- TO has a negative significant coefficient in Model 1 and a positive significant coefficient in Model 2.

In summary, there are some remarkable differences in the coefficient magnitudes and significance levels between the two models. Model 1 generally shows higher coefficients for GDP, whereas Model 2 shows higher coefficients for FDI and TO. The overall significance and direction of the effects also vary, suggesting different dynamics in the models.

Banking sector development and stocks markets (Islamic and convention):

The coefficient for domestic credit to private sector (DCPS) is statistically significant in Model 2 but not in Model 1. Which indicates that in case of conventional stocks markets domestic credit to private sector has a substantial impact on market development.

However, both models show statistically significant coefficients for credit to deposit ratio (CDR), but Model 2 has a much larger coefficient. And indicates that in conventional stocks credit to deposit ratio has comparatively larger impact of stock market development across the selected countries.

Similarly, both models show statistically significant coefficients for financial depth (FD), with Model 2 having a larger coefficient. These results reveal that in case of conventional stocks markets financial depth has comparative larger impacts on market developments. This comparison shows that financial depth benefits more conventional stocks as Islamic stocks follow Shariah guidelines, which highlights different impacts on dependent variables. And lastly, both models show statistically significant coefficients for SRG, but the signs are opposite. It means that in case of Islamic stocks markets positive coefficient reveals that savings ratio comparatively helps these stocks to develop than conventional stocks.

Therefore, coefficient equality tests suggest that there are significant differences between the two models. Model 2 generally shows stronger statistical significance and larger coefficients for the long-run variables. The direction and magnitude of the coefficients differ, indicating that the two models have different effects on the dependent variable.

Institutional quality indicators and stocks markets (Islamic and convention):

- The coefficient for bureaucratic quality (BQ) is statistically significant in both models, but Model 1 has a larger coefficient.
- The coefficient for control of corruption (COR) is statistically significant in both Model 1 and Model 2. But has larger coefficient in model 1, means control in corruption impacts more Islamic stocks.
- The coefficient for investment profile (IP) is statistically significant in Model 2 but not in Model 1.

- The coefficient for law and order (LO) is statistically significant in both models, but Model 1 has a larger coefficient.

Thus coefficient equality tests suggest that there are significant differences between the two models. Model 1 generally shows stronger statistical significance and larger coefficients for the long-run variables compared to Model 2. The direction and magnitude of the coefficients differ, indicating that the two models have different effects on the dependent variable.

Long-Run coefficients equality tests of macroeconomic variables and bond markets (Islamic and convention):

- The coefficient for GDP is statistically significant in both models, but Model 2 has a much larger coefficient.
- The coefficient for INF is statistically significant in both models, but in model 2 it has positive impact on bond market development.
- Similarly, coefficient for FDI is statistically significant in both models, but in case of bond market FD has substantial impact on bond market development.
- The coefficient for TO is statistically significant in both models, with Model 2 having a larger coefficient.

Hence, coefficient equality tests suggest that there are significant differences between the two models. Model 2 generally shows stronger statistical significance and larger coefficients for the long-run variables. The direction and magnitude of the coefficients differ, indicating that the two models have different impacts on the dependent variable.

Banking sector development and bond markets (Islamic and convention):

The coefficient equality tests among the models of sukuk and bond markets suggest that there are significant differences between the two models. Model 2 generally shows stronger statistical significance and larger coefficients for the long-run variables. Therefore, direction and magnitude of the coefficients differ which indicates that the two models have different effects on the dependent variable.

- The coefficient for domestic credit to private sector (DCPS) is statistically significant in both models, with Model 2 having a much larger coefficient.
- The coefficient for financial depth (FD) is not statistically significant in Model 1 but is significant in Model 2.
- The coefficient for saving ratio (SRG) is statistically significant in both models, but the signs are opposite. Means that in case of model 1, it has positive relation with sukuk market development. This comparative outcome demonstrates that savings ratio have better impacts on sukuk market development then bond markets.

Institutional quality indicators and bond markets (Islamic and convention):

- The coefficient for bureaucratic quality (BQ) is statistically significant in both models, with Model 2 having a much larger coefficient.
- The coefficient for control of corruption (COR) is statistically significant in both models, with Model 2 having a different magnitude.
- The coefficient for investment profile (IP) is statistically significant in Model 2 but not in Model 1.
- The coefficient for law and order (LO) is statistically significant in both models, but the magnitude is larger in Model 2.

The coefficient equality tests suggest that there are significant differences between the two models. Model 2 generally shows larger coefficients for the long-run variables, indicating a stronger impact. The direction and magnitude of the coefficients differ, reflecting the different effects of the predictors on the dependent variable.

CHAPTER 8: CONCLUSION AND POLICY IMPLICATIONS

8.1 Conclusion

This is the final chapter of this study, presenting the summation of the evidence, findings and points presented throughout the text. A well-crafted conclusion does more than merely restate the main ideas; it synthesizes the information, highlights the significance of the work, and leaves a lasting impression. By effectively drawing together the threads of an argument or narrative, a conclusion reinforces the author's purpose and underscores the importance of the topic, ensuring that the reader leaves with a clear understanding of the work's overall message and implications.

This study empirically explored the impact of economic factors on the development of Islamic and conventional capital markets in some selected Asian countries. By examining the relationship between economic variables and capital market development in Islamic and conventional contexts. The main focuses of this analysis was on certain key economic indicators such as GDP, inflation, FDI, market liquidity, trade openness, banking sector development indicators and institutional quality indicators. Moreover, through a comparative approach, this study seeks to provide insights into how these economic factors shape the evolution of capital markets in these regions, offering valuable implications for policymakers, investors, and financial institutions. The findings will contribute to a deeper understanding of the economic dynamics influencing market development and the potential for harmonizing Islamic and conventional financial systems to foster robust and inclusive development.

This research employed a quantitative approach, relying on secondary data and utilizing panel data from ten Asian countries to investigate the research objectives. Whereas, keeping in view the nature of data set at hand, we have employed penal ARDL to bound cointegration approach for estimation. Moreover, we have used twelve different models for estimation to escape from spurious results. Therefore, this study examined the impact of economic factors on the development of Islamic and conventional capital markets, through separate models.

In model I, the impact of macroeconomic variables on Islamic stock markets was estimated. Whereas, after applying appropriate techniques, the overall results show that all the macroeconomic variables in long-run were significantly impacting the development structures of Islamic stock markets. Moreover, the variables like GDP, inflation, FDI and market liquidity show

positive and significant impact on the dependent variable, indicating any improvement in these variables may lead to a substantial development in Islamic stock markets in the selected countries. However, trade openness shows negative relation with the dependent variable, which means any improvement in trade openness may lead a decline in Islamic stock market development in the selected sample.

Model II, comprehensively elucidates the impact of banking sector development on the development of Islamic stock markets in selected countries. Consequently, the outcomes reveal all the banking sector indicators in long-run, except domestic credit to private sector have positive and significant relation with the dependent variable. Which explicitly infer, that with an improvement in these indicators, the development of Islamic stock markets may lead to an extensive expansion in the countries of interest.

Model III, shows the impact of institutional quality indicators on the development of Islamic stock markets in the same countries. Whereas, the same procedure of estimation was followed to obtain the sophisticated outcomes. Therefore, the long-run results reveal that all variables of institutional quality except investment profile were significant. But in short-run only Bureaucracy Quality show positive and significant impact on dependent variable.

Model IV, exhibits the impact of macroeconomic variables on the development of Sukuk markets in the selected countries. The overall results of this model in long-run show that all variables are significantly related with Sukuk market development. But inflation and FDI show negative impact on Sukuk markets. However, in short-run only GDP has shown positive and significant impact on the development of Sukuk markets.

Model V, analyzed the impact of banking sector development on the Sukuk markets in the selected countries. Consequently, the long-run results show that the indicators of domestic credit to private sector and saving ratio show positive and significant relationship with the development of Sukuk markets. However, in short-run all the variable load as insignificant, indicates no such impact on the dependent variable.

Model VI, is based on the outcomes obtained from the estimation on impact of institutional quality on the development Sukuk markets in selected countries. The results of this model show that all variables except investment profile has positive and significant impact on the dependent variable. This implies, that good quality of institutions is indispensable for the development of Sukuk markets in the selected countries.

Model VII, examines the impact of macroeconomic factor on the development of conventional stock markets across the selected countries. Overall, results of this model reveal that in long-run only inflation has loaded as insignificant, while all other variables are positive and significant. However, in case of short-run all the macroeconomic variables are insignificant, which means that they have not shown any kind of impact on the dependent variable. The analysis, of the model demonstrate that an economically well off country has an optimistic impact on the development of stock markets throughout the selected countries.

Model VIII, investigated the impact of banking sector development on the development of conventional stock markets across the selected countries. The results of this model reveal that all the indicators of banking sector development show significant impact on stock market development. Whereas, the results of domestic credit to private sector, financial depth and credit to deposit ratio are positive and significantly related with the stock markets, indicating that a well-developed banking sector is inevitable for the development of stock markets across the countries of interest. But saving ratio shows negative impact on the dependent variable, infers any improvement in savings ratio may lead a considerable decline in stock market development.

Model IX, overall results of this model disclose that institutional quality has shown positive and significant impact on the development of stock markets throughout the selected countries. Which means that good quality of institutions are inevitable, as they provide the necessary measures and witnesses guarantee for smooth and vibrant development of stock markets in the selected countries.

Model X, represents the results on impact of macroeconomic variables on bond market development across the selected countries. The estimated outcomes of the model show that in log-run all variables are positive and significantly related with the bond markets. Which means that stable economic conditions assist in improving the development of bond markets.

Model XI, shows the results obtained from analyzing the impact of banking sector development on bond markets in the selected countries. Accordingly, the long-run results reveal that all the indicators of banking sector development are significantly related with the development of bond markets. But savings ratio show negative impact, means any enhancement in savings will lead to a decline in bond market development in the sample.

Lastly, Model XII, demonstrates the findings on impact of institutional quality on the bond market development in countries of consideration. And the results highlight that all the indicators

of institutional quality show positive and significant impact on the development of bond markets. Which explicitly, shows that good quality of institutions may witness the robust bond market development across the selected countries.

In nutshell, the analyses across various models reveal that macroeconomic stability, banking sector development, and institutional quality are vital determinants of capital market developments in the selected countries. Specifically, GDP, market liquidity, and institutional quality consistently show positive impacts on Islamic and conventional stock markets as well as Sukuk and bond markets. While inflation and trade openness have negative effects in certain contexts, a well-developed banking sector generally supports market growth, though increased savings ratios may sometimes hinder bond and stock market development. Overall, strong economic conditions and high-quality institutions are essential for thriving capital markets.

8.2. Policy Implications

The overall findings of this study suggest several policy implications for policymakers and stakeholders in the selected countries:

Macroeconomic Stability: Governments should prioritize policies that maintain macroeconomic stability, such as controlling inflation and promoting economic growth. This will create a conducive environment for the development of both Islamic and conventional financial markets, as well as Sukuk and bond markets.

Banking Sector Development: Policymakers should focus on enhancing the development of the banking sector, as it plays an essential role in supporting capital market development. Therefore, measures to improve access to credit, strengthen financial institutions, and increase financial depth can stimulate the development of stock, Sukuk, and bond markets.

Institutional Quality: Efforts to improve institutional quality, including governance frameworks, regulatory systems, and legal environments, are vital for fostering investor confidence and ensuring the smooth functioning of financial markets. And ultimately, strengthening institutions will contribute to the robust development of both Islamic and conventional financial markets, as well as Sukuk and bond markets.

Overall, policymakers need to adopt an inclusive approach that addresses macroeconomic stability, banking sector development and institutional quality, to foster the vibrant and sustainable development of capital markets in the selected countries.

8.3: Practical Implications

The findings of this study have profound implications for policymakers, regulators, and industry stakeholders seeking to foster capital market growth across the selected countries. Therefore, by shedding light on the important drivers of market development, this research informs strategic decision-making across various stakeholders.

For policymakers, this study guides fiscal and monetary policy decisions, infrastructure investments, and regulatory reforms. While, Regulators can enhance oversight, transparency, and market surveillance. And Industry stakeholders can refine investment strategies, product development, and financial literacy initiatives.

By embracing these recommendations, stakeholders can collectively create a conducive environment for capital market development, stability, and financial inclusion, ultimately driving economic development across the selected countries.

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APPENDIX

APPENDIX-A

Table 4.3: Panel Unit Roots at Level

Variables Name	Levin-Lin-Chu t-rho stat	Im-Pesaran-Shin w-stat	Maddala & Wu (MW)		Decision Ho
			ADF fisher chi-square	PP fisher chi-square	
Intercepts with no trends at Level					
ISMC	-1.65135 (0.0493)	-1.50403 (0.0663)	28.9816 (0.0881)	54.0053 (0.0001)	Non Stationary
SKMC	-0.68560 (0.2465)	1.36509 (0.9139)	24.9882 (0.2019)	25.4262 (0.1856)	Non Stationary
SMC	-0.23020 (0.4090)	-1.24117 (0.1073)	33.7284 (0.0280)	66.8461 (0.0000)	Non Stationary
BMC	6.60518 (1.0000)	7.45199 (1.0000)	5.67569 (0.9993)	9.75430 (0.9724)	Non Stationary
GDP	-0.91539 (0.1801)	-0.34167 (0.6337)	23.4334 (0.2681)	17.6454 (0.6108)	Non Stationary
INF	-3.36791 (0.0004)	-2.86303 (0.0021)	44.1371 (0.0014)	103.021 (0.0000)	Stationary
FDI	-8.29406 (0.0000)	-5.26213 (0.0000)	70.2832 (0.0000)	64.9976 (0.0000)	Stationary
ML	-13.9761 (0.9998)	-13.0938 (0.0000)	38.7274 (0.0031)	82.8802 (0.0000)	Non Stationary
DCPS	-2.35661 (0.0092)	-1.51132 (0.0654)	28.7209 (0.0934)	53.2772 (0.0001)	Non Stationary
FD	-0.05143 (0.4795)	0.83386 (0.7978)	11.4409 (0.9341)	29.9147 (0.0712)	Non Stationary
CDP	-1.80899	-1.42541	28.4633	76.4923	Non Stationary

	(0.0352)	(0.0771)	(0.0989)	(0.0000)	
SRG	-9.9112 (0.9989)	-0.60639 (0.2721)	21.1961 (0.2696)	36.4478 (0.0062)	Non Stationary
BQ	18.5673 (0.9999)	-6.18477 (0.0000)	21.2511 (0.0000)	1.7101 (0.4253)	Non Stationary
COR	3.51166 (0.9998)	0.61811 (0.6239)	9.90931 (0.7317)	4.13874 (0.9808)	Non Stationary
IP	3.09679 (0.9991)	1.57916 (0.8159)	14.2828 (0.9429)	20.5591 (0.4235)	Non Stationary
LO	1.40764 (0.9204)	1.60465 (0.9457)	0.1540 (0.7508)	18.5977 (0.1809)	Non Stationary

Table 4.4: Panel Unit Roots at First Difference

Variables Name	Levin-Lin-Chu t-rho stat	Im-Pesaran-Shin w-stat	Maddala & Wu (MW)		Decision Ho
			ADF fisher chi-square	PP fisher chi-square	
Intercepts with no trends at First Difference					
ISMC	-2.33964 (0.0000)	-4.38581 (0.0000)	55.7922 (0.0001)	121.569 (0.0000)	Stationary
SUKMC	-3.58094 (0.0002)	-4.61618 (0.0000)	67.5372 (0.0000)	193.399 (0.0000)	Stationary
SMC	-12.9339 (0.0000)	-10.1344 (0.0000)	105.487 (0.0000)	157.610 (0.0000)	Stationary
BMC	-4.00350 (0.0000)	5.85430 (0.0000)	60.8347 (0.0000)	97.0765 (0.0000)	Stationary
GDP	-0.62758 (0.2651)	-3.10458 (0.0010)	41.5701 (0.0031)	91.9549 (0.0000)	Stationary
ML	-14.4943 (0.9989)	-12.5526 (0.0000)	78.8331 (0.0000)	166.638 (0.0000)	Stationary
DCPS	-2.13713 (0.0163)	-3.35311 (0.0004)	45.6903 (0.0009)	65.4053 (0.0000)	Stationary
FD	-2.24844 (0.0123)	-3.91773 (0.0000)	51.5166 (0.0001)	130.856 (0.0000)	Stationary
CDP	-2.95514 (0.0016)	-2.78784 (0.0027)	40.6772 (0.0041)	93.4308 (0.0000)	Stationary
BQ	5.07634 (0.0001)	-6.57287 (0.0000)	21.6701 (0.0000)	11.2765 (0.0000)	Stationary
COR	2.33385 (0.0002)	0.17016 (0.0006)	9.83243 (0.0007)	25.5179 (0.0006)	Stationary

IP	1.87113 (0.0003)	-2.46493 (0.0069)	42.1458 (0.0026)	100.374 (0.0000)	Stationary
LO	8.72177 (0.0000)	0.78201 (0.0000)	13.6224 (0.0002)	53.5349 (0.0000)	Stationary

"Levin-Lin-Chu unit-root test
Ho: Panels contain unit roots
Ha: Panels are stationary

Im-Pesaran-Shin unit-root test
Ho: All panels contain unit roots
Ha: Some panels are stationary

Fisher-type unit-root (Augmented Dickey-Fuller) & (Phillips-Perron) tests
Ho: All panels contain unit roots
Ha: At least one panel is stationary"

APPENDIX-B

Bond market

Date: 06/08/24
Time: 23:40
Sample: 2008 2022

	BMC	GDP	INF	FDI	TO
"Mean	50.01700	41960.06	4.460706	1.849120	88.15802
Median	32.02911	37065.31	5.427791	1.418248	85.80691
Maximum	893.0000	163219.5	28.95059	11.45597	191.8726
Minimum	2.78E-07	2625.406	-25.95842	-1.685509	24.70158
Std. Dev.	103.6474	35904.89	9.787054	1.925195	47.65089
Skewness	7.257460	1.157055	-0.572631	1.758613	0.411296
Kurtosis	59.15984	4.301991	3.978253	7.878645	1.900327
Jarque-Bera	21028.81	44.06427	14.17878	226.0753	11.78711
Probability	0.000000	0.000000	0.000834	0.000000	0.002757
Sum	7502.550	6294009.	669.1059	277.3680	13223.70
Sum Sq. Dev.	1600676.	1.92E+11	14272.18	552.2501	338320.5
Observations"	150	150	150	150	150

APPENDIX-C

Correlation matrix
Date: 06/08/24 Time: 23:41
Sample: 2008 2022
Included observations: 150

Correlation Probability	BMC	GDP	INF	FDI	TO
BMC	1.000000				

GDP	-0.177372	1.000000			
	0.0299	-----			
INF	-0.013476	-0.191669	1.000000		
	0.8700	0.0188	-----		
FDI	-0.016691	0.035907	-0.019890	1.000000	
	0.8393	0.6627	0.8091	-----	
TO	-0.040653	0.499959	-0.254034	0.422147	1.000000
	0.6214	0.0000	0.0017	0.0000	-----

APPENDIX-D

Lag Order Selection Criteria
Endogenous variables: ISLAMIC_ST BCD_CDP BCD_DCPS BCD_FD BCD_SRG
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-6135.634	NA	2.12e+42	111.6479	111.7706	111.6977
1	-5570.965	1067.739*	1.16e+38*	101.8357*	102.5722*	102.1345*
2	-5552.665	32.93907	1.31e+38	101.9576	103.3078	102.5052
3	-5543.594	15.50400	1.77e+38	102.2472	104.2111	103.0438
4	-5522.416	34.27027	1.92e+38	102.3166	104.8944	103.3622

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error

AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-E

VAR Lag Order Selection Criteria
Endogenous variables: SUKUK BCD_CDP BCD_DCPS BCD_FD BCD_SRG
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2785.403	NA	3.98e+17	54.71379	54.84246	54.76589
1	-2213.235	1077.022	8.72e+12*	43.98500	44.75705*	44.29763*
2	-2188.122	44.80882	8.73e+12	43.98279*	45.39822	44.55595
3	-2178.449	16.31155	1.19e+13	44.28332	46.34212	45.11700
4	-2151.363	43.01871*	1.16e+13	44.24242	46.94460	45.33662

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-F

VAR Lag Order Selection Criteria
Endogenous variables: SUKUK ICRG_BQ ICRG_COR ICRG_IP ICRG_LO
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1554.027	NA	12991004	30.56915	30.69782	30.62125
1	-1325.535	430.1019*	240484.9*	26.57912*	27.35117*	26.89175*
2	-1310.780	26.32690	295030.0	26.78001	28.19543	27.35316
3	-1293.147	29.73410	343908.9	26.92446	28.98326	27.75814
4	-1272.554	32.70667	381297.6	27.01087	29.71305	28.10507

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion

SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-G

VAR Lag Order Selection Criteria
Endogenous variables: SMC MAC_GDP MAC_INF MAC_FDI MAC_ML MAC_TO
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3282.699	NA	2.88e+21	66.43837	66.59565	66.50201
1	-2669.215	1140.212	2.47e+16	54.77203	55.87299*	55.21748
2	-2603.646	113.9186*	1.37e+16*	54.17467*	56.21931	55.00193*
3	-2573.457	48.79108	1.57e+16	54.29205	57.28037	55.50113
4	-2549.548	35.74230	2.08e+16	54.53632	58.46832	56.12721

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-H

VAR Lag Order Selection Criteria
Endogenous variables: SMC BCD_CDP BCD_DCPS BCD_FD BCD_SRG
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2477.191	NA	2.74e+13	45.13075	45.25350	45.18054
1	-1888.508	1113.147	9.70e+08	34.88196	35.61846*	35.18069*
2	-1862.390	47.01197	9.53e+08*	34.86164*	36.21188	35.40930
3	-1848.988	22.90620	1.19e+09	35.07250	37.03649	35.86911
4	-1825.221	38.45933*	1.23e+09	35.09492	37.67265	36.14046

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-I

VAR Lag Order Selection Criteria
Endogenous variables: SMC ICRG_BQ ICRG_COR ICRG_IP ICRG_LO
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1162.174	NA	1132.247	21.22134	21.34409	21.27113
1	-926.7354	445.1926	24.68870*	17.39519*	18.13168*	17.69392*
2	-909.5339	30.96270	28.52977	17.53698	18.88722	18.08464
3	-885.5597	40.97406*	29.27213	17.55563	19.51962	18.35223
4	-871.9996	21.94266	36.52359	17.76363	20.34136	18.80917

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX-J

VAR Lag Order Selection Criteria
Endogenous variables: SMC BCD_CDP BCD_DCPS BCD_FD BCD_SRG
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2477.191	NA	2.74e+13	45.13075	45.25350	45.18054
1	-1888.508	1113.147	9.70e+08	34.88196	35.61846*	35.18069*
2	-1862.390	47.01197	9.53e+08*	34.86164*	36.21188*	35.40930
3	-1848.988	22.90620	1.19e+09	35.07250	37.03649	35.86911
4	-1825.221	38.45933*	1.23e+09	35.09492	37.67265	36.14046

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Appendix-k

Lag Order Selection Criteria
Endogenous variables: BMC ICRG_BQ ICRG_COR ICRG_IP ICRG_LO
Exogenous variables: C

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1222.598	NA	3396.791	22.31997	22.44272	22.36976
1	-1024.485	374.6146	146.0002	19.17245	19.90895*	19.47118*
2	-1005.165	34.77604	162.3398	19.27572	20.62596	19.82339
3	-973.2336	54.57325*	144.1288*	19.14970*	21.11369	19.94631
4	-954.7981	29.83204	164.5780	19.26906	21.84679	20.31460

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

Panel ARDL Estimated Equation

$$ISMit = \alpha it + \beta 2GDPit + \beta 2INFit + \beta 3REERit + \beta 4FDIit + \beta 5MSit + \beta 6SIZit + \beta 6TOPit + it$$

The following ARDL(1,1,1,1,1) equation:

$$ISMit = \alpha it + \alpha 1ISMit-1 + \beta 1GDPit + \beta 2GDPit-1 + \beta 3INFit + \beta 4INFit-1 + \beta 5REERit + \beta 6REERit-1$$

$$+ \beta 7FDIit + \beta 8FDIit-1 + \beta 9MSit + \beta 10MSit-1 + \beta 11SIZit + \beta 12SIZit-1 + \beta 13TOPit + \beta 14TOPit-1 + it$$

Whereas:

$$ISMit = \Delta ISMit + ISMit-1$$

$$GDP_{it} = \Delta GDP_{it} + GDP_{it-1}$$

$$INFit = \Delta INFit + INFit-1$$

$$REER_{it} = \Delta REER_{it} + REER_{it-1}$$

$$FDIit = \Delta FDIit + FDIit-1$$

$$MS_{it} = \Delta MS_{it} + MS_{it-1}$$

$$SIZit = \Delta SIZit + SIZit-1$$

$$TOP_{it} = \Delta TOP_{it} + TOP_{it-1}$$

The following equation of Error Correction Mechanism (ECM)

$$\Delta ISMit + ISMit{-}1$$

$$= \alpha it + \alpha 1 ISMit{-}1 + \beta 1 GDPit{-}1 + \beta 2(\Delta GDP_{it} + GDP_{it-1}) + \beta 3 INFit{-}1$$

$$+ \beta 4(\Delta INF_{it} + INF_{it-1}) + \beta 5 REERit{-}1 + \beta 6 REER(\Delta REER_{it} + REER_{it-1}) + \beta 7 FDIit{-}1$$

$$+ \beta 8(\Delta FDI_{it} + FDI_{it-1}) + \beta 9 MSit{-}1 + \beta 10 MS(\Delta MS_{it} + MS_{it-1}) + \beta 11 SIZit{-}1$$

$$+ \beta 12(\Delta SIZ_{it} + SIZ_{it-1}) + \beta 13 TOPit{-}1 + \beta 14 TOP(\Delta TOP_{it} + TOP_{it-1})$$

$$\Delta ISM_{it} = \alpha_{it} - ISM_{it}{-}1 + \alpha_1 ISM_{it}{-}1 + \beta_1 GDP_{it}{-}1 + \beta_2(\Delta GDP_{it} + GDP_{it-1}) + \beta_3 INF_{it}{-}1$$

$$+ \beta 4(\Delta INF_{it} + INF_{it-1}) + \beta 5 REERit{-}1 + \beta 6 REER(\Delta REER_{it} + REER_{it-1}) + \beta 7 FDIit{-}1$$

$$+ \beta 8(\Delta FDI_{it} + FDI_{it-1}) + \beta 9 MSit{-}1 + \beta 10 MS(\Delta MS_{it} + MS_{it-1}) + \beta 11 SIZit{-}1$$

$$+ \beta 12(\Delta SIZ_{it} + SIZ_{it-1}) + + \beta 14 TOP(\Delta TOP_{it} + TOP_{it-1})$$

$$\Delta ISMit = \alpha it - ISMit{-}1 + \alpha 1 ISMit{-}1 + \beta 1 GDPit{-}1 + \beta 2 \Delta GDPit + \beta 2 GDPit + \beta 3 INFit{-}1 + \beta 4 \Delta FDIit$$

$$+ \beta 4 INFit + \beta 5 REERit{-}1 + \beta 6 \Delta REERit + \beta 6 REERit + \beta 7 FDIit{-}1 + \beta 8 \Delta FDIit$$

$$+\beta 8FDIit{-}1+\beta 9MSit{-}1+\beta 10\Delta MSit+\beta 10MSit{-}1+\beta 11SIZit{-}1+\beta 12\Delta SIZit$$

$$+\beta 12SIZit{-}1++\beta 13TOPit{-}1+\beta 14\Delta TOPit+\beta 14TOPit{-}1$$

$$\Delta ISMit=\alpha it-(1-\alpha 1){-}1+(\beta 1+\beta 2)GDPit{-}1+(\beta 3+\beta 4)INFit{-}1+(\beta 5+\beta 6)REERit{-}1$$

$$+(\beta 7+\beta 8){-}1+(\beta 9+\beta 10)MSit{-}1+(\beta 11+\beta 12)SIZit{-}1+(\beta 13+\beta 14)TOPit{-}1$$

$$+\beta 2\Delta GDPit+\beta 4\Delta INFit+\beta 6\Delta REERit+\beta 8\Delta FDIit+\beta 10\Delta MSit+\beta 12\Delta SIZit+\beta 14\Delta TOPit$$

$$\Delta ISM_{it}=\alpha_{it}-(1-\alpha_1)\left[ISM_{it-1}+\frac{(\beta_1+\beta_2)}{(1-\alpha_1)}GDP_{t-1}+\frac{(\beta_3+\beta_4)}{(1-\alpha_1)}INF_{t-1}+\frac{(\beta_5+\beta_6)}{(1-\alpha_1)}REER_{t-1}\right.$$

$$+\frac{(\beta_7+\beta_8)}{(1-\alpha_1)}FDI_{t-1}+\frac{(\beta_9+\beta_{10})}{(1-\alpha_1)}MS_{t-1}+\frac{(\beta_{11}+\beta_{12})}{(1-\alpha_1)}SIZ_{t-1}$$

$$\left.++\frac{(\beta_{13}+\beta_{14})}{(1-\alpha_1)}TOP_{t-1}\right]+\beta_2\Delta GDP_{it}+\beta_4\Delta INF_{it}+\beta_6\Delta REER_{it}+\beta_8\Delta FDI_{it}$$

$$+\beta_{10}\Delta MS_{it}+\beta_{12}\Delta SIZ_{it}+\beta_{14}\Delta TOP_{it}$$

Therefore:

$$\Delta ISMit=\alpha it+\gamma 1ECTit{-}1+\beta 2\Delta GDPit+\beta 4\Delta INFit+\beta 6\Delta REERit+\beta 8\Delta FDIit+\beta 10\Delta MSit+\beta 12\Delta SIZit+\beta 14\Delta TOPit$$

Whereas:

$\gamma_1 = 1-\alpha_1$

$$ECT_{t-1} = \left[ISM_{it-1} + \frac{(\beta_1 + \beta_2)}{(1-\alpha_1)} GDP_{t-1} + \frac{(\beta_3 + \beta_4)}{(1-\alpha_1)} INF_{t-1} + \frac{(\beta_5 + \beta_6)}{(1-\alpha_1)} REER_{t-1} + \frac{(\beta_7 + \beta_8)}{(1-\alpha_1)} FDI_{t-1} + \frac{(\beta_9 + \beta_{10})}{(1-\alpha_1)} MS_{t-1} + \frac{(\beta_{11} + \beta_{12})}{(1-\alpha_1)} SIZ_{t-1} + + \frac{(\beta_{13} + \beta_{14})}{(1-\alpha_1)} TOP_{t-1}\right]$$

So that based on ARDL (1, 1, 1, 1, 1) model, determine long-run coefficients:

$$\Delta ISMit = \alpha it + \alpha 1 ISMit{-}1 + \beta 1 GDPit + \beta 2 GDPit{-}1 + \beta 3 INFit + \beta 4 INFit{-}1 + \beta 5 REERit + \beta 6 REERit{-}1 + \beta 7 FDIit + \beta 8 FDIit{-}1 + \beta 9 MSit + \beta 10 MSit{-}1 + \beta 11 SIZit + \beta 12 SIZit{-}1 + \beta 13 TOPit + \beta 14 TOPit{-}1 + it$$

So that long-run coefficients as following:

$$ISMit = \theta it + \varphi 1 GDPit + \varphi 2 INFit + \varphi 3 REERit + \varphi 4 FDIit + \varphi 5 MSit + \varphi 6 SIZit + \varphi 7 TOPit + \delta it$$

Whereas:

$$\varphi_1 = \frac{(\beta_1 + \beta_2)}{(1-\alpha_1)}$$

$$\varphi_2 = \frac{(\beta_3 + \beta_4)}{(1-\alpha_1)}$$

$$\varphi_3 = \frac{(\beta_5 + \beta_6)}{(1-\alpha_1)}$$

$$\varphi_4 = \frac{(\beta_7 + \beta_8)}{(1-\alpha_1)}$$

$$\varphi_5 = \frac{(\beta_9 + \beta_{10})}{(1-\alpha_1)}$$

$$\varphi_6 = \frac{(\beta_{11} + \beta_{12})}{(1-\alpha_1)}$$

$$\varphi_7 = \frac{(\beta_{13} + \beta_{14})}{(1-\alpha_1)}$$

$$\delta_{it} = error\ term$$