THE IMPACT OF CENTRAL BANK INDEPENDENCE AND TRANSPARENCY ON THE COST OF CAPITAL, EQUITY HOME AND FOREIGN BIAS, AND DEBT HOME AND FOREIGN BIAS.

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Student Declaration

Declaration

I do hereby declare that the materials contained in this thesis have not been previously submitted for a degree in this or any other university. I further declare that this thesis is solely based on my own research.

I further declare that this thesis documents in accordance with the guidelines of De Montfort University.

Abdullah Al Mamoon

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ABSTRACT

The independence and transparency of central banks have a substantial influence on investment holdings and financial decisions, as monetary policy affects macroeconomic fundamentals and the financial market. A Political government of a country may influence monetary policy as different political parties have different agendas and goals. Politicians are well aware of the importance of monetary policy issues such as price stability and market volatility; however, they are less inclined than the central bank's authority to prioritize monetary policy objectives over their political agenda and commitment to the public. Politicians and central bank personnel have diverse policy preferences and points of view, making central bank independence (*CBI*) and transparency (*CBT*) crucial for a country's financial market and competitiveness. Therefore, our main argument is that central bank independence and transparency may interact with macroeconomy and institutional quality to reduce information asymmetry and convey policy and institutional stability signals to foreign investors. As a result, more market participants lead to risk sharing, lower cost of capital, reduced home bias, and increased foreign bias in equity and debt portfolios. This study employed a panel dataset of 40 countries from 2001 to 2014, including 23 developed and 17 emerging countries.

The first empirical study investigates the impact of central bank independence and transparency on the cost of capital. Following existing literature, we use four measures to proxy for the cost of capital. We find compelling evidence supporting the hypothesis that countries with a higher degree of central bank independence and transparency experience lower cost of capital. In the second empirical study, we examine the impact of central bank independence and transparency on equity home and equity foreign bias. Our findings, based on rigorous analysis, demonstrate that a lower degree of home bias is linked to a higher degree of central bank independence and transparency, and an equally higher degree of equity foreign bias is associated with an increased degree of central bank independence and transparency. Finally, in our third empirical study, we investigate whether various degrees of central bank independence and transparency affect debt home and debt foreign bias in the same way that equity home and foreign bias. Following extensive analysis, our findings demonstrate that a lower level of debt home bias is associated with a higher degree of central bank independence and transparency. Similarly, higher debt foreign bias is associated with increased central bank independence and transparency.

The primary contribution to the knowledge of this research is its extension of the literature on central banking and international finance. As the independence and transparency of the central bank influence, the cost of capital is crucial for developing a country's financial market and economic growth. Therefore, this study would help policymakers develop a deeper understanding of monetary policy principles and international portfolio management. The independence and transparency of the central bank influence home bias and foreign bias in equity and debt portfolio by reducing the cost of capital and increasing risk sharing among investors. The fund manager and portfolio investors will find this study invaluable in making decisions regarding international portfolio investment allocation.

Table of Contents

List of Tables

List of Appendices

Chapter 1: Introduction and summary of findings

1.1 Introduction

As monetary policy affects macroeconomic fundamentals and the financial market, central banks' independence and transparency substantially influence investment holdings and financial decisions. Central banks plan and execute monetary policy to maintain steady and positive inflation, reduce unemployment, and stimulate economic growth. The central banks adopt contractionary policies that discourage investment if the economy grows at an unsustainable rate. In contrast, during a recession, the central bank lowers interest rates and injects money into the economy, stimulating spending and investment and, as a result, asset prices affect positively.

The central bank primarily oversees the monetary system of a country. Existing research highlights that banks' degree of independence and transparency influences their capabilities to carry out their oversight functions (see; Rogoff, 1985; Forch and Sunde,2012; Neuenkirch, 2012; and Papadamou et al., 2014). Among other macroeconomic variables, the interest rate is one of the critical elements of monetary policy. The central bank could make borrowing easier or more difficult by lowering or raising interest rates, affecting the discount rate. The central bank also oversees a country's financial stability, which is crucial for trade and investment. Inflation and excessive volatility in currency and financial markets cause colossal volatility. Financial instability that results from this volatility hampers economic growth, elevates uncertainty, and increases investment volatility, which may discourage investment. On the other hand, financial and economic stability provides stable markets, creates employment, and establishes a balance between borrowers and lenders. This reduces uncertainty and ensures stability in an economy that stimulates investment and attracts investors.

Central bank independence and transparency are critical as politicians and central banks have different policy preferences. Political influence may jeopardise a country's central bank's independence (see; Goodman,1991; Cukierman,1994a; Walsh, 2010; and de Haan, J and Eijffinger, 2016) and transparency (see; Eijffinger and Hoeberichts, 2002; Dincer and Eichengreen, 2007,2010, and 2014; and Neuenkirch, 2013) since different political parties have different agendas and goals. According to the literature, most governments have placed their central banks firmly under political authority. In contrast, others have given their central banks greater autonomy or the ability to act independently of government instructions. Central bank authority, compared to politicians, is more concerned about unanticipated inflation and market volatility. The central bank's capacity to manage inflation and maintain financial market stability over the long term is more crucial to the central bank’s authority than short-term political considerations. Politicians and central banks are prone to clash due to differing objectives. Politicians know the importance of monetary policy issues such as price stability and market volatility. Still, they are less inclined than central banks’ authority

to prioritise monetary policy objectives over their political agenda and commitment to the public. Existing literature suggests that a change in political regime affects financial policy, particularly central bank independence and transparency, as well as overall monetary policy. As a result, monetary policy changes impact a country's macroeconomic condition, causing economic uncertainty and market volatility, rendering monetary policy inefficient and ineffective. Therefore, it is believed that the independence and transparency of a central bank can support efficient and effective monetary policy, which maintains financial and economic stability, decreases market volatility, lowers the cost of capital, and attracts more investors from home and abroad. Increased participation in a country's capital markets is an - opportunity for risk-sharing among investors and lowers investors' cost of capital.

1.2 Background of the study and gap analysis

As a result of financial globalisation, the role of the independent and transparent central bank in attracting foreign investors and reducing the cost of capital has become highly relevant. A vast body of literature has also explored the link between central bank independence and financial stability (see; Klomp and de Haan, 2009; and Berger and Kißmer, 2013), central bank independence and economic development (see; Cukierman et al., 1992; Alesina and Summers, 1993; Geraats, 2002; Klomp and de Haan, 2010; Arnone and Romelli, 2013; and Dincer and Eichengreen, 2014), and central bank independence and capital market (see; Forch and Sunde, 2012; Papadamou et al., 2014; and Fausch and Sigonius, 2018). Similarly, a strand of literature explores the relationship between central bank transparency and financial stability (see; Dincer and Eichengreen, 2007; and Horvath and Vasko,2012 & 2016), central bank transparency and economic efficiency (see; Chortareas et al., 2002; Eijffinger and Geraats, 2006; and Demertzis and Hughes Hallett, 2007), central bank transparency and the capital market (see; Dincer and Eichengreen, 2007; Papadamou et al., 2017; and Kwabi, Boateng, and Du, 2020). Central bank monetary policy develops so that inflation is maintained at a steady and positive level. Independent and transparent central banks raise interest rates and adopt further contractionary measures to control higher unsustainable growth, excessive aggregate demand, and increasing inflation, thus depressing asset prices and discouraging investment. The economic environment is a core determinant of monetary policy expectations, reverberating across the financial system by shaping forecast returns across all asset classes such as equities, bonds, goods and currencies, and real estate (see; Rigobon and Sack, 2008). Central banks are expected to manage monetary policy so that a country's inflation, employment, and economic growth remain stable and positive. When the economy expands at an unsustainable pace, it can lead to external shocks and asset bubbles. To control that economic overheats, central banks may increase the interest rate and introduce other contractionary measures, which can discourage investment and cause a fall in asset prices.

In contrast, the central bank may enforce an accommodative policy to boost economic growth by lowering short-term interest rates when the economy slows. Monetary policy interventions influence the cost of capital

and investments, either directly or indirectly. To accommodate the shifts in monetary policy, investors may need to re-position their portfolios to achieve higher returns while reducing risk. Such portfolio re-positioning affects investors' participation in a country's capital market. Therefore, central bank monetary policy may influence investors' decision to invest in a particular country and portfolio allocation, i.e., equity and debt portfolio.

Capital markets in several countries are gradually integrating into a unified global financial system. Existing literature reveals, among other things, the predominance of macroeconomic and country-level factors influencing capital markets and investor portfolio allocation. Current literature explores the explanation for equity home bias and finds that the critical determinants, among other factors, are stock market development (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012), information asymmetry (see; Gehrig,1993; Ahearne et al., 2004; and Bae et al., 2008), and investor protection (see; La Porta et al. 1997; Shleifer and Vishny, 1997; Lombardo and Pagano,1999; and Giannetti and Koskinen,2004). Similarly, several existing literature explores the explanation for equity foreign bias and finds that the critical determinants, among other factors, are information asymmetry (see; Gehrig,1993; Brennan and Cao,1997, Ahearne et al., 2004, Bae et al., 2008) transaction cost (see; Stulz and Wasserfallen, 1995; Tesar and Werner, 1995; Glassman and Riddick, 2001; Obstfeld and Rogoff, 2000; and Warnock and Cleaver, 2003) stock market development (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012), governance and investor protection (see; La Porta et al. 1997; Shleifer and Vishny, 1997; Dahlquist et al. 2003; Warnock and Warnock, 2009; and Thapa and Poshakwale, 2012) capital control (see; Errunza and losq 1985, De Fiore and Tristani,2013, and Gordon and Hines,2002) and macroeconomic factors such as interest rate, inflation, and exchange rate (see; Agarwal,1997; Mody et al. 2001; Fidora et al. 2007; Khurana and Michas, 2011; and Mishra, 2011 & 2014). However, relatively little research has investigated the link between equity home bias and foreign bias and central bank independence and transparency.

Financial globalisation and increased access to capital markets have provided investors with growing opportunities to diversify their portfolios globally. Reviews of current literature demonstrate domestic and foreign bias in the allocation of global debt portfolios. A study of the literature showed that debt home bias is explained by factors such as information asymmetries (Amadi, 2004; Massa and Simonov; 2006; Berkel, 2007), transaction costs (Burger and Warnock, 2003; and Burger and Warnock, 2007), and market development (Campa and Fernandes, 2006; Lane and Milesi-Ferreti, 2008). Other studies also document the importance of investor protection (see Campa and Fernandes, 2006; Lane and Milesi-Ferreti (see; La porta et al., 1997). Similarly, debt foreign bias explains in literature such as bond market growth (Ferreira and Miguel, 2011), Bond market returns (Burger and Warnonk, 2003), Familiarity (Massa and Simonov, 2006), regulatory quality (see; La porta et al., 1997). However, there has been limited study on the relationship between central bank independence and transparency, and debt home bias and foreign debt bias.

Studies suggest that an independent and transparent central bank fosters portfolio diversification, which leads to global investor exposure. Portfolio diversification may facilitate a lower cost of capital and higher return on investment. Stulz (2005) argues that risk-sharing among investors lowers market risk premiums and, therefore, the cost of capital. However, very few studies have investigated the impact of central bank independence and transparency on the cost of capital and on the home and foreign bias in equities and debt portfolios. This study empirically investigates the effect and interaction of independence and transparency of the central bank on the cost of capital, equity home bias and equity foreign bias, and debt home and debt foreign bias.

1.3 Research aim and objectives

This study investigates the link between central bank independence and transparency with the cost of capital and investor equity and debt portfolio allocation in a particular country. The specific objectives are as follows.

i. to ascertain the impact of independence and transparency of the central bank on the cost of capital in a host country.
ii. to determine the impact of independence and transparency of the central bank on equity investors' participation in the capital market in a host country.
iii. to determine the impact of independence and transparency of the central bank on debt investors' participation in the capital market in a country

1.4 Research motivation

Existing literature shows that central banks link with capital markets through monetary policy and its effects on macroeconomic factors (see Kurov,2012; Ghossoub and Reed, 2014; Papadamou et al., 2014; and Papadamou et al.,2017). It is first and foremost important to empirically examine the impact of independence and transparency of the central bank on cost of capital, equity home and foreign bias, and debt home and foreign bias gave the lack of empirical evidence.

Existing literature provides theoretical explanations for why financial globalisation increases the flow of foreign equity investment (see; Stulz,1999 & 2005; Heathcote and Perri,2004; and Lane and Milesi-Ferreti,2008a & 2008b, Lane,2019). Stulz (1999) demonstrates that financial globalisation allows for cross-border investors' participation, increasing risk-sharing and reducing capital costs in a host country. Rigobon and Sack (2004) investigate the link between asset prices and monetary policy and find that a decline in stock prices causes an upward shift in the yield curve and shrinks at longer maturities as short-term interest rates rise. Similarly, Rigobon and Sack (2003) indicate that fluctuations in broad stock price indices are greatly affected by short-term interest rates, suggesting that monetary policy is likely to react endogenously to the effect of stock price movements on aggregate demand. More precisely, other studies show that an

independent central bank facilitates capital market returns by limiting inflation (Fama and Schwert, 1977), fiscal deficits and future expected taxes (Sargent and Wallace, 1981). Maxfield (1997) argues that investors see central bank independence as a symbol of good governance. While investigating the link between the financial system and central bank transparency, Neuenkirch (2011) finds that transparency lowers the distortion in money market projections or the gap between the money market rate and the weighted estimated target rate over the contract term. Eijffinger and Geraats (2006) argue that central bank transparency affects investor behaviour in capital markets alongside inflation. Papadamou et al. (2014) claim a negative relationship between central bank transparency and stock market volatility by examining the relationship between central bank transparency and capital market volatility. Literature also demonstrates that the cost of capital and capital structure is influenced by country-specific factors such as the degree of growth in the financial sector and equity and bond markets, as the cost of capital is linked to macroeconomic factors (see; Fan et al.,2006). However, no single study explores the effects and interaction between independence and transparency of the central bank with the cost of capital.

A shift in macroeconomic factors such as interest rates, exchange rates, and inflation, which are essential elements of monetary policy, affects capital market dynamics and overall market stability. There is also strong a relationship between economic variables, financial stability, market volatility and investor expectations that influence market participation and investors' decision (See; Neuenkirch (2012; Papadamou et al., 2014; and Papadamou et al., 2017). Literature on equity or bond home bias and foreign bias shows that capital controls are an essential factor that inhibits cross-border investment and causes home and foreign bias. Studies on capital controls by Alesina et al. (1994) and Grilli and Milesi-Ferretti (1995) observed that flexible exchange rate regimes and higher central bank independence decrease the likelihood of capital restrictions.

As recommended by the Keynesian basic model, fluctuations in the money supply impact aggregate spending, production, employment, and income implicitly through changes in interest rate. The Keynesian model classifies three money-holding motives these are transactional, precautionary, and speculative. The interest rate determines the demand for money for speculative reasons. However, the demand for money for precautionary and transactional purposes is determined by the level of income. As the interest rate rises, the demand for money falls relative to the amount of national income. The interest rate mechanism (see; Wang,2008; Taylor,1995; and Martins et al., 2017) has been a popular feature of economic literature for several decades. The monetary policy transmission mechanism influences the cost of capital and spending decisions and affects corporate and household investment. According to Taylor (1995), interest rates have significant effects on consumer and investment spending, and therefore a robust interest rate framework for monetary policy is desired. As determined by the rate of return, the cost of capital indicates the minimum expected return earned to make the investment feasible. On the other hand, the net present value (NPV) estimates the time value of money. It offers a tool for measuring and analysing various potential investments

with cash flows accumulated over time. To determine whether to invest in a new capital project, net present value (NPV) is perhaps the best tool to facilitate investors insightfully and helpfully. A decrease in the cost of capital improves the NPV of a project, which increases shareholders' wealth. A review of the cost of capital literature (Chapter 2, section 2.3) reveals the significance of the study cost of capital and the lack of studies on the relationship between the central bank's independence and transparency with the cost of capital.

Previous literature suggests that a relatively diversified portfolio consisting of domestic and foreign assets increases investors' returns and reduces portfolio volatility. Home bias is a significant factor in equity investment constrains the investor's portfolio diversification. Financial globalisation leads to financial integration, global portfolio diversification, and risk-sharing among market participants (See; Obstfeld,1994; Bekaert and Harvey, 2000; Errunza,2001; Galindo et al., 2002). Studies also suggest that equity home bias inhibits market integration with globalisation and increases the cost of capital (See; Lau et al.,2010; and Chen and Yuan,2011). A review of the literature (see Chapter 2, section 2.4) demonstrates a lack of study on the connection between the independence and transparency of the central bank and equity home bias and foreign equity bias. We are therefore motivated to conduct a comprehensive empirical study on the impact of independence and transparency of the central bank on equity home bias and foreign bias. We are also motivated to fill the gap and update prior research limitations.

Finally, monetary policy has an impact on macroeconomic conditions. Economic dynamics impact the bond market, while monetary policies influence price fluctuations and investor expectations (see; Kuttner and Posen, 2001; De Goeij and Marquering, 2006; Eijffinger and Van der Cruijsen, 2007; and Ranaldo and Rossi, 2010). Existing studies suggest that the risk and return characteristics of the bond market have a significant effect on debt home bias, as market dynamics and economic conditions influence investors' expectations (see; Fidora et al., 2007; and Kim et al., 2014). A review of the literature on equity home bias and foreign bias (see Chapter -2, section 2.5) demonstrates that very few studies have investigated the effects of central bank independence and transparency on debt home bias and debt foreign bias. As a result, we are motivated to examine the impact of independence and transparency of the central bank on debt home bias and foreign bias.

1.5 Significance and contribution of this study

The study makes the following contributions. First, it examines whether the independence and transparency of the central bank influence the cost of capital, which no other research has investigated. The finding of this study contributes to the development of the financial market and the economic growth of a country.

Our first empirical study examined the hypothesis that the central bank's independence and transparency decrease the cost of capital. Our findings indicate that the independence and transparency of the central bank have a relatively significant effect on economic development and lower the cost of capital. This study also

shows that countries with higher levels of independence and transparency of central banks have lower cost of capital. Therefore, this study would help policymakers develop a deeper understanding of monetary policy principles and portfolio management.

We also examine whether the independence and transparency of the central bank reduce equity home bias and increase equity foreign bias. Our findings indicate that central bank independence and transparency have a relatively significant effect on investors' portfolio allocation by lowering the cost of capital. This study also shows that countries with higher levels of central bank independence have lower equity home bias and higher equity foreign bias, and a greater degree of central bank transparency also more down equity home bias and elevated equity foreign bias. The significance of independence and transparency of the central bank is vital to attract foreign investors to a host country. Therefore, this study would help policymakers to improve policy independence and transparency for economic growth.

Our third hypothesis focused on whether the independence and transparency of the central bank reduce debt home bias and increase debt foreign bias, which previous studies have ignored. The result shows that countries with higher levels of independence from the central bank have lower debt home bias and higher debt foreign bias. It also indicates that a greater degree of transparency of the central bank lower debt home bias and higher debt foreign bias. The findings contribute to the macroeconomic policy development, as it has been found that macroeconomic conditions affect debt home bias and debt foreign bias. Furthermore, recent progress toward financial market liberalisation, independence and transparency of central banks may be crucial in understanding the link between globalisation and portfolio allocation.

In general, this research will have several policy implications. For instance, policymakers will find the valuable study as a basis for formulating monetary policies. The result of this study can be effectively implemented for the financial market development of a county. The fund manager and portfolio investors will find the study invaluable in making decisions regarding portfolio investment and portfolio allocation. Future researchers and academics may use this study as a stepping stone for more research on the independence and transparency of central banks and portfolio investment. The study's findings would provide some insights to academics and policymakers in formulating better strategies to optimise resource allocation to benefit both the firm and the economy.

The study findings will also help investment managers who are considering portfolio allocation and investment decisions. It will provide managers with ideas on the strategies they can employ to reduce risk and achieve higher returns.

1.6 Summary of the research findings

Following the research objectives, we present the research findings. Our first empirical study examines the impact of independence and transparency of the central bank on the cost of capital using four cost-of-capital proxies. Consistent with the hypothesis, we find evidence that a greater degree of central bank independence reduces the cost of capital in countries in our study sample. Likewise, increased central bank transparency lowers the cost of capital.

Our second empirical study examines the impact of the independence and transparency of central banks on equity home bias and equity foreign bias. The empirical analysis (in Chapter 7) offers evidence that increased independence of the central bank reduces equity home bias and increases foreign equity bias. Similarly, a higher level of transparency in the central bank reduces equity home bias and increases equity foreign bias.

Our third empirical study examined the impact of the independence and transparency of central banks on debt home bias and debt foreign bias. In line with our hypothesis, we show that a greater degree of independence in the central bank reduces debt home bias and increases debt foreign bias. Similarly, a higher level of transparency in the central bank reduces debt home bias and increases debt foreign bias.

1.7 Structure of the thesis

The thesis is organised as follows.

Chapter 2 - represents background information, a review of the literature, a conceptual framework for this study, and an examination of the interrelationships between independence and transparency of the central bank, cost of capital, equity between home and foreign bias, and debt between home and foreign bias.

Chapter 3 - presents the development of research questions and hypotheses. "What is the impact of independence and transparency of central bank on the cost of capital?" is the first research question for this research. The second research question is, "What is the impact of independence and transparency of central bank on equity home bias and equity foreign bias?". And the third research question is, "What is the impact of independence and transparency of central bank on debt home bias and debt foreign bias?"

Chapter 4 - offers a brief explanation of data, data construction, and the data sources used in the research. Define dependent, key independent, and other control variables' this research data was used from 40 developed and emerging countries from 2001 to 2014. The critical data sources in this study are from the International Monetary Fund (IMF), World Bank, Bank for International Settlements (BIS), PRS Foundation, and the heritage foundation.

Chapter 5 - This chapter discusses the research philosophy, econometrics tools, and techniques used in this research.

Chapter 6 - The findings are a discussion relating to the first empirical chapter, the 'impact of the independence and transparency of central banks on the cost of capital.

Chapter 7 - The findings are a discussion relating to the second empirical chapter, the 'impact of the independence and transparency of central bank on equity home bias and foreign bias'.

Chapter 8 - The findings are a discussion relating to the third empirical chapter, the 'impact of the independence and transparency of central bank on debt home bias and foreign bias'.

Chapter 9 - Summarises and concludes the research. The research questions are answered, and contributions to knowledge and practice are presented and discussed. The study's limitations and a further research agenda are discussed.

Chapter 2: Background of the study and literature review

2.1 Chapter overview

In this chapter, we review the existing literature. The chapter is structured as follows: Section 2.2 provides a general context of the study. Section 2.3 provides a literature review of the central bank's independence and transparency concerning the cost of capital. Section 2.4 reviews literature on the central bank's independence and transparency about equity home and foreign bias, and Section 2.5 examines the central bank's independence and transparency concerning debt home and foreign bias.

2.2 The central bank, financial market, and portfolio investments

2.2.1 The central bank

One of the fundamental institutions of contemporary civilisation is the central bank. Such an organisation makes a country a part of the international community (see; Meyer et al., 1997). The function of the central bank in the economy is undeniably essential. Besides facilitating open market operations and managing reserve requirements, the central bank regulates the money supply and short-term interest rates. The central bank's monetary policy can stabilise, reduce, or increase inflation, unemployment, and economic prosperity. In addition, central banks' activities can affect exchange rates and influence financial stability (see; Eichengreen 1998; Blinder 1998; Maxfield 1997).

The wake of the global financial crisis resulted in new policies and thinking for central banks in England, the United States, and throughout the world. The central bank has prioritised contributing to financial stability in coordination with other organisations. Many countries introduce more regulations for their central bank and national financial systems; central banks have been structured to become more active in the market as market stabilisers, and many governments also have takeovers some banks and other financial institutions (Moshirian, 2011). Several central banks introduced policies to address unexpected financial instability and volatile currency exchange conversion movement. For instance, with the formation of the single supervisory mechanism (SSM) in 2014, the ECB was granted macro-prudential and supervisory powers for euro area banks. In April 2009, the G20 declared that the Financial Stability Forum (FSF) would be replaced with the Financial Stability Board (FSB), a new transnational body. Some of the tasks assigned to the FSB include assessing financial system vulnerabilities, identifying, and supervising actions to address them, promoting coordination and information exchange among authorities responsible for financial stability, and collaborating with the IMFC (international monetary fund committees) and G20 Finance Ministers and Central Bank Governors on the assessment of macroeconomic and financial risks, as well as the steps required to resolve them. According to a Bank for International Settlements report (2009), in the aftermath of the global financial crisis, central banks should take into account how they can reduce the likelihood of a

future global financial crisis, both through new monetary policies approaches and improved supervision and coordination of the country's financial systems.

However, as the BIS research (2009) also reveals, there may be some control overlap between central banks and governments, raising concerns about the independence and transparency of central banks.

The central bank has a significant role in financial globalisation. Access to foreign capital markets may, in principle, lead to greater risk-sharing. However, globalisation can also increase the prevalent perception of financial stability, especially following the global financial crisis (see; Broner and Ventura 2011). Several economists have also suggested that there is a financial trilemma (see; Schoenmaker 2011), with only two of the three purposes of (i) financial stability, (ii) independent national financial policies and (iii) cross-border financial integration; these can be accomplished at the same time. The financial trilemma results from the transition of more outstanding regulatory and supervisory policies away from national institutions is a requirement to maintain financial stability unless policymakers are prepared to regulate globalisation. The standard of financial globalisation is also crucial to preserving financial stability. At the same time, progress is being made in harmonising international cooperation and trade frameworks through different agencies, such as the Bank of International Settlement (BIS) and the Financial Standard Board (FSB). In particular, the combination of equity rather than debt may minimise the domestic costs of crises as losses are partially borne by foreign investors (Lane 2019). The literature suggests that central banks have a significant function in financial globalisation. Moreover, central banks play a crucial role in safeguarding financial stability, accelerating economic growth, and hastening financial globalisation in a country. The central bank's primary responsibility is to implement monetary policy that assures low and steady inflation while ensuring economic and financial stability.

2.2.2 Financial liberalisation and globalisation

Over the past decades, developed and emerging countries have engaged in financial market reforms to pursue capital inflow and outflow, leading to financial globalisation. Financial globalisation helps investors to diversify their investments to decrease portfolio risk. This reform accelerates economic growth through technology transfer, resource reallocation, and capital growth. The most remarkable features of the global economy in international financial markets experienced over the last decade are the scale and complexity of the development. Lane and Milesi-Ferretti (2001, 2006) argue that the increasing degree of cross-border bonds and equities suggested a stage of financial globalisation expansion.

In the last few decades, the rate of financial globalisation has increased considerably. McKinsey Global Institute (2016) study reported that foreign investment had risen significantly (relative to GDP) since 2007, accounting for 180 per cent of global GDP in 2016. Gross foreign investment reached $132 trillion in 2016, up from $103 trillion in 2007. Foreign investors own more than one-quarter of the world's stocks. This figure has risen by 17 per cent between 2000 and 2016. Foreign investors held 31% of bonds issued in global bond markets between 2000 and 2016. Foreign investment equities remain disproportionately concentrated in a

limited number of advanced economies due to the close integration of developed economies and international financial centres into the global economy. Remarkably, emerging countries are becoming more strongly tied to global finance, with their share of total foreign investment assets increasing from 8% to 14% between 2000 and 2016.

A strand of literature examines the impact of financial globalisation, Globalization, and cost of capital (see; De Ménil,1999 and Koedijk et al., 2002), stock return and globalisation (see; Heston and Rouwenhorst, 1994; Koedijk and Kremers,1996; and Griffin and Karolyi,1998) Globalization and economic growth (see; Stiglitz, 2004; Mishkin, 2009; and Garcia, 2012). Globalisation has increased financial integration among many countries and the international trade between the countries over time. Studies have examined whether globalisation has impacted the inflation processes of domestic countries in recent years. Rogoff (2003) claims in a primarily based on non-technical data survey that globalisation has a decreasing trend on inflation in numerous countries worldwide. It reduced the price level, thereby making prices more elastic. In contrast, Bernanke (1993) argues that there is little ground to believe that globalisation substantially reduced US inflation in recent years.

Extant literature suggests that one of the real effects of financial globalisation is that it has increased international spill overs from asset price and currency fluctuations (see; Lane and Milesi-Ferretti 2005). Furthermore, the changes in asset prices often cause reappraisals of existing investment positions to affect the direction and magnitude of net capital flows. For example, by the swings of dollar value and relative fluctuations in the US and non-US equity markets, the value of the US net liability position is relatively complex. These revaluation effects, in particular, maybe as significant as changes in current account balances and swings in net foreign asset holdings (see; Lane and Milesi-Ferretti 2001, 2002; and Gourinchas and Rey 2004). With a changing view of global expectations, many assets and liabilities are considered crucial financial returns and exchange rates. Conversely, valuations of foreign investment positions, asset prices and currency volatility cannot be viewed as exogenous variables (e.g., country and currency risk premium determination). The long-term debtor may require real depreciation to build up trade surpluses that are a counterpart to sustained net investment income outflows. A close interaction between financial and trading accounts provides a further connection between net foreign asset positions and exchange rates (see; Lane and Milesi-Ferretti, 2002 and 2004).

As financial globalisation and cross-border capital flow increase, central banks should enhance financial regulation and supervision to maintain financial stability and economic growth, which is also crucial for the country's competitiveness. As motivations for investors to hold foreign assets in their portfolios have grown, so have opportunities to diversify and transfer financial risks overseas, influencing all aspects of financial systems, whether markets, infrastructures, or institutions, causing financial systems to likely suffer (ECB,2007). Financial globalisation also increases the risk of financial instability, as seen by the increased

frequency and severity of financial crises, requiring a new set of policy challenges for central banks. While price stability remains the primary goal of monetary policy, central bankers must increasingly consider financial stability issues and interactions with international developments in carrying out their monetary policy objectives (IMF, 2002).

2.2.3 The central bank and the capital markets

Monetary policy mechanisms inherently interconnect central banks and the financial markets. Central banks administer and execute monetary policy, affecting financial-market prices directly and indirectly. The central bank is an institution in a country responsible for supervising the banking sector and managing the money supply in the economy. To achieve their objective, central banks may employ various tools, such as adjusting the money supply or shifting interest rates. When the central bank raises interest rates, it makes investments more expensive, and capital can be acquired at a higher cost. Under usual circumstances, an increase in interest rates implies an economic contraction, which hurts capital markets. However, expansionary monetary policy continues a positive impact on capital markets, though raising inflation enables employment and economic growth.

Several pieces of literature explain the relationship between a central bank with capital markets. Stock index returns and capital market volatility are influenced by the consequences of monetary policy decisions (Hussain,2011). Berger and Kißmer (2013) find a negative relationship between central bank independence and financial stability. The degree of central bank economic independence influences stock market returns instead of political independence (Förch and Sunde, 2012). Papadamou et al. (2014) argue that the degree of central bank independence may also affect stock market volatility (Papadamou et al. 2014). Central bank independence positively influences stock market volatility, while central bank transparency has a negative impact. Therefore, the mixed approach to central bank independence and transparency can reduce the volatility in the stock market in a country (Papadamou et al.,2017).

A study by Hoskins (1991) demonstrated that the central bank plays a vital role in a market-driven financial system. There are different viewpoints on the functions of the central bank. However, there is no disagreement regarding its fundamental role and functions. The central bank's primary function is to ensure the long-term stabilisation of the purchasing power of money. The central bank can also improve the stability and efficiency of financial markets by providing price stability. Secondly, through open-market operations and a properly functioning discount window, the central bank can provide financial stability that prevents unreasonable bank functioning from becoming a systemic procedure. Thirdly, central banks can encourage and supervise financial-market competition and the development of private payment arrangements.

Lastly, the central bank will play a role in safeguarding cross-border operations. Central banks use their policy measures to manage financial markets and economies. By increasing interest rates, central banks make money more expensive. The central banks that also decrease the amount of money in circulation supply the

central bank. Globally, central banks may not continuously pursue the same objectives. The interest rate decision is one of the most important monetary policy action tools. While interest rates fall, the central bank follows a looser monetary policy. Market participants can obtain more money at a cheaper investment rate, boosting the economy. Interest rate reductions are predictive of the rising financial market. However, a downturn signifies a weakening of the economy that needs to be rescued by a periodic interest rate reduction.

The shock of asset prices, especially equities, on monetary policy has been debated for a while. The Federal Reserve, for example, was granted credit in 1987 to counter the supposed adverse macroeconomic consequences of that year's capital market collapse (Blinder and Reis, 2005). Another incentive for this debate stems from the improved exposure and importance of the stock market's role in the monetary transmission process in recent years (see; Chami et al., 1999; and Mishkin, 2001). Furthermore, while financial markets are expected to play a less critical role in Europe than in the United States, their importance is gradually expanding, reflecting the differential impact across the two continents (see; Goodhart and Hofmann, 2001; and European Central Bank, 2002). According to empirical research, the Federal Open Market Committee's (FOMC) interest rate behaviour significantly impacts asset pricing in financial markets (see; Fleming and Remolona 1997; Bernanke and Kuttner 2005; Davig and Gerlach 2006; and Bredin et al. 2009). Bernanke and Kuttner (2005) argue that monetary policy interventions affect the anticipated excess returns for most stock values. Davig and Gerlach (2006), on the other hand, argued that, while stock-return volatility is high, the market reaction to unexpected changes in the federal fund rate target is not very substantial following scheduled FOMC meetings.

A study by Goodhart and Hofmann (2000) demonstrates that monetary policy intervention and the transmission mechanism influence both investment spending (the balance sheet channel) and consumption spending (the wealth effect channel). This effect is due to the connection between monetary policy and the real economy. Though monetary policy transmission mechanisms impact capital markets, monetary policy rules and announcements influence equity prices. According to Bernanke and Kuttner (2005), policymakers should respond to macroeconomic volatility caused by financial markets. Costs of equity are often subject to extreme fluctuations, leading to concern about prolonged deviations from primary values that may generate detrimental effects on the broader economy. Their study shows that the capital market strongly responds to changes in monetary policy. They observed, through quantitative analysis, that monetary policy changes are critical for measuring and evaluating the capital market’s risk and return. Assessing the potential economic effects of monetary policy action or inaction affecting the capital market is vital. Investigating whether any portion of the perceived likelihood of surplus in US stock returns in response to the monetary-policy changes, Patelis (1997) argues that capital markets may influence by monetary-policy provisions as stocks assert to future economic outcomes, subject to monetary policy having a real economic consequence.

In contrast, Fama and French (1989) employed a long-term regression technique in their study, with two sets of explanatory variables: monetary policy and financial variables. He considers that while they cannot wholly compensate for the likelihood of the observed return on the stock, variables relating to monetary policy are essential measures of potential returns. Monetary policy measures are a significant determinant of the excess return on the stock, which relates to the monetary policy transmission through the credit channel (see; Bernanke and Gertler, 1995) and the mechanism of financial propagation (see; Bernanke and Gertler, 1989), which is supposed to be an interpretation of Patelis' findings. Jensen and Johnson (1995) argue that changes in stock returns are related to changes in monetary policy.

Long-term stock returns, in their opinion, are less volatile and higher due to a fall in the discount rate rather than an increase in the discount rate. The researchers used the discount rate as a proxy because they consider it generally used as a proxy to analyse monetary policy attitudes and, hence, a realistic proxy of economic trends. Waud's (1970) argument is based on the assumption that changes in monetary policy affect market participants' expectations, requiring an adjustment in the discount rate. However, discount rate adjustment is to be made only at considerable intervals. Financial economists find various motivations for changes in the discount rate that lead to stock return fluctuations. For example, different policy rate changes influence the cost of equity capital because such changes affect market interest rate expectations. In addition, differences in discount rates can also impact corporate profitability expectations (Waud, 1970). Following the study by Fama and French (1989) and using a binary dummy variable, Jensen et al. (1996) recommended that monetary policy stance affects the required rate of returns of investors. In conjunction with previous research, they also suggest that changes in discount rates are proxies for monetary policy stance (see; Booth and Booth, 1997).

Furthermore, Jensen et al. (1996) demonstrate that monetary policy actions and market conditions influence the expected return on a stock and its fluctuations. They claim that the anticipated return on stocks is higher in tight monetary policy cycles than in relaxed monetary policy periods. Their findings also show the asymmetric relationship between market conditions and stock return. This relationship suggests that market conditions could only forecast future stock returns at the time of the expansionary monetary policy.

The monetary policy of central banks has a significant effect on bond yields. Those policies can be implemented by central bank functions such as the Federal Reserve, a currency committee, or certain regulatory committees that set interest rates as part of their monetary policy. Interest rates determine the risk-free return rate. The risk-free rate influences the market for all financial assets, including bonds. A welfare-maximising monetary policy aims to stabilise inflation and aggregate production. In an environment of monopolistic rivalry in the production sector, nominal rigidities in monetary policy influence the economic function. Combined with shocks to production mark-ups, these rigidities generate a trade-off between stabilising output and inflation. Consequently, mark-up shocks affect output and inflation, the scale of which

depends on the legitimacy of the policy regime. Kydland and Prescott (1977) show that because of rational expectations, optimal policy proves inconsistent. They argue that the central bank strengthens its credibility and trust by enabling monetary policy to be pursued in two frameworks are under commitment or discretionary. The discretionary monetary authority acknowledges the expectations of the private sector, while the commitment approach is perfectly plausible and affects those expectations. The balance divergence between the two frameworks captures the effects of policy credibility on economic conditions and bond yields. McCallum (1994) suggests that observed deviations from the hypothesis of expectations are consistent with time-varying risk premiums and a monetary policy guideline that responds to bond yields. In this context, Gallmeyer et al. (2005) investigate models that suggest time-varying risk premiums that offer structures of an approximation term. Ravenna and Seppälä (2007) employed a new Keynesian model involving time-varying premiums and showed that the monetary policy's systemic element might explain the hypothesis of expectation rejections. Buraschi and Jiltsov (2005) argue that the time-varying inflation risk premium and monetary-policy shocks are essential for defining the hypothesis of rejection of expectations.

2.2.4 Determinants of cross-border portfolio investment

A global portfolio investment (FPI) is the investment of foreign financial assets by an investor. A large body of literature explains the benefits of cross-border portfolio diversification; investors can diversify their portfolio and spread investment risk with a larger market participant (Grubel,1968; Levy and Sarnat, 1970; Solnik;1974; and Lessard,1976). However, investing globally is also associated with several exclusive risks, such as currency exchange rate fluctuations, interest rate disparities and geopolitical events. Therefore, foreign portfolio investment choices are influenced by several determining factors.

Existing literature on cross-border investment has explained the determinants of global investment. Foreign portfolio investment is influenced by the host country's macroeconomic factors (Waqas et al.,2015). The key drivers of foreign portfolio investment are GDP growth, market size, and market efficiency; higher expected returns also played a significant role in the movement of foreign portfolio investment (Fayyaz et al.,2015). Dunning and Dilyard (1999) argue that the fundamental objectives of each investment choice are higher interest rates and higher returns. Therefore, portfolio investment depends on macroeconomic factors such as interest rate differentials and exchange rate fluctuations. According to Rauch (2001), cultural affinities are part of the overall effects that impact international economic connections. Using co-integration techniques in the period 1988–1992 to examine the determinants of significant portfolio flows to Latin American and Asian countries from the United States, Taylor and Sarno (1997) described an important long-term portfolio flow to developing countries, with both global and domestic factors affecting equity and bond flows. Although their research investigates portfolio flow dynamics while estimating unrelated error-correction models, their results indicate that global and country-specific variables are equally significant in evaluating long-term stock flows to Asian and Latin American countries. Taylor and Sarno (1997) also argue that

interest rates in the United States are a specifically significant determinant of the short-run dynamics of portfolio flows to developing countries, particularly bond flows. A string of literature examines whether information asymmetry is the primary reason for portfolio allocations. By demonstrating a simple noisy reasonable expectations model, Gehrig (1993) indicates that investors remain uninformed and can be better informed on average in equilibrium on the risk characteristics of domestic stocks. Therefore, investors usually biased their investments to domestic assets considered less volatile than cross-border investments.

Moreover, on average, foreign investments are expected to be more unpredictable. Several empirical studies demonstrate that investors are affected by information asymmetry. For instance, Coval and Moskowitz (1999) observe that investors favour domestic firms in the United States, while Grinblatt and Keloharju (2001) show that investors prefer domestic firms in Finland. According to Coval and Moskowitz (1999), geographical proximity to investment, business size, and leverage significantly affects asymmetric information between domestic and international investors. Grinblatt and Keloharju (2001) argue that individual domestic investors are more likely to negotiate unfavourable reviews and participate in countertrade.

Similarly, Kang and Stulz (1997) have shown that the argument for information asymmetry is that foreign investors mostly overweight their portfolio towards large companies and companies with excellent accounting functions. Thus, the reliability of information reduces investor transaction costs. Moreover, Dahlquist and Robertsson (2001) argue that the information asymmetry is because foreign investors prefer large, financially stable, well-known firms in a host country. Chan et al. (2005) observed that the familiarity variables obstacles are visible in investor choice by analysing international and domestic investment determinants. Existing research supports the assumption that overseas investors are more vulnerable to information asymmetry than domestic investors. Foreign investors may be susceptible to governance regulations that minimise the cost of information. Following the Cooper and Kaplanis (1994) study, in a bilateral context, with a domestic-foreign setting, Maela (2009) provided evidence of a general rejection of the inflation hedging motive. The findings suggest that investors do not consider stocks adequate tools to hedge inflation more broadly and demonstrate that hedging inflation cannot explain home bias. This finding also indicates that instruments such as indexed bonds are intended to hedge a real source of risk. In line with current analytical studies, Warnock (2002) and Ahearne et al. (2004) noted that information asymmetries play a significant role in assessing bilateral bias within the US portfolio. The same results for a broader range of large investment countries are supported in the pooled CPIS dataset. It also suggests that trade flows and stock market growth are the proxies that better capture information efficiency.

Tesar and Werner (1995) show that cross-border portfolio investment turnover is significantly higher than domestic market turnover, suggesting that the variations in transaction costs are more likely to justify foreign bias; however, implausible may be in the home bias. Empirical analyses demonstrate that the influence of differential taxation on home bias has been considerably more severe than expected (see; French and

Poterba,1991; and Cooper and Kaplanis,1994). According to Liljeblom and Löflund (2005), foreign investment flows are primarily linked to two groups of determinants: first, investment restrictions (for example, liquidity, business size, and dividend yield), and second, variables correlated to the risk of profitability. They found evidence of the effects of possible information barriers and the tax-induced impact. Firstly, they argue that an additional dividend withholding tax impacts foreign investor portfolios. Consequently, foreign investor portfolios have a significant bias towards low-dividend yield securities. Secondly, they also find bias in liquid stocks with a record of solid profitability, in other words, bias in the case of large caps (as measured by the previous ROI).

Portes and Rey (2005) claim that both information asymmetry and transaction cost influence the cross-border portfolio. They argue that gross investment flows depend on the market's scale and the destination country's trading costs. They demonstrate that distance proxies a specific cost of information. In contrast, other variables precisely represent the flow of information and transaction efficiency, resulting in information asymmetry between international and domestic investors. The findings of Coval and Moskowitz (1999) and Portes et al. (2001) suggest that information geography influences the international transactions pattern. In their study on local bias in US mutual fund holdings, Coval and Moskowitz (1999) employ distance as an information proxy and emphasise the significance of certain funds' investment decisions. They argue that a calibration procedure may measure the same type of geographical bias exhibited in overseas data of United States investor holdings. However, using data collected from the US to reflect on differences between stock flows, corporate bonds, and government bonds, Portes et al. (2001) find that distance does not affect international transactions of government bonds. This variation may be due to the structure of government bond payments, which are less susceptible to information asymmetry than corporate bonds or equities. Furthermore, considering the US dollar's foreign currency position, the central bank's primary reserve asset is US government securities.

2.2.5 Central bank independence, monetary policy, and cost of capital

2.2.5.1 Central bank independence (*CBI*)

The ability of the central bank to regulate and control monetary policy instruments without political influence is described as the independence of the central bank (*CBI*). On the other hand, there are several constraints imposed by the government that have an impact on the monetary policy of the central bank. The European Central Bank (ECB) defines central bank independence as a mechanism for protecting policymakers from the temptation to manipulate monetary policy. According to Cukierman (1994), the optimal degree of central bank independence is determined by a balance between flexibility in the development of monetary policy and its credibility. Eijfinger and de Haan (1996) show that the central bank's independence is determined by several economic and political variables in line with continuing theoretical considerations.

Several authors have examined the issue of central bank independence over the past few decades (*CBI*). They primarily focus on identifying fundamental determinants of central bank independence, first developing the indices by which independence will be measured and then examining the central bank's independence with the country's macroeconomic variables (mainly inflation). The empirical study by Radovic et al. (2018) confirms that the improvement of the macroeconomic condition is positively related to the independence of central banks. The inflation blows of 1970 revolutionise the traditional way of thinking that the government must regulate monetary and fiscal policy. Before that economic theory, the central bank's independence had not been given special significance. Cukierman (2006) argued that this mindset was justified by the fact that it would not be possible to delegate the management of such a significant role to individuals who had not been appointed through the election process. Thus, the central banks primarily performed the services of finance ministries. In the 1970s, stagflation revealed the limitations of such a policy. The central banks were provided independence by making changes in legislation to curb inflation, establishing price stability and financial stability as their primary responsibility. The independence of central banks can be interpreted in several ways. According to Fabris (2006), central bank independence, in its broad terms, refers to the central bank's ability to determine its own goals and objectives and implement monetary policy without interference from the government or other organisations or individuals. The central bank's independence is evaluated mainly through its four aspects, which are independence of structural, personal, financial, and functional. Central Bank independence (*CBI*) has often been observed as the natural outcome of maximising social welfare and providing beneficial monetary policy consisting of low and stable inflation. Furthermore, Siklos (2002) stated that monetary policy has to be conducted in conjunction with a particular fiscal policy and an exchange rate system. However, typically, the ruling political parties of a country are greatly influenced by that operation. Moreover, the theoretical literature, both persuaded by informal evidence and systematic empirical research, indicates that the ultimate authority to ensure price stability is above all the central banks. According to Kydland and Prescott (1977) and Barro and Gordon (1983), the problem of time inconsistency grows due to disagreements between monetary and fiscal or political authorities. As a result, Rogoff (1985) recommends that the function of maintaining price stability should be assigned to a more conservative central banker.

In contrast, Friedman (1956), who advocated for discretionary monetary policy, was criticised for his scepticism of political goals. According to Woodford (2003) and Svensson (1997), applying discretionary monetary policy measures, such as the inflation strategy, may ensure price stability. On the other hand, Crowe and Meade (2008) argue that increased central bank independence is linked to low inflation. Central banks have a reputation for being independent, and an independent central bank is more transparent, contributing to institutional integrity.

2.2.5.2 Central bank independence and monetary policy

In general, the central bank's independence (*CBI*) is considered the central bank's freedom to develop and enforce monetary policy instruments without interference, particularly political intervention. In other words, to achieve its political goal, the government may impose a set of restraints that limit the central bank's ability to conduct a fair policy. Central bank independence is a measure that evaluates the degree to which central banks are free from government control. However, the degree of CBI is not the same across countries around the globe, whatever the regulatory framework or the strength of the country's prevailing democracy. Stable and low inflation is assumed to be achievable by protecting monetary policy from political interference (delivered by the independent central bank). It is believed that monetary policy by an independent central bank would have an actual effect on the economy that acts more predictably and foster market stability, which eventually contributes to a country's prosperity. The power of the central bank to control monetary policy instruments is referred to as the central bank's independence (see; Bernhard, 2002), generally referred to as operational independence. In other words, CBI can also be seen as a set of the privilege of the central bank to deliver personnel independence, financial instruments, and policy guidance without any political or government interference (see; Eijffinger and de Haan, 1996). The independence of the central bank's personnel ensures that the government seems to have little influence over the members of the board of directors. On the other hand, financial independence refers to the government's ability to fund its expenditures using central bank loans and the central bank's ability to avoid having monetary policy subordinate to fiscal policy. And finally, Policy independence represents the capacity of the central bank to select monetary policy instruments or set its goals and objectives (see; Debelle and Fischer, 1995).

Existing empirical literature examines central bank independence and macroeconomic aspects (see; Kydland and Prescott,1977; Barro and Gordon,1983; Rogoff,1985). The research emphasised and supported the rationale for the central bank's independence from two analytical perspectives. The concept of time inconsistency based on analytical techniques is based first on the conservative approach and then on the central banker's agent theory approach (see; Kydland and Prescott, 1977; Barro and Gordon,1983; Rogoff,1985; and Walsh,1995). The concept of time inconsistency suggests that the government has a suboptimal inflation bias; consequently, Rogoff (1985) proposes that this inflationary bias can be reduced by delegating monetary policy to an independent central bank. According to Rogoff, independent central bankers assign the monetary approach to emphasise inflation stability, followed by a reduction in inflation rates, rather than politicians' social welfare objectives. Walsh (1995), on the other hand, recommends the establishment of the principal-agents structure to incentivise central bankers to address the issue of inflation bias. Walsh (1995) suggests that inflation bias can be avoided by designing a contract that imposes costs on central bankers when inflation deviates from the optimum level. The fundamental principle of this concept is that the principal (government) selects an agent (central bank) and enters into an agreement to manage the incentives that the bank confronts when executing monetary policy (see; Walsh, 1995). To achieve good macroeconomic outcomes in the economy, the independence and transparency of the central bank are crucial.

Bernanke (1993) suggests that empirical examination of the quantitative importance of the money and credit channel be limited. The author offers little substantiation to indicate that the federal reserve can affect the long-term real interest rate or that investment reacts significantly to changes in actual interest rates in the United States context.

2.2.5.3 Central bank independence and cost of capital

The independence of central banks refers to the autonomy of monetary policy from political or legislative interference in policy execution. Investors rely on central banks since they can deliver better macroeconomic consequences. Central banks can also signal the stability of policies and quality performance by providing policy guidance. Macroeconomic variables of a country such as interest, inflation, and exchange rate significantly impact capital budgeting and investor decisions. Arnone et al. (2007) demonstrate the effect of the independence of the central banks on macroeconomic outcomes. A country's central bank influences investors' cost of capital as the central bank influences a country's macroeconomic results such as interest rate, inflation, and exchange rate.

On the other hand, the cost of capital is the return required by a firm to justify the cost of a projected investment. A firm's projected investment decisions are supposed to produce a return that exceeds the firm's cost of capital used to fund the investment; otherwise, the project will not generate a return for investors. The cost of capital is the minimum required earnings rate or the cut-off rate of capital costs (Solomon,1955). The cost of capital is the cost of a firm's funds, both debt and equity, or the required rate of return from the firm's portfolio investment (Brealey et al., 2022). The macroeconomic circumstances of a country influence investors' returns. As central bank independence influences a country's economic development and financial stability, it impacts investor returns and the cost of capital.

Existing literature investigates the link between capital markets and central bank independence. Kuttner and Posen (2010) examined the influence of central bank governor nominations on exchange rates and bond yields. They concluded that markets exhibit a more incredible reaction due to a lower level of independence relevant to that appointment. Moser and Dreher (2010) demonstrate that high governor turnover impacts stock market yields. In contrast, the current central bank governor's perceived inflation aversion differs from predecessors, resulting in disparities in the cost of capital. Investigating the impact of central bank independence on stock market returns, Förch and Sunde (2012) argue that if central bank independence is positively associated with stock returns, economic independence is more significant than political independence. Central banks have a more progressed function in shaping investor expectations on the financial markets through the central bank's speeches, reports, and administrative roles. Using intraday data, Jubinski and Tomljanovich (2013) find that soon after the FOMC minutes are issued, the federal reserve pursues a restrictive (expansive) monetary policy and intensifies market volatility. In this line, Kurov (2012) shows that higher conditional volatility in stock yields is positively associated with monetary policy

statements. Papadamou et al. (2017) suggest that increasing central bank independence may raise stock market volatility while a higher level of central bank transparency may decrease the market volatility. Therefore, central banks may pursue a combined strategy to meet the goals of central banks in terms of capital market stability.

The extant research consists of several diverse observations regarding the influence of central bank independence (CBI) on the cost of capital. Studies by Alesina and Summers (1993) and Cukierman et al. (1993) claim that central bank independence does not reduce the risk premium on the real interest rate. According to Spiegel (1998), the Bank of England reform in 1997 reduced inflation expectations and long-term bond yields. Maxfield (1997) demonstrates a statistically significant association between legal independence and the share of private investment in GDP. Moser and Dreher (2010) show that the spread of sovereign bonds in emerging countries results from the central bank governor's turnover. According to Schultz and Weingast (2003), political pressure increases the likelihood of governments' ability and willingness to repay debts, allowing them to access credit in the market and reduce the cost of capital. However, the precise impact of central bank independence (CBI) on the cost of capital is poorly understood.

2.2.6 Central bank transparency, monetary policy, and cost of capital

2.2.6.1 Central bank transparency (*CBT*)

Most economists think that acknowledged transparency in monetary policy is desirable since it allows investors to make better decisions (see; Blinder, 1998). Transparency of central banks refers to the exchange of symmetrical information between monetary policymakers and other economic stakeholders in a country. It is assumed that the transparency of central banks brings several prospective benefits by reducing financial volatility through positive signalling and reputation building (see; Geraats, 2002). De Haan et al. (1998) describe that transparency as one of the three components of an adequate level of accountability because central bank accountability could not exist without transparency. They concluded that transparency is crucial to the achievement of responsibility. It is challenging to determine central bank accountability without transparency. According to Eijffinger and Geraats (2006), monetary policy transparency is the condition of circumstances in which central banks provide information related to their decision-making mechanism. Winkler (2000, p. 18) suggests a clear concept of central bank transparency, which involves clarity, honesty, and comprehensive understanding. He stated that an undue collection of information is a problem often observed in practice. Therefore, he developed the idea of optimum quality of information, i.e., the degree to which the information gains equalise the associated costs of evaluating and interpreting the data. Winkler explains the concept of transparency by incorporating three elements of the information transmission method. Beyond the degree of information accessibility, he considers factors such as information efficiency, clarity, and honesty. An empirical study conducted by Eusepi (2003) to determine the impact of central bank transparency on economic performance and stability claims that the market participants' capacity to forecast and alleviate economic activity may improve if they have information regarding the central bank’s policy

change. He stated that a certain degree of transparency and reliability could enhance learning processes in the private sector. For instance, a transparent central bank should provide information and explanations regarding adopting the monetary policy, inflation forecasts and the procedures and estimates applied in monetary policy formulations. In that regard, Eusepi (2003) argues that central bank transparency is a critical element of the monetary policy transmission mechanism. It plays a vital role in influencing private-sector expectations, helping stabilise the economic situation. Lack of transparency would result in failing to produce a detailed forecast about the private sector, damaging the central bank's reputation. Eusepi (2005) shows that a transparent central bank will minimise one source of uncertainty for the private agents by communicating its policy rule to the public. On the other hand, policy ambiguity leads to welfare-diminishing results where self-fulfilling expectations destabilise the economic system. He argues that central banks' degree of transparency makes the optimal policy rule undeniable for expectational mistakes. However, in a good case, economic agents face other sources of uncertainty about the economic environment. Moreover, a policy ambiguity will lead to destabilisation of the economic equilibrium by affecting investors' expectations. This will also result in instability, especially if the private sector is required to produce its expectations based on a limited data set. Consequently, transparency is a crucial element of the monetary-policy delegation process of independent central banks. Therefore, transparency will lower ambiguity about the priorities of central banks. Eijffinger and Hoeberichts (2000) argue that transparency will explain a central bank's degree of inflation aversion and increase central bank accountability.

2.2.6.2 Central bank transparency and monetary policy

Monetary policy transparency may increase stakeholder trust and reduce economic uncertainty. In addition, it is believed that monetary policy transparency will ensure consistency in the communication of their policies. The European Central Bank defines transparency as providing all relevant information to the general public and markets on the central bank's agenda, forecasts, policy decisions, and procedures in a transparent, coherent, and timely manner (ECB,2022). It is effective to focus on crucial monetary policy formulation and implementation elecrucialts to understand various aspects of policy transparency. These elements include the objectives of the central bank, assessment by the bank of the connection between policy decisions and the economy (the "economy model" of the bank), and the bank's information on economic circumstances. For the Bank of England, transparency, accountability, and well-defined policy rule are crucial for goal accomplishment and democratic legitimacy (BOE, 2014). Eijffinger and Geraats (2006) demonstrate that a significant level of transparency would increase central banks' credibility, flexibility, and reputation. Such transparency effects would impact the interest rate level. Greater flexibility, in particular, would allow policy and short-term interest rates to be slashed without raising the nominal long-term interest rate.

Furthermore, increased credibility would decrease inflation expectations and, as a result, the nominal long-term interest rate. According to Fratzscher (2006), communication between central banks can lessen

exchange rate volatility and uncertainty for G3 countries. Gnabo et al. (2009) show that the Bank of Japan's verbal intervention increases exchange rate volatility. However, statements intended to confirm or provide details on the day's operation tend to lessen the chance of erroneous reports. According to the extant literature, central bank verbal interventions reduce exchange rate volatility (see; Egret, 2007; Fisher and Horvath, 2010; and Goyal and Arora, 2012). By examining the verbal intervention of the central bank on exchange rates, Egret and Kocenda (2014) claim that the euro becomes significant merely by reacting with mainly three east and central European currencies throughout the crisis period.

A significant number of academic literature, including the leading paper by Cukierman and Meltzer (1986) and Goodfriend (1986), has prompted transparency in monetary policy. These academics investigate the variables and elements that impact monetary policy regarding central bank transparency. Cukierman and Meltzer (1986) demonstrate, using a multi-period theoretical model, that central bank transparency may reduce the complexity or ambiguity of policy transmission but may not result in an optimal outcome in the social context. They argued that increased inflation rates might be attributed to ambiguous information and changing political priorities to boost the economy. This is because information disclosure allows policymakers to understand central banks' intentions. However, politicians interfere where strategies and their expectations for expansionary monetary policy are not announced (Geraats, 2002). It is often stated that the information's complexity gives the central bank greater control over monetary shocks (see; Rafferty and Tomljanovich, 2002). Goodfriend (1986), on the other hand, argues objectively against the standpoint of Cukierman and Meltzer (1986), claiming that there are many different reasons for the importance of monetary policy transparency, such as improved financial market efficiency. Goodfriend (1986) and Blinder (1998) claim that financial market efficiency would improve by offering more open and transparent public disclosure of central bank policies and accountability. A sufficient amount of information available to the public on the central bank's policy decisions is expected to minimise excessive speculation in the financial markets.

Research shows that the transparency of central banks is one of the crucial elements of monetary policy. Fry et al. (2000) claim that seventy-four per cent of central banks considered transparency an essential element of their monetary policy framework following a comprehensive survey on ninety-four central banks.

2.2.6.3 Central bank transparency and cost of capital

One of the primary goals of central bank transparency is to minimise or diminish information asymmetry among central bank decision-makers, investors, and the markets. Transparency at the central bank would also enhance the bank's credibility. Building confidence by convincingly communicating a long-term inflation target may reduce inflation persistence, as inflation is expected to be at its target level. Transparency regarding monetary policy goals, perspectives, and initiatives is vital to interacting effectively with the markets, and efficient communication is essential to stabilising monetary policy effects. Transparency in

policy makes it incredibly simple for analysts to predict central banks' behaviour and minimises disturbances when policies change. This transparency strengthens policy makers' ability to control expectations, a primary mechanism by which monetary policy influences outcomes. Geraats (2002) provides a comprehensive assessment of the literature on the impact of central bank transparency on the economy, organising the literature into five fundamental aspects of transparency these are political, procedural, operational, cultural, and policy transparency. A country's central bank influences investors' cost of capital, as the central bank affects the macroeconomic outcome of a country, such as interest rate, inflation, and exchange rate.

On the other hand, the cost of capital is the return a firm requires to justify the cost of a capital project. A company's new project investment choices should always generate a return that exceeds the firm's cost of capital to fund the project; otherwise, the project will not generate a return for investors. The cost of capital is the minimum required rate of return that a firm should have to invest (Spencer, 1980). The cost of capital is defined as the rate of return a firm must generate on its investment for its market value to remain unchanged (Gitman, 2015). Central bank transparency influences a country's economic growth and financial stability, impacting investors' returns and the cost of capital.

There are more reasons to assume that a higher degree of transparency in the central bank will promote cross-border investment in line with theoretical assumptions. More increased transparency enhances the central bank's ability to influence expectations and reduce volatility in financial markets (see Chortareas et al., 2002; Demertzis and Hallet, 2007; De Mendonça and Filho, 2007; Dincer and Eichengreen, 2014). Clare and Courtenay (2001) examined the impact of central bank transparency on financial assets. They observed that increased monetary policy transparency of the Bank of England facilitated financial market performance. There has been an improvement in the speed and intensity of financial assets' reaction to the bank's standard interest rate announcements. According to Chuliá et al. (2010), equity investors react differently to surprises in both positive and negative target rates. Kurov (2012) states that the information in monetary policy statements significantly impacts the economic functions and the stock market. By constructing an analytical framework, Papadamou et al. (2017) argue that greater central bank transparency may reduce stock market volatility. Similarly, Reeves and Sawicki (2007) claim that publishing the inflation projection reduces the volatility of the stock market index of FTSE 100 firms. According to Lunde and Zebedee (2009), stock market volatility tends to be relatively small before the publication of monetary policy decisions. Still, it appears to be substantially higher after the release of monetary policy announcements. Chuliá et al. (2010) argue that the stock market reacts in different ways, both positively and negatively, to the shifts in interest rate futures caused by monetary policy announcements. Hussain (2011) finds that following a monetary policy decision exerts an immediate and substantial impact on stock market volatility and stock index returns. Examining the effect of monetary policy decisions on the volatility of bond yields, de Goeij and Marquering (2006) and Ranaldo and Rossi (2010) show that the bond market is reacting significantly to central bank communication. Furthermore, studies examining bond market reactions to monetary policy announcements

demonstrate that higher policy transparency (particularly policy, political, and economic transparency) improves central bank operations' consistency. Neuenkirch (2012) argues that monetary policy transparency decreases volatility and reduces bias in expectations on the money market.

Existing literature principally examines the relationship between the capital market and the central bank. However, the influence of the transparency of the central bank on the cost of capital is yet to be explored.

2.2.7 Economic growth, capital market, and home and foreign bias phenomenon

2.2.7.1 Home and foreign bias phenomenon on portfolio investment

The research on international portfolio investment has defined home bias as investors' tendency to invest most of their portfolios in domestic equities while overlooking the benefits of diversifying into foreign equities. On the other hand, foreign bias refers to the observation that investors assign higher portfolio weights to foreign countries that are 'closer' or more similar to their home countries. 'Closeness' consists of geographic proximity, the intensity of high information and trade flows, historical or cultural links, and other common characteristics such as income level similarities.

The concept "home bias" relates to the finding that investors overvalue their home country stocks to the point where the marginal advantage of more international diversity appears to be substantially more significant than any obvious expenses of owning foreign equities, such as withholding taxes. Lewis (1999) explains home bias is a trend in which investors invest a far higher proportion of their investment in home assets disregarding suggested by traditional portfolio theory. The home bias occurs when investors prefer domestic help in their portfolios and enhances local influences on asset prices. In contrast, stock flows and cross-country correlations increase global impacts on asset prices (Karolyi and Stulz, 2003). Sercu and Vanpee (2012) define home bias as the empirical phenomenon in which investors place abnormally high weights on their own domestic assets. According to the conventional International Capital Asset Pricing Model (ICAPM), along with Sharpe's (1964) and Lintner's (1965) recommendations, the investor will keep the securities of the country based on its proportion of the world market capitalisation. However, empirical research shows that international portfolios have a substantial bias against domestic assets (see; French and Poterba, 1991; Cooper and Kaplanis, 1994; Tesar and Werner, 1995; Glassman and Riddick, 2001; Ahearne et al., 2004; Chan et al., 2005). According to Mishra (2008), the investor retains a large portion of their investment in domestic assets compared to the optimal proportion suggested by traditional portfolio selection theory, which is described as home or domestic bias.

The first important paper on the home-bias hypothesis was published by French and Poterba (1991). In their article, the authors looked at the portfolio holdings of 6 major countries in 1989. They found investors investing 92.3 per cent domestically in the United States; Japan at 95.7 per cent; the UK at 92 per cent; and so on. Compared with the theoretical predictions, this was highly disproportionate. Many scholars have observed similar experiences. For instance, Tesar and Werner (1995) found a significant home bias for 13 nations from 1987-1996 using a different dataset. It has come to be called the puzzle of equity-home bias.

Karen K. Lewis (1999) first noticed the home bias of international capital markets in the finance literature. This is often referred to as familiarity bias. While less familiar assets have higher returns and lower risks, investors prefer familiar assets. Moreover, investment bias toward familiar assets will inhibit the advantages of portfolio diversification. The researchers investigated familiarity bias in both domestic (local bias) and global (home bias) contexts. In all circumstances, familiarity bias exists, which means that investors allocate a large portion of their portfolio to known stocks compared to an unbiased portfolio derived from empirical research or a theoretical model. Baker and Nofsinger (2010) argue that, while the benefits of international diversification are substantial, familiarity is significantly more evident at the international level, with most portfolios remaining in domestic equities rather than foreign portfolios.

Several theoretical explications of the causes of home bias have been offered from existing literature. According to Errunza (2001), domestic investors are better informed about their local markets than overseas investors. One of the primary determinants of home bias is information asymmetry, which involves additional information costs for investors, resulting in a higher cost of capital. In other words, decreasing the level of home bias facilitates increasing risk sharing among investors, leading to a lower cost of capital (Lau et al.,2010). Chan et al. (2005) claim that the market of developing countries is characterised by poor transparency and accountability. Therefore, investors from developed countries have an information disadvantage and appear to underweight foreign investment. Other interpretations of home bias include higher transaction costs (see; Warnock, 2002), disparities in corporate governance (see; Dahlquist et al., 2003), barriers to international capital flows (see; Errunza and Losq, 1985), hedging motivations (see; Baxter and Jermann, 1997), and exclusion from purchasing power parity (see; Cooper and Kaplanis,1994). Other factors include the level of protection provided to minority investors (see Bekaert and Harvey, 1995; Errunza, 2001; Hunter, 2006), transparency of countries at Gelos and Wei (2005), Bekaert (1995), and different regulatory statutes for domestic and foreign investors. Lane and Milesi Ferretti (2003) investigate the rise in international asset holdings in particular, which is highly similar to the issue of equity home bias. More precisely, they analyse the impact of several elements on their dependent foreign equity variable and FDI holdings across GDP. Such considerations include measures to liberalise the capital account, GDP per capita, capitalisation of the stock market over GDP, and business flows over GDP. Their study has revealed that trade flows, GDP per capita, and stock market capitalisation play a substantial role in explaining their dependent variable.

According to theoretical considerations, global risk-sharing between domestic and foreign investors could lower the cost of capital in a country with a small degree of home bias. On the other hand, a greater degree of home bias limits global risk-sharing, reducing investor participation and raising the cost of capital. When there are no investment limitations and the market is wholly integrated, Adler and Dumas (1983) demonstrate that a country's expected return is measured by the covariance of its return on the world market portfolio. It is likely to be determined by the currency deposit rate. Assume that domestic investors will have the opportunity to hold foreign securities in a fully integrated market. Foreign investors keep local securities,

thus facilitating mutual risk-sharing between home and foreign investors. Lau et al. (2010) demonstrate that irrespective of domestic stock, foreign investment, and country-specific factors, home bias influences the cost of capital economically and substantially even after controlling conventional risk measures. They also argue that reducing a country's degree of home bias would strengthen market integration and lower the country's cost of capital. As in an integrated market, domestic investors may hold foreign assets, and foreign investors may acquire local securities with no investment restrictions. That would facilitate risk sharing among home and foreign investors.

In their study of foreign portfolio investment in the United Kingdom, United States, Canada, Germany, and Japan (between 1970 and 1990), Tesar and Werner (1995) show that home bias prevailed in both bonds and equities. They found that cross-border bond positions were comparatively low, escalating the home bias puzzle further. By analysing the foreign bond portfolios of US investors across fifty countries, Burger and Warnock (2003) claim that diversification concerns investors. They also highlighted that U.S. bond portfolios demonstrate a considerable home bias when portfolio weights are greater in countries with more open capital accounts and bond yields are less connected with the US returns. Researchers also observed that U.S. investor holdings in U.S. dollar-denominated foreign bonds are considerably higher than those in the bond market in local currency. Sorensen et al. (2007) show that at the end of the 1990s, a considerable increase in international risk sharing appeared to decrease home bias in bond and stock holdings in the global portfolio. International bond holdings tend to have a larger influence than foreign equity holdings in foreign portfolio holdings.

In contrast, foreign portfolio holdings enable countries to gain macroeconomic income and smooth consumption. The authors also believe that the countries have a more negligible home bias and are more likely to share risk in global markets. Lane (2006) argues that EMU member states invest heavily in each other among Euro area countries. This view suggests that financial regionalisation is the leading factor behind financial globalisation. These findings are consistent with De Santis and Gerard's (2006) and De Santis and Lührmann's (2009) observations, which support regional financial integration across the European Union.

Existing literature examines the central bank has an honest relationship with macroeconomic variables such as interest rate, inflation, and exchange rate through monetary policy; however, the relationship between home and foreign bias with central bank independence and transparency has yet to be explored. In a two-country model, Corsetti (2006) claims that exchange rate volatility will be optimal if home bias exists, even if import prices are present in local currency. She argues that exchange rate fluctuations influence the home bias, enabling policymakers to respond appropriately to asymmetric shocks. Cooper and Kaplains (1994) conducted a comprehensive study by designing a test that would indirectly assess the effect of the risk of domestic inflation. A study by Van Wincoop and Warnock (2006) claims that the motive to hedge actual exchange rate risk provides a specific explanation for equity home bias. Their study also demonstrates a very low association between surplus returns on equity and real exchange rates. Fidora et al. (2007) observed that

bond home bias is more noticeable than equity home bias. They examine the influence of substantial exchange rate variations in evaluating differences in home bias across countries using the Capital Asset Pricing Model (CAPM). This is consistent with Markowitz's (1952) international CAPM hypothesis, which suggests that financial assets are supposed to have a larger home bias and lower volatility.

2.2.7.2 Governance, investor protection and portfolio investment

One of the most critical aspects of a thriving capital market or other financial investment institution is investor protection investors' protection ensures that market participating investors are sufficiently informed in making reasonable decisions.

Institutional investors usually possess certain rights or abilities traditionally safeguarded by regulations and legislative enforcement. Privileges include the disclosure and accounting rules and the protection of shareholder interests. Disclosure and accounting regulations provide investors with the necessary facts. Protected shareholder privileges include several rights, including voting rights to nominate management and engage in shareholders' meetings; rights to pro-rata dividends; eligibility to apply to new stock issues on the same criteria as insiders; calls for extraordinary shareholder meetings; and prosecution of directors or management for suspected expropriation. La porta et al. (2000) claim that the regulations that protect investors on the stock market and accounting standards and security, bankruptcy, merger, and competition legislation come from various sources in different jurisdictions and corporations. Leuz et al. (2009) claim that institutional investors are discouraged by poor corporate governance at the firm level, thereby reducing investment. Individuals and firms analyse leverage to maximise returns on investment, and more robust corporate governance improves leverage (Ezeani et al., 2021). Leuz et al. (2008) claim that US investors retain less of a corporation's float in countries with inadequate disclosure and insufficient control over investor protections.

On the other hand, foreign capital is essential along with domestic funds, Bekaert et al. (2002) emphasised that foreign capital is becoming increasingly crucial for economic growth and market development. Though capital is scarce in many countries around the world, studies show that domestic sources of foreign finance are limited in many countries (see; Giannetti and Koskinen, 2010). However, they stated that the amount of domestic portfolio investments depends on the level of investor protection in the country. The extent of overseas portfolio investments is similarly dependent on investor protection and safeguarding minority interests in the host country. Foreign investors might then analyse risk and return before investing abroad, and research also suggests that emerging countries are riskier than developed countries. In particular, Bekaert (1995) identified three obstacles to investing in the emerging market: legal restrictions on information asymmetry, investor protection, and accounting standards. Other country-related risks include political, economic, liquidity, and currency risks, and these barriers impede foreign investment. Dahlquist et al. (2003) claim that investor protections and financial growth disparities can be capitalised through securities prices

by employing a representative agent in traditional asset pricing models. Therefore, investing in the stocks of any given country would be a fair investment, regardless of the level of investor protection in that country. However, Leuz et al. (2009) argue that reasonable market adjustments are vital to international investors since foreign investors are in a worse position than local investors regarding information asymmetry, requiring foreign investors to incur additional monitoring and information costs. Indeed, information asymmetry is one of the most common determinants of the prevalence of home bias in portfolio investing, triggering excessive investment in domestic assets, and reinforcing the assumption of foreign investors' representative agents (Gehrig, 1993; Kang and Stulz, 1997). Due to ambiguity in financial markets and information asymmetry, a representative agent asset pricing model is required. Firstly, the model analyses past prices and dividends and secondly, an extra, ambiguous signal that informs about potential dividends.

Current studies suggest that improvement of investor protections (see; La Porta et al., 1997; Shleifer and Vishny, 1997; Castro et al., 2004; Stulz, 2005; Engelen and Van Essen, 2010) in a country, such as prevention of corruption, institutional quality and judicial performance foster economic growth and development of capital markets. Stulz (2005) claims that sound institutional qualities that deliver better investor protection for minority investors restrict corporate insiders from expropriating firms' resources to their benefit and lead to economic growth. Better governance helps firms raise finance cheaply, which is immensely important for firms with enormous opportunities for growth that cannot raise capital internally but could access the capital market. Empirical evidence supports the theory that good corporate governance positively impacts growth opportunities (see Durnev and Kim, 2005; Klapper and Love, 2004). Haidar (2009) shows that countries with better investor protection experience rapid growth than countries with inadequate investor protection. Similarly, Shleifer and Vishny (1997) argue that investor protection substantially affects the financial market development and corporations' ability to raise external funding. La Porta et al. (1997) claim that countries with good governance experience a large and liquid stock market. Engelen and Van Essen (2010) also show that strengthened legal protection for equity investors improves investors' confidence in their ability to exploit higher returns on their investment. Spamaan (2010) shows that minority investors enjoy higher protection when company directors try to work in their favour. Theoretically, the relationship between investor protection and economic growth is explained by Castro et al. (2004). They demonstrate that an improvement in investor protection promotes risk-sharing, which is suggestive of higher capital demand. The demand effect supports the positive linkage between investor protection and economic growth. Poor protection for investors causes interest rates to rise, resulting from a change in demand that leads to a lower business profit.

Empirical studies reveal that foreign institutional investors may affect the degree of investor protection in a country. For instance, Shleifer and Vishny (1986) illustrate that active foreign institutional investors can play a vital role in minimising agency problems. They show active shareholders can pursue shareholder management activities to reduce agency problem issues. Giannetti and Simonov (2006) argue that foreign

investors have been dominant shareholders when coming from countries with more quality institutions and may help curb the expropriation of foreign investors. Errunza (2001) investigates the benefits of foreign portfolio investment for the host country, arguing that the presence of international investors in the domestic stock market will contribute to improving investor protection measures. He also claims that foreign investors would demand timely and better access to information on the protection of minority interests and the performance of the stock exchange trading rules and regulations. Stulz (2005) argues that it could be expensive for firms to protect property rights, transparency, and good governance.

Protecting investors is essential, as the expropriation of minority investors and lenders by controlling shareholders in many countries is in practice. As outside investors fund firms, they undergo risks and are therefore almost sure that their investment gains will never materialise unless they are expropriated by controlling shareholders or managers. Investors are the foundation of the financial markets. Protecting their interests ensures equal capital market participation and economic development and growth.

2.2.7.3 Capital market, portfolio investment and the economic growth

The capital market is a crucial element of the economy's financial structure. This stimulates economic growth, productivity, and a country's savings. Capital is vital to economic growth because most countries cannot meet their complete capital requirements through domestic resources alone. Thus, they seek foreign investment. Both foreign direct investment (FDI) and foreign portfolio investment (FPI) are the most popular methods for investors to enter the international market. Foreign Portfolio Investment (FPI) refers to foreign investors' investment in the financial assets of a firm based in a host country; FPI is a short-term indirect investment and volatile. On the other hand, foreign direct investment (FDI) refers to international investment in which the investor acquires a long-term stake in a firm of a foreign country; the investment is generally stable and generally long-term.

Capital market and foreign investment flow in a host country are crucial for economic growth that is considered in the existing literature. Wang and Wong (2009) suggest that foreign capital is critical in improving a country's economic conditions. Erol (2000) presented several foreign capital advantages, and Pazarlıoglu and Gulay (2007), such as improving the country's balance of payments, capital investment and potential development of host country, innovative technology and skills sharing formation of creative marketing and advertising strategy and increased tax revenues. Also, foreign capital impacts the development, employment, taxes, balance of payments and economic growth of the host country. There are different perspectives on the role of financial structures in economic growth across the capital market, which is why the relationship between capital market integration and economic growth has gained considerable interest from policymakers and investors worldwide in recent decades. McGowan (2008) argues that the developed capital market would help promote the allocation of capital essential for growth and economic development, ensuring corporate growth by providing a broad fund for developing innovative groups of

entrepreneurs. A study by Coskun et al. (2017) suggests that economic growth has an asymmetrical impact on the capital market. They claim that the aggregate index of other market sub-components is related positively to economic growth, while the development of the government bond market is negative. As highlighted in the Capital Market Union Study (2015), increasing cross-border capital allocation would provide additional options for investors and fund-raising firms, support diversified funding sources, reduce the dependence on bank loans, and contribute to faster economic growth.

Monetary policy, including interest rates, exchange rates, and inflation, significantly affects foreign investment, particularly portfolio investment (FPI). Hymer's (1976) portfolio theory suggests that foreign portfolio investment is influenced by the host country's interest rates rather than returns according to investment. They argue that higher interest rates tend to attract foreign investment due to hot money flows, appreciating currency rates, and higher returns than investors in their own country. Furthermore, international investors would take advantage of rising interest rates by borrowing money locally at a lower rate and investing it at a higher rate in overseas markets. Portfolio investors also consider the host country's exchange and interest rates. According to Bleaney and Greenaway (2001), although a devaluation of the host country's currency attracts foreigners to invest due to higher returns, the fluctuation of actual exchange rates increases the volatility of the foreign investment. Agarwal (1997) argues that lower returns and higher inflation in home countries provoke portfolio investors to invest in a country with lower inflation and higher returns. Mody et al. (2001) claimed that rising inflation is causing declining foreign portfolio investment.

International financial institutions' expansion into domestic markets offers a crucial role in the development of economic growth. Domestic financial institutions may become much more competitive to succeed when international financial institutions enter a country (see; Levine,1996; Barajas et al., 2000; Claessens and Jansen, 2000; Clarke et al., 2000; Claessens et al., 2000, 2001; and Unite and Sullivan 2003). Goldberg (2004) claimed that foreign financial institutions bring best practices and expertise from their previous experiences to domestic financial institutions and are likely to support technology transfer. Mishkin (2003) shows that access to foreign financial institutions contributes to developing domestic prudential supervision by exchanging innovation and expertise, both domestic and foreign, with each other's risk management strategies, resulting in enhanced performance.

The connection between foreign investment and economic growth has been investigated in recent years. However, the number of experts focused on the consequences of FDI (Foreign Direct Investment) inflows to host economies rather than FPI (Foreign Portfolio Investment) inflows. Several studies have been undertaken to examine the effect of foreign direct investment on economic development (see Herrmann and Jochem, 2005; Kutan and Vuki, 2007), on social and economic stability (Fukao, 2007), market rivalry and profitability (Torlak, 2004), and industrial specialisation (see; Fukao, 2004; and Aubin et al., 2008). Lipsey (2002) suggests that foreign direct investment impacts the host country's economies across different

pathways, influences market dynamics, and affects market competitiveness and employment. Likewise, Evans (2002) emphasises the potential benefits of foreign direct investment in terms of enhanced productivity, diversity, competition, and human resource development. In addition, Lee (2013) examines the benefits of positive externalities, capital investment incentives and technology transfer relating to foreign direct investment. However, most of these studies suggest that FDI inflows have a favourable effect on the host country's economic growth.

According to Albulescuab (2015), either equity or liabilities favourably affect economic growth regarding foreign direct investment (FDI). However, debt instruments have a negligible influence on the gross domestic product (GDP), and comparable results have been reported for foreign portfolio investment (FPI). Several studies have investigated the effect of foreign direct investment (FDI) and foreign portfolio investment (FPI) on the host country's economic growth. According to Goldstein and Razin (2006), there is unlikely to be an agency conflict in the case of foreign direct investment (FDI) flows. Therefore, FDI flows are more likely to drive economic growth. In addition, Lipsey (1999) suggests that foreign direct investment flows appear to be more stable relative to foreign portfolio investment flows. By contrast, Basoglu (2000) shows that financial liberalisation in developing countries is a driving force in rising foreign portfolio investment. In comparison, low-interest rates are a driving factor in developed countries to increase foreign portfolio investment.

2.2.8 Summary and conclusion

Capital markets are vital for a country’s overall economic health. Emerging economies need funds for their economic development and growth, as well as developed countries. Within the financial system, the capital market plays a vital role. Saving and investment are crucial to economic development.

The investor evaluates the cost of capital to make better decisions about how their money is allocated. The investor, therefore, wants all the safeguards in place to protect investor interests from malpractice. On the other hand, the monetary policy aims to accomplish a series of targets represented by macro-economic factors such as growth, employment, and actual production. However, monetary policy decisions either actively or passively have a positive or negative influence on macroeconomic variables, such as shifts in the central bank's discount rate. There are significant lags in the transmission of monetary policy procedures. Broader and more dynamic financial markets, such as government and corporate bond markets, foreign currency markets, stock markets, and mortgage markets, are very efficient at absorbing more information. It is crucial to analyse the link between monetary policy and financial asset prices to better understand its transmission mechanism, as monetary policy plays a significant role across multiple channels in affecting asset prices. Thereby, central banks’ independence and transparency play an important role.

Increased capital market participation would enable risk-sharing between home and foreign investors, lowering the cost of capital and boosting a country's financial sector development and growth. Furthermore, portfolio diversification and international securities provide investors various options (see; Grubel 1968;

Levy and Sarnat 1970; and Solnik, 1974). Despite the rise in cross-border equity holdings over the past few decades, investors appear to maintain a disproportionate share of their investments in domestic equity (see; French and Poterba, 1991; Lewis, 1999; Lane and Milesi-Ferretti, 2003; Chan et al., 2005; and Sercu and Vanpee, 2007). Kallianiotis (2019) shows that cost of capital resulting from an inadequate monetary policy was negative or lower. A study by Kwabi et al. (2016) revealed that foreign investors preferred countries with lower capital costs. The conjecture is that monetary policy from an independent, transparent central bank would foster a stable investment environment and a level playing field for domestic and foreign investors.

2.3 Literature review for first empirical analysis: **Central bank independence and transparency and cost of capital.**

2.3.1 Introduction

This chapter explores the literature on central bank independence and transparency and the cost of capital (literature review for chapter 6). Due to the importance of the cost of capital, we are motivated to undertake the empirical studies in Chapter 6. Although foreign portfolio investment is supposed to provide diversification benefits, such as risks that are not domestically diversifiable turning internationally diversifiable, also reducing some systematic risk. However, Foreign portfolio investment decisions may contain challenges not existent in the home country, such as economic, financial, and political issues. Existing studies shows that the portfolio investment flow lowers the cost of capital by increasing risk sharing (Lau et al.,2010). Though limited and unrestricted assets are priced differently in the international market, Errunza and Losq (1985) suggest that domestic investors are at a disadvantage while competing in the global market due to limitations imposed by the foreign government. As a result, unrestricted investors reaped the benefits of a super risk premium proportional to the conditional market risk for restricted assets.

Furthermore, Errunza and Losq (1989) argue that eliminating investment obstacles typically increases the total market value of investments. They argue that introducing various types of index funds on the international market enhances global market integration and investor well-being. Singh and Weisse (1998) demonstrate that foreign portfolio flows are capable of fostering local capital market growth, which, in turn, imposes the microeconomic impact of stock market expansion and, consequently, a decrease in the cost of capital for companies. In the same context, Meurer (2006) claims that market liberalisation contributes to a rise in stock prices. It may also reduce the cost of capital by lowering the expected returns on those stocks. Stutz (1999) reveals that equity costs of capital are declining due to globalization. Furthermore, existing research mostly uses case studies to investigate the effects of financial globalization and financial liberalisation on the cost of capital. According to a literature review, there are almost no studies that specifically investigate the impact of central bank independence and transparency on the cost of capital.

2.3.2 Importance of country-level cost of capital

The cost of capital is the required rate of return that a firm must generate in order to cover the market cost of raising capital. The rate of return refers to the firm that may require paying to the investors in order to supply the firms with their funds. The cost of capital is a crucial aspect of corporate finance and investment decisions. However, macroeconomic variables and cross-country risk factors are increasingly being regarded by multinational companies and investors while they are making investment and funding decisions, pricing financial assets and deciding on allocating their investment portfolios. Cost of capital is important when structuring a company's capital requirements, deciding on the best combination of funding methods, and evaluating any project's success or otherwise. Existing literature suggests that a company's capital structure

is influenced not only by firm-specific variables but also by country-specific factors (see; Demirguc-Kunt and Maksimovic, 1999; Claessens et al., 2001; Booth et al., 2001; and Bancel and Mittoo, 2004).

Stulz (1996) shows that global portfolio diversification facilitates risk-sharing among global investors, thereby reducing the risk premiums. He also concluded that financial globalization increases the value of firms by lowering the cost of capital, therefore promoting further economic growth. Keppler (1991) shows that global equity investors can generate excess risk-adjusted long-term returns by investing in the above-average dividend yield stocks. Erb et al. (1995) find that country credit rating has considerable predictive power to discriminate between high expected returns and low expected returns.

Studies examine several elements that affect the cost of capital in a country. Among others, Hail and Leuz (2009) investigate the effect of the cost of capital on differential growth expectations in the context of US cross-listing. They claim that as a consequence of raising investor protection standards for foreign investors, cross-listing on the US market lowers the cost of capital. By examining the influence of insider trading rules on the cost of capital, Bhattacharya and Daouka (2002) claim that the enforcement of insider trading regulations has minimal effect on capital cost; however, it does decline in the cost of capital following initial prosecution. Hail and Leuz (2006) provide convincing evidence that due to the effectiveness of legal institutions and securities regulation, there is a difference in the cost of capital between countries. On the other hand, Kwabi et al. (2018) demonstrated that strict insider trading regulations interact with institutional quality. As strong institutional quality attracts foreign investors and rigorous insider trading laws lowers the cost of capital, investors tend to allocate more foreign equities portfolios. Admati (1985) states that the cost of capital is impacted by and relevant with an average precision of investors private information. Leland (1992) argues that insider trading causes information asymmetry while also providing valuable information to the market. Then the market quickly adjusts the prices, resulting in a few price jumps that may increase stock price volatility in the short term while stabilising stock prices in the long term. Wang (1993) shows that increasing the percentage of informed investors in the economy decreases the cost of capital.

Capital is always a limited resource, and thus, due to financial globalization, it is reasonable to consider the importance of the country-level cost of capital. The effect of globalization forces one to quantify and compare capital returns on an international scale for the most attractive investment opportunities around the globe. Aspects of cost of capital and capital allocation are becoming increasingly relevant as both the capital providers and the seekers are exposed to all factors associated with the availability and return on capital.

2.3.3 Cost of equity capital

The cost of equity capital is often referred to as the projected cost of equity capital, despite its forward-looking concept. The stock price is measurable for publicly traded firms, but the market's perceptions of potential cash flows are not really. Therefore, neither aspect can be directly observed from the prices or returns realised. The cost of capital has a direct effect on optimal corporate investment plans. Cost-effective capital structure decisions would lower a firm's total cost of capital and improve the NPV (Present Net Value)

of anticipated investment projects, enhancing the firm's financial performance (see; Gitman, 2003). The DCF (Discounted cash flow) framework is a very important instrument used not only for valuing companies but also for pricing initial public offerings (IPOs) and other financial assets (Roosenboom,2012). Glen and Panos (2000) show that DCF methods predominate in capital budgeting.

Due to a number of reasons, fund investment managers, politicians, and equity investors should have a thorough grasp of the unique impact of cross-border investment on the cost of capital. Management requires a reasonable estimate of the equity cost of capital to make capital budgeting decisions and evaluate a company's planned investments. Whenever a firm decides whether it should pursue an investment project, the project's present value is represented by the expected cash flows that they intend to generate from the project, discounted at the required rate of return. A reduction in the cost of capital increases the overall projects benefits and the return on the market portfolio. According to studies, firms from a segmented economy that get access to the international capital market will benefit from a lower cost of capital and greater risk-sharing. Reducing the cost of capital would result in a rise in net present value (NPV) and encourage corporate investment to optimise shareholders' wealth in the economy. Alternatively, when the cost of capital increases, firms will find fewer projects that yield higher returns to demand new investment.

Secondly, governments and policymakers are concerned with their country's level of cost of capital. Countries will benefit greatly from a decline in the cost of capital as investments will increase due to the influx of foreign portfolio investment. As a result, enhance projected inflows in investment projects with a negative NPV that transform into positive NPV after the financial liberalisation. The consequences of positive NPVs would generate employment, reverse capital flight and higher production growth levels and have a larger positive impact on economic well-being than a financial windfall for domestic equity investors. Firms' investments in new assets and capacities are evaluated based on whether they expect to gain a greater return on these projects than the costs linked with the investment. A rise in the risk premium increases the cost of capital, resulting in a decrease in gross economic investment and economic growth.

Finally, the cost of capital is crucial to investors in equity portfolios. When evaluating the market price of securities, it is beneficial as the discounted valuation of all expected future dividend payments over the holding period. The cost of capital has a negative connection with the firm's worth or price of securities. Unless the required rate of return is high, investors may offer to pay a low price per share. Decreasing the cost of capital will cause a spike in share prices and maximise the benefits of the equity shareholders.

2.3.4 Determinants of cost of capital

The cost of capital, in particular, represents the least likely required rate of return (i.e., a weighted average cost of capital, the aggregate of debt and equity capital). On the other hand, NPV (net present value) is the difference between the project's inflows and outflows over time. Another way to look at NPV is whether the investment will outperform the cost of capital. On the other hand, that is the opportunity cost of capital that capital would generate in the best alternative investment opportunity equivalent to a similar risk rule. It is

vital to examine the elements that influence the cost of capital to produce an optimal model with the lowest cost of capital.

Cross-border investment is associated with economic and political risk in a country, such as political instability, uncertain legal regimes, and economic turmoil, which causes investors to demand a premium for putting their money at risk. Central bank trough monetary policy functions and money supply channel affect interest rate and inflation that have an effects on economic condition of a country. Country risk premium influences expected return, which affects a country's cost of capital (Damodaran ,1999; 2003). Moreover, changes in sovereign credit ratings can affect the cost of capital, so investors may seek for additional risk premiums (Chen et al.,2013; Oliver and Shanana,2021). Investors use dividend yield to determine expected return, they also use historical rates of return to forecast future returns or predict how an investment will perform in a given circumstance. The expected return is related to idiosyncratic volatility, which influences the cost of capital in a country (Bekaert and Harvey ,1995; Gebhardt, Lee, and Swaminathan ,2001). Dividend yield affects expected future returns (Dow, 1920; Ball, 1978; Fama and French, 1988), thereby influence cost of capital.

The goal of the central bank is defined as the central bank's deliberate effort to control the money supply and credit conditions in order to achieve certain broad economic objectives (wrightsman, 1976). The central bank has a relationship with the government, and a change in regime influences central bank governance, which influences monetary policy goals (Cukiermen and Webb,1995). Central banks have a strong relationship with economic and political circumstances in a country, which may influence the cost of capital.

Cross boarder asset movements have risen dramatically in recent decades, and the flow of equity portfolios is a very significant element of foreign capital flows along with the debt portfolios. A number of studies investigated the elements influencing the decision on a company's capital structure and suggested that in foreign investors, capital structure is determined by company-specific risk as well as country-specific risk. The most common risk factor includes a country's economic, political, judicial, and financial systems, all of which have an effect on a country's macroeconomy as well as trade and investment. Examining the interaction between macroeconomic factors and growth, Booth et al. (2001) show that macroeconomic variables have a strong and significant relationship. The inflation rate, economic growth rate, the development of the capital market and government policies are among these variables. Indeed, the capital structure of developed and emerging countries has also been affected by these factors. A number of studies have been investigated the relationship between economic development, trade, and investment. These studies suggest that economic growth drivers such as real GDP growth enhanced leverage with higher GDP, which generate opportunities and attract foreign investors (see; De Jong et al., 2008; Beck et al., 2008; Muthama et al., 2013; Chipeta and Mbululu, 2013; and Tomschik, 2015). A study by Frank and Goyal (2009) and Jeveer (2013) claimed that high inflation rates and persistently significant swings have a negative impact on a company's cost of capital and capital structure. Demirguc-Kunt and Maksimovic (1999) study demonstrate that the growth of the capital market is negatively related to the ratios of long-term debt and short-term debt

to aggregate firm equity. Delcoure (2007) argues that increasing the independence of a country's financial system leads to a reduction in restrictions on the banking system in a country, allowing banks more opportunities for competition and lowering the cost of debt, which also influences the country's financial market as a whole.

According to Boubakri et al. (2012), the cost of firm equity investment is influenced by the firm's characteristics and the country's institutional and political context. Demirguc-Kunt and Maksimovic (1999) show that both financial and legal institutions impact debt maturity. Bancel and Mitto (2004) argue that the quality of a country's legal institutions and system influences cross-border differences in the cost of capital. Rajan and Zingales (2003) analyse the development of the European financial system over time and conclude that it represents a dynamic interplay between fiscal, political, country-specific, and global factors. Home bias in US mutual fund assets is observed by Coval and Moskowitz (1999). The authors emphasise on geographic distance and information asymmetry by using information proxy as distance to rationalise the investment decisions of certain funds. Employing the calibration method to quantify its impact, they suggest that the same form of geographic bias is observed globally on US holdings. Portes et al. (2001) find disparities between equity flows, corporate bonds, and government bonds using a US-based data set. They argue that distance seems to not influence foreign government bond trades. Bekaert et al. (2002) show whether countries are relatively attractive to foreign investors that determine the dynamics of returns and net capital flows in emerging markets. Mody et al. (2003) demonstrate a similar model that predicts that more countries can attract international portfolio investors by enhancing corporate governance. Hau and Rey (2002) show that equity flows growth has a positive impact on demand for currency and equity due to limited arbitration in foreign exchange and equity markets, provided that there is an inelastic price surplus of currency balances and equity. They also observed that positive returns of equity to the foreign market cause portfolio rebalancing due to higher exposure to foreign currency risk deriving domestic equity inflows and foreign currency depreciation. Additionally, Hau and Rey (2006) develop a model to determine the dynamics of stock returns, exchange rate returns and portfolio choices of investors in general equilibrium. The model interprets the overview of private information effects and market microstructure issues to build a pure portfolio balance description.

A strand of literature on international portfolio investment emphasises that asymmetric information affects portfolio investment choices (Brennan and Cao,1997; Gehrig ,1993; and Kang and Stulz ,1994). A prospective investor requires relevant and appropriate information to evaluate financial assets such as stocks and corporate bonds. In cross-border investment, it is assumed that information is not transparent and, in many situations, is not equally accessible to investors from home and abroad by all market participants. Emphasising the significance of information asymmetry, Pagano et al. (1999) and Ahearne et al. (2001) argue that on presentation and disclosures on accounting principles and practices in different countries. The significance of 'indirect investment constraints' for equity flows to emerging markets is explored by Bekaert (1995). Such indirect constraints include inadequate accounting standards, insufficient market information

and frictions such as unreliable settlement procedures and insufficient investor protection. Gordon and Bovenberg (1996) argue that there is a positive link between current account deficits and real domestic interest rates across countries while emphasizing information asymmetries between foreign and domestic investors and developing their model at a macro level. Highlighting linguistic, institutional, and regulatory discrepancies and the expense of acquiring foreign market information, Tesar and Werner (1995) argue that geographical proximity appears to be a critical element of the option to allocate an international portfolio. Portes and Ray (2005) show conclusive evidence from their empirical study that there is a very important geographic dimension of foreign asset flows. They claim that foreign capital markets have frictions, and the markets are segmented by information asymmetries or the effects of familiarity.

Long-term financial goals play a role in deciding whether a firm can fund its operations by long-term debt, short-term debt, or equity. Firms would be readily adapting their capital structure to adapt to market changes if investors understand the cost of capital determinations, which defines the firm's sustainability and competitiveness in the era of financial globalization. It is also critical for policymakers to develop strategies to ensure greater capital market participation and, in effect, the country's development.

2.3.5 Financial globalization, the central bank and cost of capital

As a result, globalization increases the flows of goods, capital, people, resources, and information across borders. Globalization is one of the fascinating aspects of modern literature. Many scholars have pointed out how economic and financial globalization undermines the power of the government to function and regulate. While globalization brings with its opportunities and benefits that often cause friction between politics and economics, Vernon (1971) argues that multinational corporations are responsible for destructive political conflict and thus need reconciliation between political and economic institutions to restore harmony. Kobrin (2009) argues that the conventional multi-national enterprise challenges include the overlapping and control of jurisdiction, jurisdictional asymmetry but not political and economic confrontation.

Emphasize the central bank's function, Meyer et al. (1997) suggested that the central bank is a fundamental institution of the modern rational state. All countries should have to be a part of the international community. Its position in the economy is undeniably vital, as the central bank controls the money supply by managing interest rates, supporting an open market economy and safeguard reserve requirements. Monetary policies may stabilise, restrict, or grow effects on inflation, employment, and growth rates. Moreover, the central bank's actions may affect financial stability and exchange rates (see; Maxfield 1997; Blinder 1998; and Eichengreen,1998). The conventional monetary policy priorities are price stability, optimum employment, and economic development. Moreover, monetary policy through a wider passage of financial markets segments influences the economy, particularly using the capital market (see; Bernanke and Kuttner, 2003). Monetary policy contributes to capital reallocation in the economy by shaping the investors' return expectations and their trading decisions in the equity market.

Growing capital market participation would allow domestic and foreign investors to share risk, minimise capital cost, and support a country's financial growth and development. On the other hand, integrating a foreign markets portfolio with a domestic market portfolio allows for portfolio diversification and development (see; Grubel 1968; Levy and Sarnat, 1970; Solnik, 1974). Examining the relationship between the cost of capital at long term interest rates, Kallianiotis (2019) claims that the cost of capital resulting from an inadequate monetary policy could be negative. They also suggest that the cost of capital should be positive to achieve sustainable growth and full employment.

2.3.6 Gaps in the literature on the cost of capital and the central bank

Existing research show that central bank independence and transparency have a significant influence on capital markets. There are, however, almost no empirical research on the impact of central bank independence and transparency on the cost of capital. As a result of the market's integration with the global market, more investors with varying portfolio exposure can share risk, lower market risk premiums, and require return rates. However, to support market integration, economic development, political stability, and accountability in market regulations are crucial (see; Stulz, 2005).

Several studies have explored the relationship between central bank independence and economic development (see Arnone et al., 2007), central bank independence and investment growth (see Förch and Sunde, 2012), and central bank independence and stock market returns (see; Jubinski and Tomljanovich, 2013; and Papadamou et al., 2017). Similarly, several studies have examined the association between central bank transparency and capital market returns (see; Rafferty and Tomljanovich,2002; Kurov, 2012; and Papadamou et al., 2014), central bank transparency and economic performance (see; Geraats, 2002), and central bank transparency and financial market volatility (see; Chortareas et al., 2002; De Mendonça and Filho, 2007; Demertzis and Hallet, 2007; Dincer and Eichengreen, 2014; and Papadamou et al., 2017). However, there has been almost no research investigated the connection between central bank independence and transparency with the cost of capital.

2.4 Literature review for second empirical analysis: **Impact of independence and transparency of central bank on equity home and foreign bias**

2.4.1 Chapter overview

This section includes a literature review for Chapter 7 (independence and transparency of central bank and equity home and equity foreign Bias). We are motivated to conduct the empirical studies under Chapter 7. The adverse effects of equity home inhibiting diversification and the significance of foreign bias increase risk-sharing among participating investors.

A review of the existing literature shows that only a few studies have investigated the impact of central bank independence and transparency on equity home bias and foreign bias.

2.4.1.1 Equity Home bias (*EHB*)

The term "home bias" refers to the phenomenon that investors preference over-weight their portfolio in home country equities disregarding the benefits of portfolio diversification. A stream of literature explains the equity home bias phenomenon. According to Lewis (1999), home bias is a trend in which investors invest a much higher proportion of their investments in home assets, disregarding the recommendation by traditional portfolio theory The Modern Portfolio Theory (MPT) suggest that investors to construct an asset portfolio that maximises expected return for a given level of risk. The theory assumes investors will always prefer the less risky portfolio for a given level of expected return. It is also believed that higher foreign equity allocations or portfolio diversification have associated with positive outcomes. Cooper et al. (2015) refer to home bias as the preference of investors to overweight their home-country stocks to a large extent, thereby disregarding the marginal benefit from increased foreign diversification. According to Coval and Moskowitz (1999), home bias is not limited to foreign portfolios but also arises in domestic investment portfolios and is defined as an investor's preference to invest closest to their home. Similarly, Tesar and Werner (1995) argue that, despite the potential benefits of global diversification, there is compelling evidence that investors prefer to invest in domestic securities, indicating a home bias in domestic portfolios. Furthermore, Chan et al. (2005) provides conclusive evidence that domestic securities account for a far larger part of mutual funds' investments on average.

2.4.1.2 Determinates of equity home bias

Risk and return assessment are a fundamental part of any investment decision. For many reasons' domestic markets are preferred by investors. First, domestic investors are more conversant with the market in their home country. Secondly, investing in the domestic market requires additional transaction costs and is free from foreign currency exchange risk exposure. Thirdly, the international markets and geopolitical uncertainties do not affect such investment. Existing literature investigates the causes of equity home bias and reveals that, among other factors, the important variables include stock market development (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012), information asymmetry (see; Gehrig,1993; Ahearne et al., 2004; and Bae et al., 2008), and investor protection (see; La Porta et al. 1997;

Shleifer and Vishny, 1997; Lombardo and Pagano,1999; and Giannetti and Koskinen,2004). In terms of accessibility and cost, it is presumed that domestic investors have a comparative advantage of home capital market information over foreign investors, which influences home bias in a country. Weak investors protection degrades the capital market and reduces market participates, thereby converging by mostly domestic investors and increasing home bias. Shleifer and Vishny (1997) claim that poor investor protection increases the degree of corporate insiders' expropriation and thus exacerbates the development of capital markets. La Porta et al. (1997) suggest that investors will be hesitant to invest in markets with weak regulatory systems and high corruption rates. On the other hand, Lombardo and Pagano (1999) show that lower return on stocks for countries is associated with poor investor protection. Giannetti and Koskinen (2004) demonstrating that investor protection has a favourable and considerable effect on stock market results. They argued that lower expected returns for equity investors lead to decreased investors' participation in the domestic capital market. Similar to investor protection, information asymmetry also contributes to home bias, and the degree of investor protection regulations also make differences in information asymmetries (Ahearne et al., 2004). Information asymmetry between foreign and home investors is a crucial factor that causes portfolio investors to forgo the benefits of diversification and overweight their domestic portfolio. Examining the relationship between information asymmetry and home bias in 32 countries, Bae, Stulz and Tan (2008) shows that home analysts make earnings predictions more precise than foreign analysts do for a domestic stock market. In addition, the extent of the benefit to the home analyst is attributed to the home bias. Furthermore, a local analyst's market forecast for a country is more reliable than foreign analysts' forecasts (more information asymmetry). Therefore, foreign investors are less likely to invest in that country. Chan et al. (2005) demonstrates that growth in the stock market and familiarity with domestic and foreign markets have a substantial and asymmetrical effect. French and Poterba (1991) argue that domestic investors are more positive about domestic equities than foreign equities due to familiarity with domestic investors. Employing Metron (1987) model, Aharne et al. (2004) examine how information asymmetry affects equity home bias. They suggest that investors like to have a higher percentage of portfolios in the market that are well-known to them. Then it could be a major factor influencing the behaviour of the investors in the market. Gehrig (1993) suggests that a preference for international investment depends on information being available to determine the investors' risk and earning opportunities for a foreign firm. In order to evaluate the risk attitude of investors towards foreign investment, information availability and reliability play a crucial role and can affect the ultimate investment decisions of global investors. Along with these factors, existing literature shows several other factors to determine equity home bias. By examining the relationship among market, economy and portfolio allocation, Milesi-Ferretti and Tille (2011) claim that market-related factors and macroeconomic variables in a country influence equity home and foreign bias. They argue that liquidity risk, macroeconomic imbalances, and cross-country risk all lead to a decrease in foreign asset investment and, as a result, an increase in stock portfolio accumulation in the home country's market. Governance and investor protection are crucial for decreasing equity home bias and encouraging foreign investment. Kwabi

et al. (2017) show that markets with higher degrees of home bias have a lower degree of investors protection. Dahlquist et al. (2003) demonstrate that a rise in equity home bias results from weak corporate governance. as because investors tend to invest closely based on commonly known firms. Foreign investors are becoming increasingly interested in the domestic market while capital market developments continue. This may have a detrimental influence on equity home bias, resulting in a lower cost of capital. A study by Levine and Zervos (1996) claim that greater and more established capital markets have lower financial intermediation costs, more liquidity, and better investment prospects than the real economy. A study by Chan et al. (2005) argues that the stock market's growth and familiarity are significant factors in determining equity home bias. Thapa and Poshakwale (2012) demonstrate that, as the smaller stock markets are largely overlooked, they are unfamiliar and presume to be unfledged. They are not in a position to attract foreign investors who continue with prevailing equity home bias.

2.4.1.3 Effects of equity home bias

Existing literature suggests that home bias is more likely to leads to a market segmentation of portfolio holdings by the investors. When markets are completely segmented, the expected return for a particular country is measured solely by its deviation in returns. And only the domestic investors hold stakes in a segmented market. On the other hand, in fully integrated markets, domestic investors can acquire foreign equity, and foreign investors can retain local equity without any investment restrictions. Furthermore, decreasing equity home bias would lessen market segmentation and lower cost of capital and strengthen market integration and foreign equity bias (see; Lau et al., 2010).

A number of existing study emphasis on financial integration to reduce home bias phenomenon. Financial market integration decrease in equity home bias, also has a significant positive impact on economic growth and international risk sharing (Crina, 2008). Financial integration improves the functioning of the Single Market while also increasing financial stability (ECB 2011). Increased integration improves efficiency while also expanding opportunities for portfolio diversification, high rates of return, and risk-sharing. Trade and financial integration both contribute to stock market synchronisation. Despite the theory's ambiguous predictions, there is compelling evidence that increased economic interdependence between two countries raises bilateral stock market return correlations (Walti, 2011). Lau et al. (2010) demonstrate that capital market integration can reduce home bias and increase risk sharing, thereby lowering the cost of capital.

Allocating investments in different geographical locations, industries a variety of assets reduces risk and maximises return. This is because diversification of investments minimizes a detrimental effect on the whole portfolio in a turbulent market. Tesar and Werner (1995) argue that there is robust evidence of equity home bias in the domestic portfolio's investment despite potential gains from international diversification. They argue that factors other than risk diversification tend to reflect the composition of the foreign securities in the portfolio. In addition, they claim that it is unlikely that deferential transaction costs explain the equity

home bias when comparing domestic equity market turnover with high foreign equity market turnover and increased cross-border capital flows. Gerke et al. (2005) examine the effect of home bias from a German investor's perspective from 1980-2001. They find that international diversification is highly beneficial even if they employ an unformed strategy that weighs equally the available stocks. Grubel (1968) assumes that the diversification of international portfolios represents a supposed gain by forming international relations that diverge from the traditional trade relations. While investigating the international diversification's benefits for the U.S. investors, from January 1959 to December 1966, he examined eleven countries' stock market indexes. He shows that global diversification has allowed investors to achieve either the highest return or the lowest volatility of portfolios. In line with the study conducted, Levy and Sarnat (1970) demonstrated that there were low correlation coefficients amongst returns on assets and argued that the benefits of international diversification were significant. Levine and Zervos (1998) claim that well-known financial markets are more likely to share information than less well-known ones. Usually, prominent markets are more interconnected with global financial markets and more diversified. Information asymmetry among economic agents associated with financial systems may leads to contagion in financial market (Schinasi and Smith, 2001). However, Accominotti et al. (2020) study confirms that there was no financial contagion in stock markets for period between 1915-2014, however during 1880-1914 financial contagion was prevail.

Existing literature supports that growing home bias often increases the cost of capital and inhibits financial globalization. Empirical studies by de Jong and de Roon (2005) and Carrieri et al. (2007) argue that describing predictable returns. Domestic market risks are the significant factors. However, there may be variations in the market segmentation across countries. These studies demonstrate that due to differences in portfolio investment in either or both of markets, foreign investors are less likely to invest in domestic markets adequately, and investments required by globally diversified portfolios may not be available to domestic investors. In addition, current literature suggests that falling home bias often lessening the cost of capital. In a presidential speech at the 2005 meeting of the American Finance Association, Stulz (1999) claims that financial globalization has the economic benefit of promoting global risk-sharing. Also, he suggests that home bias is negatively affected by market integration and financial globalization, which lowers a country's cost of capital. Lau et al. (2010) argue that the cost of capital reduces due to decreasing home bias increase diversification, facilitating global risk-sharing. According to Kwabi et al. (2016), countries with a higher degree of home bias have a higher cost of capital. Empirical studies show that home bias leads to market segmentation, suggesting that a country's level of segmentation may be reduced by lowering home equity bias, while the lower cost of capital raises foreign bias. In other words, in a country where the cost of capital is likely to be significantly lower, market participation and risk-sharing are likely to be higher. Domestic investors would arrange their portfolio investment proportionately at home and abroad in that market, while foreign investors would allocate investment in the host country according to

traditional portfolio theory. Therefore, from the existing literature, we may conclude that equity home bias may affect the well-being of investors on the level of market integration and cost of capital of a country.

2.4.1.4 Equity home bias and central bank independence

The independence of central banks signifies that, in order to achieve the primary purpose of market stability, they must act independently, and the government should provide the power and the right of members of central bank decision-makers to use policy instruments liberally and fairly (see; Healy and Palepu, 2001; Gelos and Wei, 2005). A country's monetary policy is a primary instrument enforced by a country's central bank to stabilise the economy (Bernhard, 1998; Fausch and Sigonius, 2018). Furthermore, the degree of independence of the central bank determines its ability in carrying out its obligations (see; Rogoff, 1985, Neuenkirch, 2012, Forch and Sunde, 2012; Papadamou et al., 2014;). The use of interest rates to allocate savings and credit and the smooth functioning of securities markets to influence the valuation of key financial indicators such as inflation are key elements of an efficient monetary policy. Investors' decisions are influenced by the overall macroeconomic condition and capital market development of a country, and central banks significantly contribute to enhancing the macroeconomic condition. This indicates that an independent central bank can implement policies that promote financial market development, lower the cost of capital, and decrease equity home bias. Apart from macroeconomic issues, the capital market and investor behaviour are greatly influenced by institutional quality.

Existing literature (see; North, 1990; Hoskisson et al., 2000 and Bevan et al., 2004) emphasises that institutional quality influences investment behaviour. Independent monetary policy can affect investment risk and return on equity portfolios, thus attracting foreign investors with a creditable monetary policy and institutional quality (Papioannou, 2009; Eichler and Luckie, (2015). Existing literature shows that central bank independence affects a country's capital market and equity home bias directly or indirectly. Existing literature shows that it is more unlikely that markets with high inflation can grow financially (see; Huybens and Smith, 1999; Boyd et al., 2001; Rousseau and Wachtel, 2002). The development of the stock market and overall market stability is driven by shifts in macroeconomic variables such as changes in exchange rates and interest rates. Typically, higher interest rates increase borrowing costs and reduce investment. Boyd et al. (2001) claim that high inflation is the consequence of a weak banking system and a country's less developed capital market. Förch and Sunde (2012) argue that instead of political independence, stock market returns are favourably linked to the central bank's economic independence. Papadamou et al. (2017) argue that the central bank's policy and independence may result in less volatility in exchange rates and enable a more stable stock market and economic growth. They also suggest that a greater degree of central bank independence may improve the conventional goal of financial stability. Garriga and Rodriguez (2019) claim that lower inflation is connected with greater central bank independence. They also argue that democracy and good governance exist in the country contribute to a lower and stable inflation rate. In addition, they argue that central bank independence, especially independence from policy goals, personnel, and financial

independence, leads to lower inflation. Garcia-Herrero and Del-Rio (2003) and Čihák (2007) suggest that there is a positive association between financial stability and central bank independence. Papadamou et al., (2014) argue that instability in the stock market results from a country's central bank's independent intervention.

A stable financial structure is expected to be able to allocate capital, evaluate and manage financial risks adequately. Moreover, financial stability contributes to the stabilisation of employment levels as traditional economic environment and reduce relative market fluctuations of economic or financial assets. Independent monetary policy decreases stock market uncertainty, thus persuading investors to invest in the economy. However, the explicit impact of central bank independence on home bias has yet to be investigated.

2.4.1.5 Equity home bias and central bank transparency

Central bank transparency requires that to increase public awareness and meet the central bank's objectives, a credible central bank should immediately distribute and make accessible macro-economic data and other reliable information available to the public (see; Healy and Palepu, 2001; Gelos and Wei, 2005). The transparency of central banks offers all related information to investors and markets on their policies, analyses, policy announcements, and procedures in a transparent, consistent, and on time. Most central banks have a considerable interest in sustainable and successful capital markets since they are a source of finance for the real economy, supporting risk allocation, economic development, and financial stability. The central bank can foster a stable capital market for the country by ensuring financial stability through a consistent monetary policy, and transparency in central bank expected to make that policy credible. In the economic structure, several activities in the real economy conduct through the financial system, which is why financial stability is of the utmost importance to a country's economic growth. Central banks serve an important purpose for the government by planning and implementing monetary policy, which is a key function for maintaining economic stability in a country (Bernhard, 1998; Fausch and Sigonius, 2018). Recognized literature suggests that the independence and transparency of a country's central bank are required for the implementation of an efficient and effective monetary policy (see; Rogoff, 1985; Neuenkirch, 2012; Forch and Sunde, 2012 and Papadamou et al., 2014). It assumes that governance and institutional quality are key to determining transparency, and a transparent monetary policy affects investors' behaviour and the capital market. Countries with comparatively better corporate governance have less home bias. The structure described by Dahlquist et al. (2003) suggest that investors in countries with poor corporate governance are likely to have a higher investment concentration than closely held firms, resulting in a soaring home bias in those countries. Existing studies suggest that foreign investors are subject to expropriation risk in countries with weak insider trading regulations and inadequate institutional quality (see; Fernandes and Ferreira, 2009). Such inefficiencies increase agency costs and information asymmetry, resulting in lower participation of investors in the capital market, which raises the cost of capital.

Existing literature shows that the central bank has a significant impact on capital market development by reducing home bias and encouraging cross-border investor inclusion. Eijffinger and Geraats (2006) claim that the degree of volatility in interest rates is affected by the central bank's independence. They suggest that increased transparency may increase the central bank's credibility, reliability, and integrity. Geraats (2002) claimed that central bank transparency minimises information conflict among monetary policymakers and other economic players such as banks and foreign investors. Greater transparency minimises inflation volatility, guides market expectations, and makes policy actions more predictable (Demertzis and Hughes Hallet, 2007), Neuenkirch (2012) claims that the central bank's transparency reduces the bias of investor expectations and the variation of investor expectations. In general, increased flexibility would allow policy and short-term interest rates to be reduced while long-term nominal interest rates remain unchanged. Moreover, the role of interest rates is vital to the prices of assets. This suggests that the equities market and the central bank's transparency have a constructive relationship.

Central bank transparency can reduce information bias, which can significantly increase market stability, encourage foreign investors and, in turn, increase foreign bias and reduce equity home bias. However, the explicit impact of central bank transparency on equity home bias is yet to be explored.

2.4.2.1 Equity foreign bias (*EFB)*

The extent to which foreign bias reflects investors' preference for global capital markets over benchmark weight is represented by foreign bias. The term "equity foreign bias" refers to the fact that individuals and institutions in most countries are more likely to keep a considerable amount of equity in their portfolio on the foreign market than on the domestic market. Cooper et al. (2015) show that despite the least diversification opportunities in countries, investors allocate a higher portion of their portfolio close to their home country. Closeness is a composite of variables such as geographical proximity, high information, and trade flows, and as well as common in culture. Chan et al. (2005) points out that the market capitalization is greater when the host market is more mature, and the transaction costs are lower. Thus, foreign investors will invest more. Thereby more participants in the market, increasing risk-sharing as well as reduce the cost of capital.

2.4.2.2 Determinates of equity foreign bias

Several factors such as general economic condition, legal and political stability, market size, geographic location, and comparative advantages of investing affect foreign investors' decisions to invest abroad. Foreign investors are less likely to be conversant with the host country's market conditions, which also involve the cost of obtaining the required information. Investing in foreign markets may involve additional costs such as transaction costs, stamp duty, taxes. In addition, there are several risks associated with global policy and foreign currency exposure.

Existing literature explores the explanation for equity foreign bias and finds that the key determinants among other factors are information asymmetry (see; Gehrig,1993; Brennan and Cao,1997, Ahearne et al., 2004, Bae et al., 2008) transaction cost (see; Stulz and Wasserfallen, 1995; Tesar and Werner, 1995; Obstfeld and Rogoff, 2000; Glassman and Riddick, 2001; and Warnock and Cleaver, 2003) stock market development (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012), governance and investor protection (see; Shleifer and Vishny, 1997; La Porta et al. 1997; Dahlquist et al. 2003; Warnock and Warnock, 2009; and Thapa and Poshakwale, 2012) capital control (see; Errunza and losq 1985; Gordon and Hines,2002; and De Fiore and Tristani,2013) and macroeconomic factors such as interest rate, inflation, and exchange rate (see; Agarwal,1997; Mody et al. 2001; Fidora et al. 2007; Khurana and Michas, 2011; and Mishra, 2011 & 2014)

Transaction costs are vital to investors because they are one of the key determinants of net returns. Stulz and Wasserfall (1995) demonstrate that the deadweight cost (including information costs) generates different demands for domestic shares between home and foreign investors. Therefore, retaining highly volatile assets differs among investors and across countries. Brennan and Cao (1997) suggest that there is little doubt that such asymmetry persists for ordinary (individual) investors in different countries. In contrast, the claim for information asymmetry is weak for institutional investors. They observed that Investors will underweight countries with higher transaction costs in their portfolios because investors prefer to invest in countries with low transaction costs. On the other hand, existing literature explains that transaction costs, among other factors, are a determinant of foreign bias (see: Tesar and Werner, 1995; Glassman and Riddick, 2001; and Warnock and Cleaver, 2003).

Inflation, interest rates, and currency exposure, among other macroeconomic factors, greatly impact foreign equity bias. Obstfeld and Rogoff (2000) investigate the effects of introducing the cost of a trade. They show that trading cost variance is sufficient for generating an exceptionally high and realistic level of bias in home portfolios under plausible assumptions. Along with equity home bias, macroeconomic variables such as inflation and exchange rates significantly influence foreign bias. By examining the relationship between equity return and inflation, Agarwal (1997) argues that portfolio investors prefer to invest in a country with higher returns and lower inflation. Similarly, Mody et al. (2001) argue that rising inflation leads to a decline in foreign portfolio investment. By analysing the bias among Australian portfolio investors, Mishra (2011) and Mishra (2014) claim that real exchange-rate volatility is a crucial factor that has a significant effect on integration to the global financial market of Australia. The additional risk to foreign securities holdings encourages investors to have a bias towards domestic financial assets. These findings are consistent with the results of Fidora et al. (2007), which emphasise that portfolio home bias is caused by real exchange-rate volatility. By considering the economic growth of a country, Khurana and Michas (2011) claim that the country's economic development relies on comparative foreign investment inflows to the country and impacts equity home and foreign bias. They argue that owing to exchange rate volatility. Investors have a

tendency to minimise the optimal weighting of foreign assets in their portfolios. In other words, exchange rate volatility influences home bias. Apart from this, institutional quality, governance, and investor protection are also critical aspects of foreign bias. Emphasizing the investor's protection and governance, Dahlquist et al. (2003) argue that investor protection and governance positively influence the degree of global portfolio diversification. Similarly, Warnock and Warnock (2009) argue that weak institutional performance and insufficient protection of investors, which cannot attract foreign portfolio investors, leads to a lower degree of foreign bias in portfolio investment. In addition, Kho et al. (2009) argue that governance affects equity home and foreign bias either directly or indirectly. They also argue that there seems to appear a higher degree of insider trading as a result of poorer governance, which restricts foreign investors' portfolio diversification. Thapa and Poshakwale and (2012) argue that policymakers should encourage foreign investors to participate in foreign portfolios by enhancing the efficiency and effectiveness of legal protections offered to foreign investors. Capital movement and liberalisation is seen as a primary element that promotes foreign bias. Many countries use capital controls to protect national sovereignty. Based on a cross-examination, Errunza and losq (1985) emphasise that capital controls regulation is an obstacle that influences investors' preferences and leads them to invest in home markets rather than international capital markets. De Fiore and Tristani (2013) argue that capital controls that decrease foreign capital flows into a host country may be advantageous to certain countries but inhibit investors from the opportunity to participate in global capital markets and spread risk among investors. Emphasizing the significance of the cross-border capital flight, Gordon and Hines (2002) show that domestic investors would seem to be foreign. Therefore, the reported portfolios should have a foreign bias rather than a home bias. Existing research suggests that investors are less likely to invest in countries with weak investor protection rules. A study by La Porta et al. (1997, 1998, 2000) claims that more sophisticated capital markets are linked with stronger investor protection. Both capital market development and economic growth influence foreign bias. Capital market development accelerates not only investment but also economic growth. According to Levine and Zervos (1998), capital market development and long-term growth have a good and strong relationship.

2.4.2.3 Effects of equity foreign bias

Foreign bias is adversely affected by information asymmetry, inflation, currency risk, transaction costs and capital controls that prevent investors from various advantages. Foreign investors exploit the benefits of financial globalization rather than clinch with the domestic market. Through investments in global portfolios, investors will diversify investment risk, spread currency exposure, and gain the market cycles of different countries. International portfolio investment offers investors an opportunity to engage in foreign portfolio diversification, due to which investors will achieve a higher risk-adjusted return. In addition, a host country benefits in various ways, such as the influx of new capital flows into the host country's economy, creating opportunities for employment, rapid economic growth, capital market development, and financial inclusion in a host country globalised world economy.

Previous studies suggest that foreign bias comes with financial globalization and reduces the cost of capital for companies. Errunza (2001) argues that foreign portfolio investors have a good influence on the growth of local capital markets and contribute to domestic economic growth. Highlight the role of investment in a foreign equity portfolio. He argues that it is important for policymakers in the host country to recognise the elements that influence global investors' decisions on portfolio allocation to the host country. Moreover, employing the models of foreign asset pricing under market segmentation, demonstrates that market segmentation has a negative impact on capital market size and liquidity. Segmentation makes capital markets very small and inactive. Consequently, only local investors hold the stakes of domestic firms. Errunza and Losq (1985) propose that constraining foreign investors from buying securities in a segmented country would result in securities trading at a premium to the degree that securities of investors home market span them. Further, Errunza and Losq (1989) claim that controlling capital flows makes it difficult for investors to build a global portfolio to minimise portfolio risks. Eliminating investment barriers by accomplishing financial liberalisation would also contribute to a rise in the overall market value of securities. Stulz (1999) argues that financial liberalisation leads to an increase in the aggregate amount of available funds in a country. Hence, more investors are willing to lend money through equity purchases, and that generates competition between fund providers. As a result, both transaction cost and the cost of capital would be reduced. Kwabi et al. (2016) claim that investment by foreign investors (overweight) in relation to theoretical forecasts in a country will lead to a lower cost of capital. They also noted that the development of capital markets and the protection of investors are essential to attracting foreign investors. This is why foreign bias provokes governments to improve the stock market and enhance investor protection to maintain economic growth. By examining the significance of implied investment obstacles to cross border asset flows, Bekaert (1995) shows that insufficient market information and friction negatively impact foreign investment, such as ineffective settlement processes, poor accounting standards, and weak investor protection. Volosovych (2006) demonstrates that the investor protection index is a major determinant of the approximate amount of risk-sharing within a multilateral setting. The main advantages of foreign bias are investment diversification as well as spread risk among investors. Sørensen et al. (2007) claim that foreign equity bias leads to greater participation and sharing risk between domestic and foreign investors. Likewise, Obstfeld (1994) argues that equity foreign bias improves economic growth in a country, facilitates global risk-sharing and improves resource allocation. On the other hand, Greenwood and Smith (1996) claim that the development of capital markets decreases the cost of mobilising savings, fostering investment in extremely efficient technologies.

Furthermore, a number of studies demonstrated that , foreign capital flows support an economic growth of the country. Goldstein and Razin (2006) claim that, foreign capital is more likely to boost economic growth. Foreign capital affects host economies through several routes, influencing market structures and consequently effects on competitiveness and employment (Lipsey, 2002). Albulescu (2015) argue that both direct and portfolio investments have an impact on long-term economic growth.

2.4.2.4 Equity foreign bias and central bank independence

Most of the central banks have a keen interest in a healthy and sustainable capital market. It provides the real economy with an efficient fiscal mechanism that promotes economic development, financial stability, and risk allocation, which are also the central bank's core priorities. The central bank typically regulates inflation, money supply, and price stability. Often the central bank has a dynamic influence on inflation, either by injecting capital into the economy or by extracting additional funds, thereby increasing the volume of money in circulation and reducing the interest rate (cost) for borrowing. The assumption is that an independent central bank has a favourable effect on foreign equity bias.

Current literature suggests that the central bank policy and action influence the macroeconomic condition in a country, which impacts the whole economy and the capital market. For example, inflation reduces purchasing power and increases living costs, which, in turn, also affect stock prices. Inflation also reduces the expected net present value, implying that stock prices and returns for investors will decline. De Mendonça and de Guimarães e Souza (2012) argue an association between interest rate fluctuations and credibility to achieve the targeted inflation rate. They observe that the differences in the short-term rate of interest from the inflation targeting depend on the government's fairness in a country. The shift in the interest rate in the short term significantly affects investment decisions and several economic factors, such as the real cost of capital, deposit, credit, currency, and asset returns. They also noted that low and stable inflation, combined with higher portfolio returns, encourages more international portfolio investors to invest in a host country. However, higher inflation is tending to contribute to additional volatility in the capital market. Examining the relationship between inflation and exchange, Agarwal (1997) reveals that inflation and the exchange rate negatively affect foreign portfolio investment. In this line, Fidora et al. (2007) suggest that real exchange rate volatility accounts for around 20% of fluctuation in bilateral home biases. Mody et al. (2001) suggest that a rise in inflation contributes to a fall in foreign portfolio investment. Moreover, Broner and Rigobon (2004) argued that economic growth is a strong predictor of financial market volatility, implying that improving financial markets may help to reduce the volatility of capital flows. Kraay (1998) suggests that liberalised economies may be unlikely to have a relatively low inflation rate effect. Rai and Bhanumurthy (2004) argue that foreign portfolio investment is adversely related to inflation in the investors home country (domestic inflation). They claim that higher returns in a host country and the inflation in investors' home country motivate cross-border investment. Therefore, foreign investors relocate their investment to the host country (foreign bias).

Existing literature suggests that operations and strategies by an independent and transparent central bank lead to reduced volatility in the exchange rate and may ensure a more stable capital market that is important for attracting foreign investors. The level of the central bank's independence may also strengthen the traditional objective of financial stability that is crucial to support global capital flows in a host country. However, the direct impact of central bank independence on foreign bias is yet to be explored.

2.4.2.5 Equity foreign bias and central bank transparency

Strong and efficient capital markets are important for economic growth. Also, capital markets provide a significant source of funding for the real economy that helps and promotes economic growth, diversify risks, and sustains financial stability. Hence central bank in a country has a vested interest in the capital market. It is assumed that a transparent Central Bank is supposed to provide relevant information on their strategies, policies and processes to the investors and markets clearly, consistently and on time. Central bank transparency may attract foreign investors by providing relevant information through their credible and efficient monetary policy.

Existing literature suggests that the central bank's transparency has explicitly or implicitly influenced the capital markets in a country. Eijffinger and Geraats (2006) demonstrate that transparency affects inflation and the actions of investors in the financial markets. Examining the relationship between the stock index and inflation, Reeves and Sawicki (2007) argue that the market index volatility of FTSE 100 is declining as a result of the release of the inflation report. Lunde and Zebedee (2009) investigate the influence of monetary policy actions on the stock market. They demonstrate that market volatility appears to be higher in the days following monetary policy decisions. However, market volatility is comparatively lower in the days preceding monetary policy decisions. Hussain (2011) argues that monetary policy decisions have a substantial effect on stock index results, and the volatility of the returns appears to have an immediate and substantial effect. Papadamou et al. (2014) suggest that stock market volatility can be greatly minimised with the effect of transparent monetary policy, thus recommended to instrument transparency monetary policy to gain substantial benefits of enhancing financial stability.

Current literature demonstrates that the conventional objective of financial stability can be strengthened by a higher degree of transparency in monetary policymaking. And monetary policy transparency will significantly reduce stock market volatility, attract foreign investment and, in turn, increase foreign bias. However, the direct impact of central bank transparency on foreign bias is yet to be explored.

2.4.3 Gaps in the literature on equity home and foreign bias, and central bank

Existing literature reviews show the prevalence of macroeconomic and country-level factors influencing capital markets and investor decisions. However, empirical research on the influence of central bank independence and transparency on equity home bias and foreign equity bias is limited. The second empirical chapter examines, in particular, the effects of independence and transparency of the central bank on equity home and foreign equity bias.

As recommended by the international capital asset pricing model (ICAPM), global investors should keep their stake in the world market as a benchmark in their portfolio, which provides the highest mean efficiency of variance (see; Tesar and Werner, 1995; Solnik and McLeavey, 2004; Chan et al., 2005; and Fidora et al., 2007). According to the ICAPM, the declining degree of home bias in portfolio allocation enhances and

promotes the benefits of global risk-sharing among participating investors in the market. Similarly, as recommended by ICAPM, the rise in foreign bias by foreign investors against a specific host country could also have a positive impact on sharing of risk globally. The capital market of a host country may integrate into the global capital market as a result of increased global divergence of home investors (i.e., declining home bias) as well as an increase of foreign investors portfolio diversification (i.e., increasing foreign bias).

Existing literature examines the causes of equity home bias and concludes that the primary determinants, among other things, are stock market development (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012), information asymmetry (see; Gehrig,1993; Ahearne et al., 2004; and Bae et al., 2008), and investor protection (see; La Porta et al. 1997; Shleifer and Vishny, 1997; Lombardo and Pagano,1999; and Giannetti and Koskinen,2004). Similarly, a number of existing literature explores the explanation for equity foreign bias and finds that the key determinants among other factors are information asymmetry (see; Gehrig,1993; Brennan and Cao,1997, Ahearne et al., 2004, Bae et al., 2008) transaction cost (see; Tesar and Werner, 1995; Stulz and Wasserfallen, 1995; Obstfeld and Rogoff, 2000; Glassman and Riddick, 2001; and Warnock and Cleaver, 2003) stock market development (See; Levine and Zervos, 1996; Chan et al, 2005; and Thapa and Poshakwale, 2012), governance and investor protection (see; Shleifer and Vishny, 1997; La Porta et al. 1997; Dahlquist et al. 2003; Warnock and Warnock, 2009; and Thapa and Poshakwale, 2012) capital control (see; Errunza and losq 1985; Gordon and Hines,2002; and De Fiore and Tristani,2013) and macroeconomic factors such as interest rate, inflation, and exchange rate (see; Agarwal,1997; Mody et al. 2001; Fidora et al. 2007; Khurana and Michas, 2011; and Mishra, 2011 & 2014,). However, relatively little research has been carried out to examine the relationship between central bank independence and transparency and equity home bias and equity foreign bias.

2.5 Literature review for third empirical analysis: **Impact of independence and transparency of central bank on debt home and foreign bias.**

2.5.1 Chapter overview

A review of the literature for chapter 8 (independence and transparency of central bank and debt home & foreign bias) is provided in this section. We are motivated to undertake empirical studies in chapter 8, as a result of the adverse effects of debt home and foreign bias that inhibit portfolio diversification as well as the significance of global bias that maximizes sharing risk among cross country investors.

This chapter examines the interaction and the influences of independence and transparency of the central bank on debt home bias and debt foreign bias. Existing literature explains the prospective gains from holding foreign bonds in the portfolios (see; Levy and Lerman, 1988; Jorion, 1991; and Levich and Thomas, 1993) on holding foreign bonds along with home bonds in the portfolio (see; Branson and Henderson, 1985; Obstfeld, 1994; Lewis, 1996; and Lane, 2001). However, home bias prevents portfolio diversification benefits. Existing research demonstrates that a country's cost of capital can be reduced by reducing the degree of home bias (see; Lau et al., 2010). On the other hand, Sorensen et al. (2005) and Heathcote and Perri (2004) argue that foreign bias in a country may increase market participants and promote risk-sharing among domestic and foreign investors. A review of existing literature shows that few studies explicitly examine the impact of central bank independence and transparency on debt home bias and debt foreign.

2.5.1.1 Debt home bias (*DHB*)

The preference of investors for domestic assets over international assets is commonly referred to as home bias. This is considered to be a global capital market phenomenon. The term "home bias" refers to overinvestment in the domestic capital market compared to the investment benchmark to the global capital market suggested by portfolio theory (see; Dalquest et al. 2003; and chan et al., 2005). In this study, we emphasise the bond bias as the debt home bias. Home bias is caused by a lack of information on foreign investment and a vulnerability to the perceived uncertainty of the foreign market. Home bias segmented the capital market, thereby hindering from benefits of portfolio diversification and sharing risk. While investigating how investors allocate their investment to domestic and foreign capital markets in the case of mutual funds, Chan et al (2005) show that investors allocate a disproportionately large amount of their investment to domestic assets in their own country, indicating a home bias in portfolios. Fidora et al (2006) claim that bond home bias is more apparent than equity home bias by differentiating bond and equity home bias. This conclusion is consistent with employing Markowitz-type (Markowitz ,1952) ICAPM model which suggest that financial assets with lower underlying volatility supposed to have a higher home bias. Markowitz-type international capital asset pricing model (ICAPM) that incorporates real exchange rate volatility as stochastic deviations from PPP (purchasing power parity).

2.5.1.2 Determinates of debt home bias

Existing literature shows that debt home bias is explained by the factors, among others, information asymmetries (see; Amadi, 2004; Massa and Simonov; 2006 and Berkel, 2007), transaction costs (see; Burger and Warnock, 2003; and Burger and Warnock, 2007), market development (see; Campa and Fernandes, 2006; Lane and Milesi-Ferreti, 2008), investor protection (see; La porta et al., 1997; and Burger and Warnock, 2003) , and influence by the function of non-tradable to hedge idiosyncratic risk and behavioural financing disparities across the countries.

A strand of the literature demonstrates that the plausible argument for debt home bias includes capital control (see; Ferreiraa and Miguel, 2011), currency risk exposure (see; Levich and Thomas, 1993; Burger and Warnock, 2003, Fidora et al., 2007) and inflation (see Burger and Warnock, 2003). By investigating the cross-border bond portfolio of Australian investors, Mishra and Contech (2014) demonstrate the countries that have effective governance, regulatory efficiency, the rule of law, better institutional quality, including bureaucratic quality, accounting standards and contract protection are able to attract more investors. Burger and Warnock (2003) argue that countries with more transparent capital accounts and higher bond yields are linked to higher portfolio returns while investigating the home bias of US investors in their foreign bond portfolios. A further study investigates countries' ability to attract US investors to their domestic bond markets. Burger and Warnock (2007) argue that US investors often keep very little of their portfolios in local currency bond markets, particularly capital markets in developing countries. Characterized by three moments CAPM, they show that local currency bonds have historically significant volatility in returns, and thus local currency bonds are not appealing to US investors. They also find that U.S. investors ignore diversifiable, idiosyncratic risks, implying home bias in portfolios. Eichengreen and Hausmann (2005) argue that, due to developing countries' incapacity to attract foreign investors, investors prefer dealing with foreign currency bonds. Differentiate home bias in equity and bonds. Fidora et al. (2007) claim that bond home bias is more common compared to equity home bias. Employing their benchmark model, they claim that volatility of real exchange rate contributes more to real asset variance in the case of lower-yielding foreign assets. In addition, they show that across countries, differences of real exchange rate fluctuations are around twenty per cent between stock and bond home biases. Investigating foreign holdings in Asian bond markets, Horioka et al. (2016) claim that foreign investors are attracted by lower exchange rate volatility and higher risk-adjusted returns. Examining the consequences of real exchange rate fluctuations in the foreign bond and stock portfolios, Fidora et al. (2007) argues that the home bias in global financial markets can be explained by real exchange rate volatility. They also argue that home bias can be decreased by maintaining financial stability, especially for bond portfolios, as a result of a reduction in real exchange rate volatility. Burger and Warnock (2003) argue that larger markets for local currency bonds in a country are associated with better inflation performance and stronger institutions. They also claim that the country with poor credit scores or further downgraded credit scores is unable to retain and attract global portfolio investors.

Familiarity and information asymmetry play a crucial role in an investor's debt preference. Despite the well-documented advantages of portfolio diversification, domestic investors prefer to invest in their own country rather than cross-border. On the other hand, foreign investors consider that cross-border investment involves higher costs and complications., such as legal restrictions, cost of gathering information and transaction cost. Consequently, existing literature suggests that information asymmetry is a key determinant in debt home bias. For example, in their study of aggregate bond flows between the United States and forty other countries, Portes et al. (2001) suggests that dealing with corporate bonds investors requires a wider understanding of corporate culture, political trends, accounting standards, and existing market conditions in the host countries. Gehrig (1993) shows that information asymmetries can explain home bias while comparing investment on one domestic and one foreign asset. Errunza (2001) argues that domestic investors know more about their local markets than foreign investors. Therefore, such informational asymmetry results in a home bias, which leads to a higher cost of capital.

Public debt, sovereign credit rating and nationalism have also determined debt home bias. Investigating the disparities in determinants of bond and equity portfolios, De Moor and Vanpee (2013) demonstrate that bond home bias rises when public debt rises, implying that the global bond market is fundamentally supply driven as a result of more sovereign debt issued by a government, increasing debt home bias and decreasing debt foreign bias. They emphasise that factors that influence exclusively bond investment, such as sovereign credit rating and bank credit availability, and patriotism hinder foreign investment, thus overbilling domestic bonds. Pradhan (2016) Empirical research demonstrates that avoiding uncertainty in unfamiliar foreign markets and patriotism leads to home bias in bonds portfolio. They observed that patriotism investors hold a large investment in domestic debt securities compared to a smaller amount of investment in foreign debt markets.

The level to growth and maturity of the bond market in a country is determined to attract and retain prospective domestic investors as well as foreign investors. Mature and larger bond markets are associated with greater liquidity and lower exchange rates volatility. A developed bond market attracts investors, which also enhances market credibility. Moreover, foreign investors are attracted by the consistently developing bond market, which is supposing to reduce bond home bias. Burger and Warnok (2003) show that emerging markets can develop local bond markets and attract global investors by adopting creditor friendly policies. They also noted that there is greater bond market development in countries with more stable policies (as evidenced by more stable inflation) and stronger institutions. La Porta et al. (1997) suggest that the bond market's development is positively related to the rule of law. Levine and Zervos (1996) demonstrate that larger capital markets (compared to the real economy) are more likely to have higher liquidity, lower financial intermediation costs, and more investment opportunities.

2.5.1.3 Effects of debt home bias

Globalization is supposed to increase cross border capital movement and foreign portfolio investment to gain on the advantages of portfolio diversification and risk-sharing. However, existing literature shows that the portfolio investors are disproportionately and largely investing in domestic assets, in other words, causing a home bias in the portfolio. Therefore, investors are unable to take the opportunity of portfolio diversification and sharing risk with investors around the world. The portfolio theory suggests that the lower cost of capital is linked with a lower level of home bias. For instance, Stulz (1999) claims that financial globalization affects the home bias and the cost of capital in a country. At the 2005 meetings of the American Finance Association, Stulz, as president, stated that financial globalization supported global risk-sharing.

Existing literature demonstrates that home bias is disadvantageous and hinder portfolio investors from potential gains such as diversification and risk reduction. Supporting the potential benefits of diversification and review of U.S. investor bond portfolio data over the 20 years, Levy and Lerman (1988) argue that instead of limiting their portfolios into domestic bonds, U.S. investors could have improved performance of their portfolio by 3 to 5 per cent a year by diversifying their portfolios globally. Burger and Warrnock (2007) claim that local currency bond market returns in emerging countries are characterised by high volatility and negative skewness (i.e., associated with higher expected return), keeping U.S. investors out of those less developed markets even though there are diversifiable potential risks. Appears lucrative however that perhaps to attract foreign investors and macroeconomic volatility and instability of these country could not be achieved desired return. They further suggest that by minimising macroeconomic volatility, countries can support more foreign market participation, leading to a decrease in home bias and enhanced risk diversification. Emphasizing the consequences of analysing portfolio diversification in the mean-variance framework, Jorion (1985) shows that traditional assumptions overestimate the extent of possible gains in average returns. He suggests a conservative estimate of expected returns, which shows that most diversification benefits are likely to increase risk reduction. According to Lau et al. (2010), by lowering the level of home bias, a country can boost market participation and support the spread of investment risk across investors, reducing the country's cost of capital. They also claim that the degree of home bias among countries determines global disparities in the cost of capital.

Rising global diversification (i.e., lowering home bias) of domestic investors in a country and increasing diversification (i.e., rising foreign bias) of foreign investors would integrate the capital market of the host country into the global capital market. As a result, decreased market segmentation increases portfolio diversification, more market participants to sharing risk, thereby lowering capital cost.

2.5.1.4 Debt home bias and central bank independence

Independence of the central bank referred to those policymakers who are free from any apparent political or governmental interference to the preparation and execution of monetary policy. Even though rising interest

rates have political costs, an independent central bank is supposed to cut inflation without undermining growth and employment or maintaining financial stability.

Existing literature suggests that through monetary policy, the independence of central banks and debt securities are interconnected. Through debt management, the central bank's macroeconomic goals may have an influence on long-term interest rates. As a result of rising interest rates, bond yields are declining; however, rising bond yields. Kuttner (2006) mentioned three distinct strategies that the central bank can employ to control long-term bond yields. First, the central bank makes announcements to control expectations of potential short-term rates of interest (i.e., open mouth operation). Second, the central bank sets particular bond pegs or thresholds on bond yield. Finally, through open market operations in long-term securities, it influences the relative amount of long-term debt in the hands of private-sector investors. Suggesting constructive cooperation between monetary and debt management policies, Tobin (1963) argues that the government periodically adjusts the debt maturity structure to minimise its net cost while at the same time retaining the necessary constraint on aggregate demand, compromising, and balancing with the federal reserve and the treasury.

Usually, the bond yield primarily consists of two elements. These are credit spread and interest rates. The credit spread relevant with individual issuers reflects the associated idiosyncratic risks. On the other hand, the interest rate for all bonds denominated in a given currency is the base rate and compensates investors for their default economic risks. In addition to interest rates, portfolio investors also pay close attention to inflation projections. Increasing inflation erodes the value of bonds as interest rates stay sluggish or rise and making their coupon payments less appealing, thus leading to an increase in debt home bias.

It is assumed from the literature review that there is a link between central bank independence and debt home bias. However, the influences of central bank independence on debt home bias are yet to be investigated.

2.5.1.5 Debt home bias and central bank transparency

Probably, the credibility of central banks and their transparent mandate to sustain price stability would greatly lead to reducing speculation regarding potential inflation. Thus, that bond yields are greatly affected by a transparent monetary policy that also affects investor perceptions and investment decisions. Controlling inflation expectations has become a key element in monetary policy due to the rapid growth and globalization of financial markets. The ability to regulate those expectations affects monetary policy effectiveness. A study by Issing (2005), there are several benefits from stability and efficient monetary policy that effectively steer market expectations, that reduced market volatility, improved market participant planning, lower interest rate volatility, and many other benefits

Monetary policy has a substantial influence on the volatility of bond returns, in particular policy from a transparent central bank. De Goeij and Marquering (2006) demonstrate that the bond market absorbs the effects of macroeconomic announcements and news more rapidly than any other information, and monetary

policy tends to affect the short-term volatility of bonds. Examining the responses of the bond market, the currency market, and the stock exchange, Ranaldo and Rossi (2010) claim that interviews, speeches, and monetary policy announcements may cause a significant price response. Eijffinger and Van der Cruijsen (2007) find that the countries associated with less central bank transparency have a significant, positive relation between inflation expectations and persistence of inflation. They also show that greater transparency is correlated with less persistence of inflation, and transparency helps to fine-tune expectations of inflation in the private sector. Analysing the Federal Reserve's announcements of unconventional monetary policy measures between 2008 and 2012, Berndt and Yeltekin (2015) show that macroeconomic stabilisation is correlated with a significant rise in returns and debt-to - GDP ratios and has led to fiscal imbalances.

Existing literature shows that monetary policy announcements and speeches have an impact on investor decisions and imply a relationship between central bank transparency and debt home bias. A transparent monetary policy will build confidence among investors and attract more foreign investors and, as a result, reduce debt home bias. However, there is no sufficient study that particularly examines the effect of transparency of central banks on the debt home bias.

2.5.2.1 Debt foreign bias (*DFB*)

The allocation of investors to foreign assets over the domestic market is simply referred to as foreign bias. Debt foreign bias refers to the fact that investors are either overweight or underweight in their international bond portfolio investments as compared to their domestic bond portfolio investments (see; Dalquist et al., 2003; Chan et al., 2005). According to the International Capital Asset Pricing Model (ICAPM) assumptions, cross-border portfolio investors should maintain the benchmark of country portfolio allocation. However, existing literature suggests that investors disregard the traditional prediction of ICAPM and invest disproportionately among countries that are either underweight or overweight relative to the suggested optimal benchmark due to constraints on foreign investment (see Cooper et al., 2012). Such sub-optimal portfolio allocation is characterised as a foreign bias in cross-border investment. A study by Adler and Dumas (1983) claim that the covariance between the return on the global market portfolio and the return on that country's tradable assets is used to calculate the expected return on a country's tradable assets, assuming that there are no restrictions on foreign investment and that the market is completely connected with global markets. It, therefore, suggested that a higher level of foreign bond bias (i.e., over-allocation vs benchmark) towards foreign market could improve market integration, raise cross-country investor participation, and promote global risk-sharing of domestic assets, resulting in reduced cost of capital (see; Stulz, 1999).

2.5.2.2 Determinates of debt foreign bias

The study examining of the factors affecting bond home bias and foreign bond bias on portfolio allocation, Ferreira and Miguel (2011) show that the countries have a mature bond market, characterized as lower levels of debt home bias are associated with higher economic growth, lower exchange rate volatility, judicial

efficiency, and free flow of information. As far as cross-border portfolio allocation is concerned, investors often tend to allocate most of their portfolios to countries with well-integrated bond markets, efficient regulatory frameworks, lower capital controls and lucrative historical returns. Familiarity is often commonly observed to be a significant determinant that inhibits foreign bias. Familiarity factors consist, among others, of common language, geographical proximity, and bilateral trade. Investigating US investors' foreign bond investments in fifty countries, Burger and Warnock (2003) claim that portfolios of U.S. investors substantially overinvestment towards the home bond market. They argue that countries have more open capital accounts and stronger bond returns attract more US investors. Researchers further argue that U.S. investors prefer and hold more stakes in U.S. dollar-denominated foreign bonds than in local currency bond markets.

The degree of economic growth of a country can affect its capability to attract foreign investment to the country. Domestic and foreign bond biases determine the measurement of factors by domestic and foreign investors, even if a country's economic growth has similar or different consequences. More foreign investors would be attracted by the country's growth and allocate their portfolio and economic development would help reduce foreign investors' deadweight costs. Providing a comprehensive analysis of bilateral trade and portfolio investment, Lane and Milesi-Ferreti (2008) argue that there is an obvious link between bilateral equity investment and trends in goods and services trade. They argue that countries with more mature capital markets have higher foreign equity and debt investments in terms of overall value. They also claim that the extent to which the country's bond market expands is expected to have an effect on both domestic and foreign investors. The mature bond markets are more liquid and have lower transaction costs, which also increase the integrity and credibility of the market, thereby attracting domestic and foreign investors. Burger and Warnock (2003) argue that the growth of local bond markets would attract more foreign investors. They show that investors from the United States have shifted from relatively new bond markets to more mature bond markets. They also suggest that foreign investors are tempted by the growth of the local bond market.

The degree of international diversification can be promoted further if the investors come across to deal with global markets. Domestic bias rises in a country where investors who are less often informed domestic investors favour domestic assets as well. Commonly, familiarity bias can be regarded as an inexpensive source of bias in the information that inhibits diversification. Familiarity or similarities bias is a determining factor of foreign diversification, suggested by a number of studies. Aharne et al. (2004) indicate that overseas stocks listed on U.S. stock exchanges are strongly associated with U.S. investor holdings of foreign equity portfolios. Foreign securities listed in stock exchanges in the U.S. may be either directly or as American Depositary Receipts (ADR). Their findings suggested that foreign companies listed on the stock exchange in the U.S. could lower the investors' costs of information and information asymmetries because foreigners require and provide standardised and credible financial information to list in the U.S. stock exchanges. Massa and Simonov (2006) argue that familiarity is driven by the fact that supporting investors to receive better

returns compare to that could achieve by hedging. Thus, they claim that familiarity would not be a behavioural bias. Whereas Amadi (2004) argues that there are solid, evidence-based effects of familiarity or similarity on global portfolio diversification.

Investor protection and institutional quality are significant determinants of diversifying portfolios globally. Investors are reluctant and not attracted to a market where the market is poorly regulated, and investors and minority interests are not protected. A study by La Porta et al. (1997) argues that a country with a lower degree of investor protection and a lack of appropriate depth and breadth of market offers leads to a less sophisticated and complicated capital market. They also added that small and undeveloped capital markets are correlated with a low level of investor protection. Likewise, Bae et al. (2006) argue that countries that safeguard investors' property rights support encouraging more overseas investors to invest in a host country's bond market. They claim that lower levels of deadweight costs in a host country are associated with higher levels of protection of foreign investors, leading to increased foreign bias. Burger and Warnock (2003) argue that generating a higher market for local currency bonds could be supported by better inflation performance and efficient institutions in a country. They also claim that courtiers with poor credit scores and subsequently low credit ratings are disappointing the investor; therefore, foreign investors turning away from a host country. By examining the relationship between home bias and governance, Daly and Vo (2013) demonstrate that improving institutional and legal environments, better accounting standards, and less corruption in that particular country can attract more foreign investors in their market.

Existing literature demonstrates that foreign biases in portfolio investment are constraining in many countries due to financial and political uncertainties and macroeconomic imbalances. Foreign investors often experience additional deadweight costs due to this diplomatic, financial, and macroeconomic insecurity, such as information and transaction costs (see; Bekaert et al. 2014; Afonso et al. 2015). For instance, potential shocks in the bond market due to their failure to manage budget deficits within agreed-upon limits in Eurozone countries resulting in a deadweight cost for investors. Moreover, foreign investors are discouraged by higher country risk and abstain from making investments in certain eurozone countries, contributing to a decline in foreign bias.

Higher restrictions on capital control in the host country prevent foreign investors from participating in the market in that country (see; Ahearne et al., 2004). Yet the extent of transparency varies from one country to another, though capital controls gradually withdraw from many countries over the last few decades (see; McLeavy and Solnik 2014). This suggests that removing capital account barriers and constraints on capital flows would encourage foreign investment in a specific country, resulting in foreign bias (see; Chan et al. 2005; and Forbes 2010). Consequently, increased capital transparency is expected, along with an increase in foreign bias. Similarly, Edison and Warnock (2003) claim that barriers to international capital flows can impede the allocation of foreign assets, particularly in emerging markets.

2.5.2.3 Effects of debt foreign bias

A strand of literature examines the potential advantages of diversification and risk-sharing by holding cross-border bond portfolios (see; Levy and Lerman, 1988; Jorion, 1991; and Levich and Thomas, 1993) by investors holding domestic and foreign bond portfolios (see; Branson and Henderson, 1985; and Lane, 2001) as well as global bond trading (see; Obstfeld, 1994; and Lewis, 1996).

Examining factors affecting foreign bias, Ferreira and Miguel (2011) argue that rising economic growth, stronger bond market development, less capital controls, greater historical returns, and increased judicial system efficiency are positively correlated with foreign bias in portfolio investment in the host country. Examining the relationship between foreign bias and risk diversification, Sorensen et al. (2007) argue that reducing home bias in bonds and stocks portfolios enhances risk-sharing between domestic and foreign investors and raises foreign bias in the host country. Foreign asset holdings allow countries to achieve macroeconomic income and consumption smoothing. They also noticed that countries with more foreign bias appear to achieve greater risk-sharing in global markets. In addition, Bekaert and Harvey (2000) find that financial globalization decreases the cost of capital, although the reduction is smaller than the theoretical assumptions that can be due to foreign bias.

The existing studies suggest that familiarity leads to information asymmetry among investors, importantly macroeconomic factors of a country have an impact, triggering home or foreign bias in a portfolio that set up the difference in the cost of capital across countries. By developing a theoretical model, Easley and O'Hara (2004) demonstrate that information may be asymmetric although investors know about all assets. In their model, private information represents a new type of systemic risk, with investors preferring larger returns for holding stocks with more private (and comparatively less public) information. Their model predicts that firms' cost of capital would be substantially influenced by comparably better private information. Hail and Leuz (2006) demonstrate that variances in the cost of capital among countries are closely tied to global differences in the performance of legal institutions and securities exchange legislation.

It is well documented that the conceptual framework for sub-optimal foreign investment and cost of capital (see; Lewis, 1999). Sub-optimal investment is referring to as domestic or foreign bias, as investors overweight their (home bias) domestic market in a (foreign bias) foreign market. On the other hand, the market is either overweight or underweight in compared to the established theoretical benchmark or global weight. At the same time, over-investment (foreign bias, i.e., over-allocation vs benchmark) towards the foreign market may increase risk-sharing globally and enable higher market integration, eventually reducing the cost of capital (see; Stulz, 1999).

Foreign bias refers to the allocation of overweight or underweight portfolios to foreign markets by investors against the overall market capitalization benchmark. Existing literature suggests that foreign bias in portfolio allocations would integrate the global markets with the domestic capital market, thus increasing risk-sharing

among participants investors. Furthermore, a larger extent of foreign bias is associated with low cost of capital.

2.5.2.4 Debt foreign bias and central bank independence

The central bank has a substantial impact on a country's macroeconomic conditions. Interest rates, inflation, economic growth, and the yield curve are the macroeconomic variables that affect bond yields. Interest rates are likely to be slashed as growth concerns begin to outweigh inflationary concerns, putting downward pressure on corporate bond yields. In such circumstances, certain securities with higher yields may be more attractive as the risk-free rate of return falls. Monetary policy greatly affects bond yields. At its heart, monetary policy is about deciding the interest rates, which determine the rate of risk-free return and dividend yield. Existing literature suggests that foreign bonds can yield higher than domestic bonds (see Brennen and Cao,1997; Amadi,2004; Levy and Larman, 1988), which can diversify the portfolio. However, these benefits should be weighed against the risk of loss from adverse volatility currency, which can substantially negatively affect overall foreign bond returns. Existing literature suggests a connection between a country's monetary policy and market bond yields, which influences investor decisions. Studies suggest that an independent central bank's monetary strategy could help maintain financial stability and attract more international investors.

A welfare-maximizing monetary policy goal aims at a mutual output and inflation stabilisation. Monetary policy affects real activity in the production sector because of theoretical rigidities in an environment of monopolistic rivalry. When combined with shocks to production mark-ups, these rigidities produce a trade-off between stabilising output and inflation. As a result, mark-ups shocks have impacts on output and inflation, the magnitude of which depends on the policy regime's reputation. Following Kydland and Prescott (1977), that credibility is maintained by allowing monetary policy to be executed at will or on a discretionary basis. The monetary authority takes the expectations of the private sector as specified at its discretion. The strategy is completely reasonable under commitment and affects these expectations. Differences in equilibrium between the two regimes capture the impact of credibility in policy on economic conditions and bond yields.

Monetary policy crafted by an independent central bank ensures economic growth by maintaining interest rates at an optimum level. The interest rates in turn, determine the risk-free rate of return, which has a substantial effect on demand for all forms of financial securities including bonds.

2.5.2.5 Debt foreign bias and central bank transparency

The central bank's transparency enables responsible authorities to offer complete information about monetary policy decisions and procedures to the public and general investors in a clear and timely manner, enabling investors in forecasting and decision making. Central bank transparency decreases inflationary bias

and provides more flexibility to respond to economic shocks. It is also vital for the financial market because it affects the expectations of investors.

Existing literature explaining monetary policy suggest that inflation expectations have an impact on bond yields. As a result, that will influence investor decisions. An empirical study by Chun (2005) argues that shifts in inflation and output growth rate impact investor perceptions, and the anticipated direction of monetary policy actions provide valuable information to investors that could measure future bond yield movements. They claim that to describe the yield curve dynamics accurately, an explicit slope element such as inflation shift is required, as long-term interest rate changes are generally expected to be influenced by inflation expectations. Therefore, it is important to adjust yields to evaluate timing fluctuations in risk, market prices with projected GDP growth, and macro-economic factors and their projections often are crucial to the investor predictions. The Central Bank responds well before to inflationary expectations while, at the same time, supporting stability in meeting real output growth expectations, backed by the expected coefficients of the rule of forward-looking monetary policy. Bekaert et al. (2013) suggest a stronger relationship between financial market risk factors, monetary policy decisions, and economic activity. However, they derive their risk estimates from option-based stock prices rather than risk premiums found in government bond prices acquired by the Federal Reserve.

In terms of the transparency of monetary policy and market perceptions, Blinder et al. (2008) demonstrate that standard term structure theories may be used to interpret the influence of central bank transparency on investor expectations, as disclosure on prospective monetary policy improves the predictability of anticipated short-term interest rates and hence improves information on medium and long-term interest rates. Neuenkirch (2012) argues that central banks' transparency decreases volatility and bias in the money market's expectations. Existing studies suggest that the communications initiatives of the central bank also provide essential information to financial market participants. (See; Reeves and Sawicki, 2007; and Ehrmann and Fratzscher,2009). By examining transparency and the behaviour of international investors, Gelos and Wei (2002) conclude that lack of transparency can potentially affect economic performance and capital inflows by inhibiting foreign investors.

2.5.3 Gaps in the literature on debt home and foreign bias, and central bank

Reviews of current literature demonstrate the presence of domestic and foreign bias in the allocation of global debt portfolios. However, there is scant empirical evidence of the effects of central bank independence and transparency on debt home bias and debt foreign bias.

Financial globalization and increased access to capital markets have provided investors with growing opportunities to diversify their portfolios globally. According to the international CAPM model, investors should diversify their portfolios and hold assets from countries worldwide in proportion to their weight in

the global market capitalization (see; Sharpe 1964; Lintner 1965). Decreasing debt home bias promotes the advantages of diversification and global risk-sharing by domestic and foreign investors.

Growing home investors global diversification (i.e., reducing home bias) and foreign investor cross border investment (i.e., growing foreign bias) will integrate a country's host capital market into the global capital market. That integration could facilitate larger market participation and increase risk-sharing among home and foreign investors.

A review of the literature showed that debt home bias is explained by factors such as information asymmetries (see; Amadi, 2004; Massa and Simonov; 2006 and Berkel, 2007), transaction costs (see; Burger and Warnock, 2003; and Burger and Warnock, 2007), market development (see; Campa and Fernandes, 2006; Lane and Milesi-Ferreti, 2008), investor protection (see; Campa and Fernandes, 2006; Lane and Milesi-Ferreti (see; La porta et al., 1997;). Similarly, debt foreign bias explains in literature such as bond market growth (Ferreira and Miguel, 2011), bond market returns (see; Burger and Warnonk , 2003), Familiarity (see; Massa and Simonov, 2006), regulatory quality (see; La porta et al., 1997).

However, few studies have investigated the relationship between central bank independence and transparency with debt home bias and debt foreign bias.

Chapter 3: Research questions and hypothesis development

3.1 Chapter overview

The chapter has structured as follows: Section 3.2 presents research questions; Section 3.3 offers hypotheses on the independence and transparency of the central bank and the cost of capital; Section 3.4 presents hypotheses on central bank independence and transparency, and equity home bias and foreign equity bias; Section 3.5 provides the hypothesis on central bank independence and transparency in respect to debt home bias and debt foreign bias.

3.2 Research questions

Studies have extensively explored the factors influencing the country-level cost of capital (see; Hail and Leuz, 2004 and Harvey, 2004), portfolio allocations across borders, and domestic and foreign biases. Nonetheless, research on the influence of central bank independence and transparency on the cost of capital is very limited. Therefore, in this research, we address the following three research questions.

RQ1. What is the impact of independence and transparency of the central banks on the cost of capital?

RQ2. What is the impact of independence and transparency of the central banks on the equity home bias and equity foreign bias?

RQ3. What is the impact of independence and transparency of the central banks on the debt home bias and debt foreign bias?

We develop hypotheses related to the above research questions in the following sections.

3.3 What is the impact of independence and transparency of the central bank on the cost of capital?

The global investing environment has rapidly changed over the last few decades. Increasing financial globalisation and cross-border portfolio investments emphasise the cost of capital. The cost of capital is the firms' funding cost and the required return rate for the portfolio investors. This is why it is also crucial to make an investment decision and risk and return evaluation on the investment. Central bank monetary policy directly or indirectly influences the economy and investors' rate of return. In a time of rapid economic growth, inflation may rise, and a central bank may adopt a restrictive monetary policy to slow the economy by raising short-term interest rates.

On the other hand, stalling economic growth may urge the central bank to take an accommodative policy by reducing short-term interest rates to encourage growth and get the economy back on track. Therefore, both directly and indirectly, monetary policy influences investors' return or cost of capital. The interest rate levels

and trends might directly influence; however, inflation forecasts may affect investors' returns indirectly. A decrease in interest rates may lower the cost of borrowing, leading to higher investment and consumer spending. As a result of lower interest rates, economic activity would improve. Also, banks may soften lending regulations with reduced interest rates, enabling funding for firms and individuals. Stocks become more attractive at a low-interest rate, increasing household spending on financial assets. This may raise consumer spending and make corporate investment efforts more enticing. Low-interest rates also cause currency depreciation. As a result, imported goods become more expensive and increase demand for local goods. Above circumstances, central bank policy may affect productivity, employment, investment, and consumer spending in a country, influencing investors' rate of return or cost of capital. It is also believed that an independent and transparent central bank free from political interference could develop and implement a policy that enables economic growth, thereby investors' return or cost of capital in a country.

The IMF's Coordinated Direct Investment Survey (CPIS) shows that overall global portfolio investments rose from US$58.9 trillion to US$66.6 trillion at the yearend December 2019 from the end of December 2018. Cross-border capital flows are considered a prospective driver of global development and diversification. However, attracting and retaining investors depends on the economic environment, the capital market condition, and the rules and regulations of the host country. The central bank in a country plays a vital role in fostering economy, trade, and investment through monetary policy. And it is believed that a more vigorous policy initiative by an independent and transparent central bank would impact the development of macroeconomic factors such as inflation and interest rates and attract investors to the host country.

Factors that affect the cost of capital classified by Brigham (2019) are, initially, fundamental factors and, subsequently, other economic factors. Essential factors include market opportunities, risk and inflation, and preference for capital providers. Economic considerations comprise federal or central bank reserve plans, fiscal surplus and deficit strategies, foreign trade surpluses and deficits, exchange rate risk, and country risk. And all these considerations are either directly or implicitly relevant to the monetary policy of a country's central bank.

Most investors tend to invest in a way that maximises their returns on investment. While compensating for inflation, there should be at least some actual returns on investment. Real income is determined by deducting inflation from the actual returns. Lower investment benchmarks are favoured in most cases to inflation factors. To tackle inflation, monetary policy is one of the most commonly used tools by the Government of a country. Research suggests that inflation fluctuations influence the country's cost of capital (see; Agarwal, 1997; Cooper and Kaplains, 1994; Reeves and Sawicki, 2007).

Most central banks have the power to influence the economy. Most central banks, including the Federal Reserve, use instruments such as reserve policy and interest rates to achieve their monetary policy goals. To

enhance market liquidity or raise the supply of money in the economy, the Federal Reserve commonly decides to procure treasury bills from the market, which lowers borrowing costs or interest rates. Conversely, the decision to sell treasury bills to the market signals a rise in the rate of interest. However, interest rate changes influence a country's cost of capital (see; Hymer, 1976; Bernanke and Kuttner, 2005; Davig and Gerlach, 2006; Arnone et al., 2007; and Bredin et al., 2009).

A budget deficit usually decreases government borrowing and lowers domestic rates of interest. Subsequently, falling demand for domestic specific currency leads to a weaker currency value. Investments in countries other than home countries are subject to exchange rate risk. In addition, currency translation exposure is the likelihood that changes in the exchange rate, the company's shares, assets, liabilities, or overall investment may change the values. Existing literature emphasises the importance of currency exposure or exchange rate fluctuations on the investor's return and the cost of capital (see; Hau and Rey, 2006; Fidora et al., 2007; Kuttner and Possen, 2010; and Horioka et al.,2016).

Country risks are risks associated with a country's political, social, and economic environment, and the country risk crucially influences the cost of capital in a country—a host country with a volatile financial situation and an undeveloped market unable to attract investors. The monetary policy followed by the central independent central bank is supposed to sustain steady and sustainable growth, reduce unemployment, and increase economic development without political intervention. Examining the political effect of the central bank, the study shows that the size of government budget deficits and debt is positively associated with inflation expectations (see; Schwödiauer et al., 2006). However, central bank independence assumes that increases the prospect of cracking the fiscal domination of monetary policy and improving macroeconomic variables favouring investor return and attracting more investors, thereby reducing the cost of capital in a country. The central bank's transparency implies providing necessary and relevant information about its strategy and procedures, forecasts, and policy decisions to market and prospective investors with consistent, transparent and on time. The central bank’s transparency support potential investors and other market participants in understanding monetary policy. Supporting a solid market understanding of monetary policy makes more reliable and efficient policy and allows investors to adjust their predictions by this means. Policy ambiguity undermines investor expectations and creates information asymmetry that affects the cost of capital.

3.3.1 Central bank independence and cost of capital

Through monetary policy, the central bank’s independence influences the cost of capital. Inflation, interest, and currency rates are crucial components of monetary policy. Investors' returns and risk premiums are impacted by macroeconomic variables such as interest rates, currency rates, and inflation, which influence global markets and country-specific risks.

It is considered that central bank independence affects the cost of capital for portfolio investors in many ways. It is argued that the political bias of central banks encourages short-term expansionary monetary policy by avoiding long-term high inflationary effects, stimulating the economy, rising capital supply, lower interest rates, and lowering the currency's value. This can boost economic growth in the short run but at a disadvantage to long-term financial stability. It often causes excessive inflation, resulting in short-term economic and social consequences. Empirical studies on the relationship between central bank independence and inflation demonstrate that average inflation is significant, as it is negatively related to central bank independence (See; Klomp and de Haan, 2009). Campbell and Vuolteenaho (2004) argue that inflation is almost distinct from the arbitrary risk premium. They further claim that the sensibly predicted long-term real dividend growth is positively associated with high inflation. However, Modigliani-Cohn (1979) demonstrates that arbitrary growth forecasts by extrapolating past nominal growth rates without reacting to inflation adjustments claim that this mispricing is strongly associated with inflation. The theory of Modigliani-Cohn (1979) is based on the fundamental prediction that increasing inflation contributes to under-priced capital markets.

On the other hand, over-price capital markets are generated low or negative inflation. Ang and Bekeart (2005) find that anticipated inflation accounts for 80% of nominal yield volatility at short and long maturities. On the other hand, Nominal spreads are primarily influenced by expected inflation changes, particularly during standard times. On the other hand, Klomp and de Haan (2010) argue that inflation and central bank independence continue to have very little negative association. The central bank's independence has only a noticeable impact on fewer than 20% of the country. They pointed out that although their findings show that an independent central bank may be less critical than previously thought, they also suggest that central bank independence in various countries may be linked to inflation. Alesina and Summers (1993) have demonstrated that monetary policy related to independence makes it possible to reduce inflation and its volatility. They also noted that the level of central bank independence, among other functional variables, impacts economic performance in many countries. Crowe and Meade (2008) claim that lower inflation results from the central bank's improved independence.

Furthermore, they observed an improvement in the areas of independence linked to the interaction between the executive and the monetary authority in advanced and developed markets and emerging countries. They were examining the relationship of independence of the central bank with economic factors in a country, de Haan and Kooi (2000) claim that there is a substantial relationship between inflation fluctuations and the central bank's independence. Bernanke (1993) argues that there is no empiric evidence for the quantitative value of the money and the credit channel and that there is little evidence to show that the Federal Reserve may have an impact on actual interest rates in long-term in the US or that investment responds significantly to changes in real interest rates. Mosley (2003) and Sobel (1999) find that the interest rate on sovereign debt in developed countries responds to more factors than in emerging economies. They suggest that the investor

scrutinises more in-depth to reach an investment decision. Similarly, Gray (2013) argues that, however, developed countries should continue to pursue to establish their creditworthiness.

Monetary policy and central bank independence influence asset price and capital market volatility. Cooley and Hansen (1989) argue that economic growth is correlated with inflation due to the relative capital goods prices. Investigating investment tax breaks and the market of capital goods, Goolsbee (1998) argues that incentives on investment tax would raise the price of capital goods, and that would also lead to an increase for a short-term in the cost of capital. As a result, the relative price of capital goods should be influenced by the monetary policy stance. The current study suggests that market practices for capital goods are excluded from traditional monetary growth models (see; Chami et al.,2001; and Baier et al.,2003). Although adding capital goods to a cash-in-advance economy, they find that inflation tax has a much more significant effect on trading-in-capital economies. Investigating the impact of monetary policy on the relative price of capital goods and investment, Ghossoub and Reed (2014) show that the capital goods relative price is affected by the growth rate of money and is also crucial for investment activities. In addition, various sources of competitiveness in the economy involve the degree of risk-sharing. Borio and Lowe (2002) argue that low inflation policies lessen investors' and financial institutions' concerns about possible economic crises, which increase lending and borrowing and, as a result, have a beneficial influence on asset prices. Previous studies explore the relationship of central bank independence with the capital markets in a country. Examining the impact of the independence of the central bank and the return on the stock market, Förch and Sunde (2012) find that the market returns are associated with economic independence more favourably than political independence. Kurov (2012) argues that monetary policy announcements are associated with increased conditional volatility of stock return in depression, not expansion. Empirical research by Papadamou et al. (2017) argues that central banks' independence and stock market volatility is favourably associated; however, stock market volatility has a negative impact during a combined effect of central bank independence & transparency. They also observed that through announcements, speeches and acts, the central bank has contributed to shaping investor perceptions of the capital markets in a country.

Existing literature suggests an explicit or implicit link between central bank independence and the capital market. In the context of cross-border investment, investors may consider the country's economic growth. Higher equity market returns are expected to correspond with more substantial economic growth. The central bank endeavours to ensure low and stable inflation and manage interest to provide a country's financial stability and economic development. In many ways, monetary policy influence investors expected rate of return, i.e., cost of capital. For instance, when the central bank reduces interest rates that encourage more investment and household spending, i.e., the expectation that economic activity would increase. Commercial banks may loosen lending regulations with a lower interest rate, allowing firms and individuals to encourage spending. In that circumstances, stocks become more tempting to acquire in a low-interest-rate economy, increasing household financial assets. This may raise consumer spending and make firms' investment

projects more attractive. Low-interest rates also tend to cause currency depreciation, making imported goods more expensive and increasing demand for domestic goods. Therefore, monetary policy decisions influence a country's productivity, employment, investment, and consumer spending. And it considers that an independent central bank, free from political interference, could ensure improved policy decisions that may reduce investors' cost of capital and encourage investment and economic growth in a country. Therefore, we draw up the following hypothesis.

H1: Central bank independence reduces the cost of capital.

3.3.2 Central bank transparency and the cost of capital

From both market participants and policymakers, the benefits of central bank transparency have increasingly been emphasised. Central bank transparency is seen in policy spheres as a means for countries to attract foreign capital and decrease the uncertainty in the capital market. For instance, it has been argued that foreign investors might be more likely to enter and out of unfamiliar countries during a volatile situation (see; International Monetary Fund, 2001). Gelos and Wei (2005) argue that more transparent markets attract global investors. They observed that the flow of foreign investment to a particular country has various and significantly beneficial effects from a transparent corporate and government policy. This suggests that countries with more transparency must benefit from global financial integration. Crowe and Meade (2008) show that the transparency of central banks is significantly related to the degree of independence of central banks, while transparency is also positively correlated with institutional quality in the country. In addition, increased central bank transparency facilitates the efficient use of information by the market and investors, thus reducing information asymmetry among investors. Kwabi et al. (2020) argue that the independence and transparency of central banks influence investment decisions to invest in a particular country. They also find that the central bank's transparency results in more foreign investment.

Sufficient disclosure and comprehensive information are essential for a country's financial institutions to pursue credible macroeconomic policy and market reforms. Hence weak institutions are more likely to increase information asymmetry among investors. Severe asymmetry of information raises volatility in capital markets, fluctuations in returns and cost of capital, thereby reducing cross-border investment and capital inflows in a particular country (see; Healy and Palepu, 2001; Portes and Rey, 2005; Gelos and Wei, 2005; and Du et al., 2016). It is also claimed that the transparency of central banks could help resolve the conflict among monetary policymakers, banks and foreign investors, and other economic stakeholders regarding information (see; Geraats, 2002). Existing literature demonstrates that information asymmetry increases portfolio risk and reduces the returns of the capital market, suggesting that volatility of economic policy typically affects the cross-border flows of portfolio investment (see; Bekaert et al.,2014). Among others, Diamond and Verrechia (1991) argued that a higher information asymmetry causes a decrease in investment by large institutional investors that would increase the cost of capital (see; Core, 2001; and Healy

and Palepu,2001). Demertzis and Hallet (2007) argue that a higher degree of policy transparency could ensure a lower degree of inflation volatility, improve market perceptions and predictions by investors, and make policy decisions more credible.

Several studies have characterised the relationship between asset prices, the capital market, and the central bank's transparency. Clare and Courtenay (2001) argue that minutes detailing the divisive debate between central bank board members will increase asset price volatility, implying that information overload only confuses investors. Hwang et al. (2020) conclude that transparency is expected to improve monetary policy effectiveness by increasing market participants' ability to anticipate future policy behaviour. Neuenkirch (2012) shows that transparency of the central bank leads to a decrease in the expectation of bias in the money market. It also reduces the variance of bias in expectations of the money market.

The existing studies explain the relationship between the capital market and the independence of central banks. Papadamou et al. (2014) demonstrate that greater central bank transparency reduces stock market volatility and maintains financial stability. That is, volatility in the capital market and transparency in the central bank are negatively associated. Other factors, such as the turnover ratio, the short-term interest rate, and the exchange rate volatility, may have also been positively connected to stock market volatility. Eijffinger and Geraats (2006) illustrate that greater transparency can boost the central banks' credibility, stability, and reputation. A change in interest rate would be influenced by the existing transparency of the central banks. Ensuring more excellent financial stability by the central bank would lower short-term interest rates while raising long-term nominal interest rates.

Furthermore, the central bank's independence will improve policy integrity and credibility, contributing to stable and lower inflation expectations and, as a result, lower long-term nominal interest rates. Hussain's findings (2011) argue that monetary policy decisions generally have a significant and immediate on the capital market returns and the volatility of the stock market index. According to the European Central Bank, shifting monetary policy decisions will also affect capital markets, and the cost of capital across several directions, including potential consequences for future corporate profits, interest rates used to discount those profits, and risk perceptions (Cassola and Morana, 2002). Several studies suggest that a transparent monetary policy mechanism (rather than an inconsistent and ambiguous one) enables investors and market participants to facilitate the flow of information, market expectations and investment decisions can be improved (see; Blinder, 1998; Van der Cruijsen and Demertzis, 2007; and Crowe and Meade, 2008). Existing research, on the other hand, demonstrates that excessive transparency on the central bank provides information disproportionately that tends to generate herding behaviour among investors (Van der Cruijsen et al., 2010; and Horváth and Vako, 2016).

As summarising the existing literature, several problems influence and interaction between financial markets and central bank monetary policy. Investors are supposed to consider the country's economic growth while

making cross-border investments. Higher economic growth is expected to result in higher stock market returns. The central bank seeks to maintain low and steady inflation while managing interest rates to support a country's financial stability and economic growth. Monetary policy influences investors' expected rate of return, or cost of capital, in several ways. For example, when the central bank lowers interest rates, it stimulates more investment and consumer spending, implying that economic activity would surge. Banks may ease lending rules with a lower interest rate, allowing companies and individuals to increase spending. In a low-interest-rate economy, stocks become more appealing to invest in, increasing household financial assets. Low-interest rates also tend to cause currency depreciation, raising the cost of imported products while increasing demand for local goods. As a result, monetary policy decisions impact a country's output, employment, investment, and consumer spending. It also believes that a transparent central bank with unfettered political influence will provide effective policy decisions that may influence lower investors' cost of capital and encourage investment and economic growth in a country. Therefore, we believe there is a relationship between the central bank's transparency and the cost of capital.

Therefore, we bring up the following hypothesis.

H2: Central bank transparency decreases the cost of capital.

3.4 What is the impact of the independence and transparency of the central banks on the equity home bias and equity foreign bias?

The global investment landscape has been changing rapidly over the last few decades. Financial globalisation leads to financial integration and international diversification. Existing research suggests that portfolio diversification promotes risk-sharing among home and foreign investors and increases resource allocation efficiency (Obstfeld, 1994). There are several advantages of portfolio diversification and risk sharing that reduce the market uncertainty, enable the benefit of multiple investing instruments, reduce portfolio management risk, rearrange securities amongst investments portfolios, and enable a long-term investment goal.

However, the equity home bias phenomenon makes the capital market segmented rather than integrated with the global capital market. Equity home bias implies that investors tend to retain a considerably more significant proportion of their investments in domestic securities than traditional portfolio theory suggests. As a result, investors cannot suitably diversify their portfolios to get risk-sharing advantages with home and foreign investors (see; Lewis,1999). Investors investing in a highly segmented domestic market trigger lower levels of global risk-sharing and less diversification. Equity home bias defines domestic investor portfolios as over-invested (i.e., relative to benchmarks) in the domestic market. As a result, the cost of capital for investors rises (see; Chan et al., 2005; and Lau et al., 2010). Current literature explores that several factors can influence both the equity home bias and the equity foreign bias. (See;

Fidora et al., 2007; Serccu and Vanpaee., 2007; Dongmin et al., 2010; Poshakwale and Thapa, 2010; Lau et al., 2010; Cooper et al., 2012; and Othmani et al., 2014,). Information asymmetry, transaction costs, stock market growth, investor protection, proprietary rights, capital controls, cross-country rules and regulations, and the elements behind home bias and foreign bias are described in this literature. Most of them are influenced by the macroeconomic condition and the governance of a country. It is considered that the independence and transparency of the country's central bank would lead to a reduction in home bias and an increase in foreign bias in portfolio investment in a specific country.

In general, home investors believe that their investment is risk-averse because they are familiar with the market, they have similarities in language and culture and the nearby geographic location. On the other hand, asymmetric information is a circumstance under which a home investor is supposed to get more information than a foreign investor on market conditions. A well-informed investor is likely to make sensible decisions and make a reasonable predictions about the market than less-informed investors. Moreover, cross-border investment causes the additional cost of information by foreign investors in a host country. Central bank transparency explains how it clarifies policy directives and performs its policy goals through monetary policy. As a result, investors could make better market expectations and adjust their portfolios by understanding a country's monetary policy. A more vital understanding of the public and investors makes monetary policy more credible and successful. In this way, the central bank could ensure that the information is fair to home and foreign investors.

Macroeconomic variables affect the aggregate market situation in a country. The movement of macroeconomic factors in the economy, such as interest rates, inflation, and currency exchange rates, influences the country's capital market (see; Kaehler et al.,2013). To decrease the money supply, the federal reserve or the central bank chooses to sell treasury bills to the market that raise borrowing costs and interest rates. In contrast to increasing money supply, the Fed or the central bank decides to buy treasury bills from the market, increase liquidity and decrease interest rates. As a result, the interest rate lowers the demand for a currency. However, through the central bank's independence and transparency, efficient and credible monetary policy could be ensured, which provides lower inflation and financial stability. An empirical study by Nakajima (2015) suggests that the independence and transparency of the central bank are vital to the country's economic growth. They further argue that the development of a country's capital markets is influenced by economic factors such as interest rate, exchange rate, inflation, and public debt. Existing research implies that greater levels of financial performance strengthen a country's institutional quality, ensure investor protection, and preserve property rights (see; La Porta et al., 1997 & 1998; Levine, 1998; and Levine and Zervos, 1998). Therefore, we believe that the independence and transparency of central banks would reduce equity home bias and increase equity foreign bias through credible monetary policy, which enables market integration and sharing of risk between domestic and foreign investors.

3.4.1 Central bank independence and equity home bias

The central bank's independence would be believed to minimise equity home bias and encourage portfolio diversification benefits. The advantages of global diversification are substantially more significant for developed countries when they are not wholly integrated into the international markets (Harvey, 1995). Investment constraints, political risk, and foreign exchange regulation significantly contribute to the capital market's level of integration in a country. The lack of global diversification of investors' investments around the globe is well known and has been considered home equity bias. This lack of diversification and market integration is reflected in the high concentration of domestic equity in almost every investor's global portfolio. Drissen and Laeven (2007) suggest that the effects of international diversification appear to be higher for emerging countries than developed countries, and the disparity is statistically crucial in both situations.

Existing studies suggest that the central bank's independence can directly or indirectly decrease equity home bias and influence the country's capital market. Current literature also indicates that a higher degree of inflation inhibits the growth of the financial market in a country (see; Huybens and Smith, 1999; Boyd et al., 2001; Rousseau and Wachtel, 2002). In macroeconomic factors like exchange rate volatility and interest rate fluctuations, stock market developments and variations influence overall market stability. Papadamou et al. (2014) demonstrate that the central bank's independence affects the volatility of the financial market. Furthermore, current evidence indicates that reducing home bias increases economic globalisation and lowers the cost of capital (see; Stutz 1999; and Lau et al., 2010).

The conjecture is that central bank independence provides a level playing field for home and foreign investors by giving fair policy and a free flow of information that could build confidence among investors. Then investors not only concentrate on investing in their home country but also restructure to invest globally to obtain the advantage of portfolio diversification and risk-sharing. Existing literature suggests a one-way or other relationship between central bank independence (*CBI*) and equity home bias (*EHB*). In the context of cross-border investment, investors may consider the country's economic growth. Higher equity market returns are expected to correspond with more substantial economic growth. The central bank endeavours to ensure price stability in a country by managing the quantity of money in circulation; hence, monetary policy stabilises a country's economic growth. A central bank that expects to keep inflation low and steady, as well as interest rate policy with a positive macroeconomic consequence, should construct a reasonable monetary policy. It believes that free of political interference, an independent central bank can do so. Thus, a more independent central bank would encourage increased investor participation and may lower equity home bias in a country**.** Therefore, we hypothesise that,

H3: Central bank independence reduces equity home bias

3.4.2 Central bank transparency and equity home bias

The transparency of central banks increases investor expectations regarding a country's financial market. Monetary policy efficiency relies on the degree of economic improvement with speed and consistency and on communicating with the public and markets. It is also believed that a country's central bank's transparency makes monetary policy credible, which is vital for the growth of the financial market and facilitates investors' participation in the country's financial market.

A study by Dahlquist et al. (2003) demonstrate that countries with inadequate corporate governance segment the market and increase home bias. Those investors are expected to have a higher concentration of closely held and familiar firms. Massa and Simonov (2006) demonstrate that investors favour neighbouring stocks because geographical proximity provides familiarity and lower information acquisition costs. However, Ke et al. (2010) suggest that the preferences for the local presence of investment managers are not information-driven, do not boost the efficiency of the fund and are unable to provide significant benefits to investors. They also added that such local preferences might reduce the benefits of international diversification.

Miniaoui and Smida (2008) claim that the primary objective of transparency for the central bank is to decrease the instability caused by the macroeconomic volatility in a country. They also suggest that effective communication to relate public expectations to the consideration of central bank monetary policy makes policy credible. The goal of the central banks is to support the public and the markets by developing the use of communication as a new standard in monetary policy. The efficiency of an efficient and transparent monetary policy should include consistency of external communication, the integrity of internal information and public communication. Neuenkirch (2012) argues that the central bank’s independence decreases investor expectations bias and reduces volatility bias.

Investors should believe in a host country's economic growth and financial stability in considering cross-border investment. If the investors have such confidence in the strategy and announcement of the country's central bank, equity investors would be motivated to take advantage of portfolio diversification and risk sharing globally rather than segmented to the home country. Tremendous economic growth is expected to result in higher investment returns in the capital markets. The central bank regulates the amount of money in circulation and keeps low and stable inflation, thereby ensuring price stability in a country; hence, monetary policy stabilises economic growth. A central bank that expects to achieve financial stability with a positive macroeconomic effect and serve as a supervisory authority fosters the development of quality financial institutions in a country, resulting in reduced information asymmetry. It is believed that a central bank can do so if it is free of political influence, i.e., ensures transparency in the central bank. The hypothesis is that a transparent central bank could be capable of delivering a transparent policy that would be credible and sufficient to make an investment decision. A reasonable monetary policy will reassure investors, firms, and other stakeholders that there is some degree of certainty in the future. A transparent monetary policy is

expected for the country's growth and to encourage equity investors. Therefore, a more transparent central bank would encourage greater investor participation, perhaps reducing equity home bias in a country. We, thus, draw our hypothesis as follows.

H4: The central bank transparency reduces equity home bias

3.4.3 Central bank independence and equity foreign bias

Existing literature suggests that the country's independent central bank offers less expropriation risk and less government interference, so investors are confident and motivated to diversify portfolios and thereby increase equity foreign bias (see; Chan et al., 2005). Transparency and accountability are crucial to the governance of the central banks. The independent central banks facilitate the standards of transparency and accountability. Accountability is a political obligation and a necessary prerequisite for the institutional integrity of an independent central bank. Increased relationship between central banks and policymakers as a result of central bank's participation in financial regulation may complicate the limits of central bank independence (see; Goodhart and Lastra, 2018). Existing literature indicates that the central bank influences the economic variables that have an impact on the economy of the country as well as on the capital market. For example, inflation reduces purchasing power and increases living costs, which, in turn, also affect stock prices. Inflation also decreases the expected net present value, implying that stock prices and returns will decline for investors. De Mendonça and de Guimarães e Souza (2012) claim that stable and low inflation also decreases interest rate volatility and increases the credibility of monetary policy. In the case of inflation targeting, the rate of short-term interest fluctuates depending on the regime's credibility. This fluctuation also affects various variables such as exchange rates, credit, the actual cost of capital, asset price, investors' expectations, and, ultimately, investment decisions. Agarwal (1997) claims that inflation and currency exchange rates are negatively correlated by examining factors affecting portfolio investment decisions. When high inflation prevails in a country, goods of that country become less competitive as prices rise. As a result, that country's exports will fall, and there would be less demand for currency, causing a decrease in the exchange rate. Fidora et al. (2007) reported that fundamental exchange rate uncertainty explains about 20% of fluctuations in bilateral home bias. Mody et al. (2001) claim a decline in international portfolio investment due to inflation.

Existing literature shows that foreign bias generates when investors deviate from the conventional expectation of optimum allocation in a foreign market due to restrictions on international investment. (See; Lewis, 1999; Chan et al., 2005; Cooper et al., 2007; and Sercu and Vanpee, 2007). Portfolio Theory (Markowitz, 1952) also states that the level of market integration and global risk-sharing is influenced differentially by differing degrees of foreign bias. In a fully integrated market, domestic investors can acquire foreign equity as well as foreign investors can retain local equity without any investment restrictions. Moreover, the declining degree of equity home bias would reduce the market segmentation level, lower the

cost of capital, and increase market integration and equity foreign bias (see; Chan et al., 2005; and Lau et al., 2010).

The investors would be encouraged to invest in a country with a level playing field for the home and foreign investors, and information is effortlessly available to make their investment decision. Existing literature suggests that central banks positively influence the capital market. Therefore, the argument is that a country's independent central bank can plan and execute a fair policy promoting worldwide equity investments. This will increase market integration, lead to foreign bias and economic growth of the country and reduce investors' cost of capital. Investors may consider the country's economic development while making cross-border investments. Higher economic growth is expected to result in higher stock market returns. The central bank tries to maintain price stability in a country by controlling the amount of money in circulation; hence, monetary policy stabilises a country's economic growth. A central bank that aims to maintain inflation low and steady, as well as interest rate policy with a favourable macroeconomic impact, should build a reasonable monetary policy, and it considers that an independent central bank free of political influence can accomplish such goals. Thus, monetary policies by a more independent central bank would encourage more foreign investors in market participation, leading to equity foreign bias in a country. Therefore, our hypothesis is as follows.

H5: The central bank independence increases equity foreign bias

3.4.4 Central bank transparency and equity foreign bias

The central banks' monetary policy undertakes several activities to accomplish their goals that are represented by the dynamics of macroeconomic and financial factors such as actual output, employment, and inflation. Several studies investigate the association between economy, market, and monetary policy factors. Modigliani and Cohn (1979) suggest the inflation fallacy that stock market investors are prone to inflation illusions. Bernanke (1993) argues that there is limited empirical evidence of the quantitative importance of the money and the credit channel and that there is little evidence to show that, in the US context, the Federal Reserve may affect actual long-term rates of interest or that investment reacts substantially to changes in the rates of genuine interest. Thus, believe that credible monetary policy influences the cross-border investment decision. Moreover, it is supposed that central bank transparency makes monetary policy believable and enhances confidence among investors. Brennan and Cao (1997) suggest that foreign investors respond to market changes more slowly than local investors due to information asymmetry. And this information disadvantage inhibits foreign investors, thus dropping foreign investment and decreasing market participants in a country. Eijffinger and Geraats (2006) demonstrate that the central bank's transparency influences inflation and investors' performance in the financial markets. Hussain (2011) points out that monetary policy decisions have an immediate and considerable influence on stock index

returns and volatility. Papadamou et al. (2014) argue that market fluctuations can be substantially reduced due to a transparent monetary policy.

In cross-border investing, the relationship between the sub-optimal allocation of portfolios and the cost of capital is recognised with a developed framework (see; Lewis, 1999). It argues that where there is no constraint on cross-border investment and the market, the covariance between the return in the country and the return in the global market portfolio returns determines the fully integrated expected returns on the tradable asset portfolio (see; Adler and Dumas, 1983). ICAPM is among the models used to estimate a required rate of return on investment; it can assist investors in selecting assets that will meet their required rate of return. As a result, investors use the ICAPM method to estimate expected returns in international portfolio diversification (de Santis and Gerard,1997; Dimitriou and Theodore, 2012). The portfolio theory argument assumes that the country's benchmark weight of investment suggested by the international capital asset pricing model should be followed by cross boarder portfolio investors (ICAPM). Although, it is recognised in the literature that constraining foreign portfolio investment causes portfolio investors to contempt the ICAPM assumption and differentiate their portfolio from the optimum benchmark and holding portfolios between countries either under-investment or over-investment (See; Cooper et al., 2012). This sub-optimal portfolio allocation in cross-border investment is described as foreign bias. The theory of ICAPM also suggests that the degree of market integration and global risk-sharing is influenced by foreign bias. (See; Stulz, 1999; and Bekaert and Harvey, 2000).

The assumption is that the transparency of central banks resolves the information conflict among the market participants and monetary policymakers, which will contribute to increasing equity foreign bias. Investors should evaluate the country's economic development when contemplating a cross-border investment. More significant economic growth is expected to result in more substantial capital-market investment returns. The central bank controls the amount of money in circulation, keeps inflation low and steady, and ensures price stability in a country; hence, monetary policy stabilises a country's economic growth. A central bank that expects to achieve financial stability with a positive macroeconomic impact while also serving as a supervisory authority fosters the development of quality financial institutions in a country, resulting in reduced information asymmetry. It is believed that a central bank can do so if it is free of political influence, i.e., ensures transparency in the central bank. A transparent central bank would encourage more foreign investor participation, which may lead to foreign bias in a country. We, therefore, draw our hypothesis from the facts from the existing literature as follows.

H6: The Central bank transparency increases equity foreign bias

3.5 What is the impact of central bank independence and transparency on debt home bias and debt foreign bias?

The global investment landscape has been changing rapidly over the last few decades. The growing presence of institutional investors has resulted in greater penetration of financial markets by capital flows. Global bond markets are almost double the size of equity markets (McKinsey and Company, 2011). Financial institutions and companies and debt financing are crucial government funding sources; therefore, debt finance has consistently risen over the last decade (BIS). Explaining debt home bias is a tendency for investors to hold a large part of their portfolio in the domestic bonds market. However, there are substantial benefits of cross-border debt portfolio diversification. Sercu and Vanpee (2007) find that debt home bias is a mixture of complex factors such as hedging country risk, higher foreign investment costs, information asymmetries, governance and transparency and behavioural bias. Other than these factors, the investors may merely exhibit home bias due to the tendency to invest in what they are already familiar with, usually in their home country rather than heading into an unknown country, and these limit investment diversifications.

Research shows that cross-border portfolio diversification offers potential benefits to investors, such as risk-sharing between domestic and global investors, and enhances portfolio returns (see; Grubel, 1968; de Santis et al., 2006; Basak and Shapiro, 1999). To benefit from portfolio diversification, investors may hold cross-border portfolios in proportion to their global market capitalisation weight, which the ICAPM model also suggests (see; Sharpe, 1964). The countries anticipated returns on portfolio are determined by the weighted average covariance of the local and global markets, while the economy is remarkably integrated with the worldwide market, which determines the degree of integration of the country (see; Bekaert and Harvey, 1995). The degree of higher foreign bias (i.e., overinvestment vs benchmark) in the host country's market would support higher market integration and risk-sharing among investors, thereby lowering the cost of capital by increasing more market participants (see; Stulz, 1999). Furthermore, the higher degree of foreign bias in the bond portfolio increases global risk-sharing and lowers the cost of debt (see; Bhatta et al., 2017).

The independence and transparency of the central bank have an explicit or implicit effect on the capital market in a country. The independence and transparency of the central bank would reduce debt home bias and increase debt foreign bias through an effective and efficient monetary policy. Although monetary policy's ultimate goal is to achieve long-term economic growth, central banks may have various objectives. The central bank's policy and announcement affect macroeconomic variables and the country's risk index. Cross-border portfolio diversification can provide investors benefits such as risk-sharing between domestic and global investors and enhanced portfolio returns. Foreign investors would be discouraged from investing in a country with political and economic instability. However, sudden, and recurrent fluctuations in tax rates, trade regulations, inflation, exchange rate and interest rates affect investors' returns. An unstable economy and poor rules pose a risk to the investment that would reduce the foreign capital flow of a country that segmented market and induce home bias. Government budget deficit decreases government borrowing, which leads to lowering interest rates and a weakening currency; in addition, fed or central banks' buying of treasury bond from the market decrease interest rates. However, the interest rate rises when the fed or central

bank sells treasury bonds. Independent central bank policy would reduce uncertainty, making investors more optimistic and confident without political interference.

On the other hand, the efficient and transparent transmission of policy decisions relevant to capital markets and investors could enable policy transparency. A transparent policy is crucial to attracting prospective investors from home and abroad. This will also provide a level playing field for domestic and foreign investors by reducing information asymmetry.

The central bank or the government also exercise the power of capital controls to manage the country's outflow and inflow of foreign capital. The central bank achieves that capital control goal through taxation, quotas, size limits, and proprietary regulations. The capital control causes the exchange rate to either appreciate or depreciate and affects the equity and bond markets' returns. Furthermore, foreign investors are restricted from investing in the host country due to capital controls. As a result, the debt home bias grows while the debt foreign bias declines. Therefore, independence and transparency of the central bank could lessen the capital control restriction, which will encourage more participants from home and abroad and thereby risk-sharing among investors. As the central banks are positioned to design and execute the policy on capital and interest rate controls and other prudential policies, central banks influence the development of the capital markets. As part of its macroeconomic and financial stability functions, the central bank closely regulates the operation of domestic capital markets (BIS, 2019). It is also assumed that the independent and transparent central bank operations would affect the capital market's growth and performance and the relevant financial institutions. And market development, quality institutions and protection of investors would attract investors from home and abroad, reducing debt home bias and increasing foreign bias in a host country.

3.5.1 Central bank independence and debt home bias

Existing study shows that macroeconomic factors and monetary policy influence the debt market. Examining the association between central bank independence and investment attractiveness, Ismihan and Ozkan (2004) argue that a short-term policy promises to lower inflation by the central bank would reduce productivity improvements in investment and impede potential growth. Risk and return dynamics are significant effects on bond portfolio allocations, indicating in the existing studies that risk and return have a substantial impact on bond home bias in the capital market in a country (see; Fidora et al., 2007; and Kim et al., 2014). Examining the biases in bond and stock investment portfolios, Fidora et al. (2007) argue that home bias is particularly evident in the bond market compared to the stock market. They also claim that bond yield volatility is lower than equity return volatility. This suggests that a rise in actual exchange rate volatility may significantly influence debt home bias than equity home bias. The current study has emphasised that declining home bias triggers a lower cost of capital. Bhatta et al. (2017) argue that by reducing the debt home bias in a country cost of debt could be reduced. Equally, Lau et al. (2010) claim that the cost of equity capital

is reduced when the amount of home bias is reduced. The central bank's independence would lessen the debt home bias and facilitate taking advantage of the benefits of investment diversification. The advantages of global diversification are likely to be greater for developed countries when they are not completely incorporated into international markets (Harvey, 1995). Factors such as investment restrictions or capital controls, political risk and foreign exchange legislation determine the degree of capital market integration. A host country's ability to positively influence these factors results in a decrease in debt home bias. Bhatia et al. (2019) demonstrate that, relative to equity flows, debt flows usually have a more significant and more consistent effect on both capital market yields and volatility.

The conjecture is that central bank independence provides a level playing field for home and foreign investors by providing a credible monetary policy that could build confidence among investors. Investors are supposed to consider the country's economic growth while making cross-border investments. Higher economic growth is expected to result in higher equities market returns. Monetary policy is believed to influence economic growth and inflation by using interest rates, money supply, and exchange rates to maintain policy goals and financial stability. Interest rate decisions by the monetary policy have a substantial influence on bond yields. Low-interest rates also tend to cause currency depreciation, affecting foreign investors' bond yields. Bond prices would rise when interest rates decrease, causing bond yields to depreciate; conversely, rising interest rates fall bond prices and increase bond yields.

Furthermore, bondholder returns do not keep up with rising living costs; thus, when inflation exceeds the nominal interest rate, bondholder returns deflate, eroding investors' yields. Low-interest rates also tend to cause currency depreciation, which influences bond yields for foreign investors. Thus, a more independent central bank would encourage domestic investors to diversify a portfolio and spread the risk that leads to lowering debt home bias in a country**.** Therefore, we formulate the following hypothesis.

H7: The central bank independence reduces debt home bias (*DHB*)

3.5.2 Central bank transparency and debt home bias

Central bank transparency in monetary policy directly influences the fluctuation of bond yields. De Goeij and Marquering (2006) show that the bond market reflects the impact of macro-economic announcements and news more quickly than any other information, and monetary policy appears to affect short-term bond volatility. In terms of speed and reliability, transparency at the central bank fosters financial stability and the efficiency of monetary policy while keeping the central bank accountable. Monetary policy increases strength and credibility. Reviewing the Bank of Japan, Kuttner and Posen (2001) argue that the degree of transparency gradually decreases volatility in the exchange rate. Ranaldo and Rossi (2010) show that speeches and interviews contribute to a significant price response and monetary policy decisions. Eijffinger and Van der Cruijsen (2007) argue that inflation persistence and expectations are associated with countries

with lower transparency in the central bank. Many other economists believe that monetary policy effectiveness requires transparency and communication with the public because empowering the private sector and exchanging information will enhance investors' expectations and thus enable investors to make prudent investment decisions (see; Blinder, 1998).

A transparent monetary policy is expected to encourage investors in the country's growth. Once the investors have such assurances from a country's central bank, then investors encourage to exploit the advantage of portfolio diversification and risk sharing other than the home country.

Research indicates that central bank transparency influences the debt market and portfolio investor decisions. A transparent monetary policy is supposed to have a favourable effect on the portfolio selection of investors. Investors must evaluate the country's economic growth when considering cross-border investments. Higher economic growth is likely to enhance equity market returns. Monetary policy is thought to impact economic development and inflation by utilising interest rates, money supply, and exchange rates to achieve policy objectives and financial stability. Monetary policy choices on interest rates have a significant impact on bond yields. Low-interest rates can also create currency depreciation, affecting overseas investors' bond yields. Bond prices rise as interest rates fall, leading bond yields to fall; rising interest rates lower bond prices while increasing bond yields. Also, bondholder returns do not keep pace with the growing cost of living; as a result, when inflation surpasses the nominal interest rate, bondholder returns deflate, eroding investor yields. Low-interest rates can also create currency depreciation, affecting foreign investors' bond yields. Thus, a more transparent central bank may encourage domestic investors to diversify portfolios abroad to spread the risk of reduced debt home bias in a country. Therefore, we construct the following hypothesis.

H8: The central bank transparency (*CBT*) reduces Debt home bias (*DHB*)

3.5.3 Central bank independence and debt foreign bias

Existing literature suggests that monetary policy formed by an independent central bank preserves economic growth by keeping interest rates at an optimum level. The interest rates, in turn, determine the risk-free return rate, which directly impacts the demand for all financial assets, including bonds. Macroeconomic factors are affected by monetary policy. On the other hand, macroeconomic variables influence debt market performance and investor decisions. Examining the bias in capital markets at home and abroad, Kim et al. (2014) noted that market performance significantly affects domestic and global bias in capital markets. Analysing international holdings in Asian bond markets, Horioka et al. (2016) argue that lower exchange rate volatility and higher risk-adjusted returns are valued by foreign investors when investing in bond markets.

Debt foreign bias lowering the cost of capital increases larger investor participation, thereby enhancing sharing risk among market participants. Bhatta et al. (2017) suggest that increasing foreign bias towards the

host country (i.e., investment rather than benchmark) would increase global risk-sharing and decrease the cost of capital. International investors will invest in a country where they find equal representation between domestic and foreign investors, and information is readily available to make investment decisions. The proposition is that a country's independent central bank can develop and deliver a reasonable monetary policy that attracts international debt investors and will enhance debt foreign bias and economic development in the country.

Investors must evaluate the country's economic growth when considering cross-border investments. Higher economic growth is likely to boost equity market returns. Monetary policy is thought to impact economic development and inflation by utilising interest rates, money supply, and exchange rates to achieve policy objectives and financial stability. Monetary policy choices on interest rates have a significant influence on bond yields. Low-interest rates can also create currency depreciation, affecting foreign investors' bond yields. Reducing interest rates may rice bond prices that leading to devaluing bond yields; also, rising interest rates lower bond prices while increasing bond yields.

Furthermore, bondholder returns do not keep pace with the growing cost of living; as a result, when inflation surpasses the nominal interest rate, bondholder returns deflate, lowering investor yields. Low-interest rates can also create currency depreciation, affecting foreign investors' bond yields. Therefore, more independent central banks may encourage more foreign investors' participation in the market, leading to debt foreign bias in a country. Therefore, our hypothesis is

H9: The Central bank independence increases debt foreign bias (*DHB*)

3.5.4 Central bank transparency and debt foreign bias

Transparency by central banks is intended to decrease inflationary bias and allow more flexibility in responding to economic shocks. It is also crucial for the capital market because it influences investors' expectations. Examining the factors affecting the holding of local currency bond portfolios by U.S. holders, Burger et al. (2012) demonstrates that over-investment than the benchmark in the markets has higher yields, favourable skews, and greater clarity. Existing research into determining factors in bond investment suggests that volatility of the bond market and expectations of market returns substantially affect foreign bias in bond portfolios (see Burger and Warnock, 2007, Burger et al., 2012, Horioka et al., 2016). It is believed that market returns determine by the performance of macroeconomic variables and that macroeconomic variables are also influenced by monetary policy action. Suppose that a credible monetary policy encourages cross-border investment decisions, and transparency of monetary policy makes policy plausible.

Existing literature suggests that foreign bias lowers the cost of capital, expecting the participation of the most significant number of investors. The conceptual framework regarding sub-optimal portfolio investment and cost of capital has been highly documented in the literature (see; Lewis, 1999). Besides, higher levels of

foreign bias (i.e., over-investment than benchmark) in the direction of the domestic market are supposed to increase the sharing risk globally (higher integration) and thereby decrease the cost of capital (see; Stulz, 1999). Bhatta et al. (2017) suggest that the markets with greater foreign bias could lower the cost of debt.

Investors must evaluate the country's economic growth while considering cross-border investments. Higher economic growth is likely to increase stock market returns. Monetary policy is supposed to influence economic development and inflation by using interest rates, money supply, and exchange rates to accomplish policy objectives and financial stability. Interest rate policy decisions have a considerable influence on bond yields. Low-interest rates can also cause currency depreciation, affecting bond yields for foreign investors. Bond prices rise as interest rates decrease, causing bond yields to decline; when interest rates rise, bond prices fall while bond yields appreciate.

Furthermore, bondholder returns do not keep pace with the growing cost of living; hence, when inflation surpasses the nominal interest rate, bondholder returns fall and depreciate investor yields. Low-interest rates can also create currency depreciation, affecting overseas investors' bond yields. Therefore, it is supposed that central bank transparency lowers information asymmetry among investors and enhances investor expectations, attracting investors from around the world and enabling market integration, which contributes to foreign bias and economic development in the country while also lowering the cost of capital for investors. A more transparent central bank's monetary policy may encourage more foreign investors' participation in a country, which may lead to increasing foreign bias. Therefore, our hypothesis is as follows.

H10: The central bank transparency increases debt foreign bias (*DHB*)

Chapter 4: Data

4.1 Chapter overview

This chapter defines and explains the data employed in this study. Initially, we would like to explain the four cost of capital measures, the equity home bias and equity foreign bias, and the debt home bias and debt foreign bias. The chapter is structured as follows: Section 4.2 describe the cost of capital measures, and Section 4.3 explain critical, independent variables. Section 4.4 describe other control variables. Section 4.5 define equity home bias and foreign bias measure. Section 4.6 explain debt home bias and foreign bias measure.

4.2 Cost of capital measures

The cost of capital measures we employ are extensively applied in the existing finance literature (see; Jewel and Livingston, 1998; Lau et al., 2010; Damadoran, 2014; Masood et al., 2017, and Kwabi et al., 2018). Our cost of capital measure includes (i) Historical rate of return (*HRRtn*), (ii) Country equity risk premium (*CERP*), (iii) Dividend Yield (*DivYld*) and (iv) Sovereign credit rating-based risk (*CRRsk*).

4.2.1 Historical rate of returns (*HRRtn*)

Following empirical literature (see; Bekaert and Harvey, 2005; Lau et al., 2010; and Kwabi et al., 2018), This research uses the historical rate of return (*HRRtn*), the annual rate of growth of the average index of the stock market. The yearly average of the stock market index is structured by aggregating the average of the daily index data of the stock market. The research data is from Bloomberg and the global economies. The key benefit of using the historical return rate (*HRRtn*) is that it captures the anticipated risk premium by reverting the mean from the average long-term premium. Existing literature suggests that this method requires long-term data to obtain a consistent estimate of future returns (see; Elton, 1999; and Lundblad, 2007). It could be, therefore, troublesome in several developing countries with relatively shorter-term data. By employing the country equity risk premium (*CERP*) construct and maintained by Damodaran (2014), we resolve these issues, which describes the spread adjustment of sovereign default for the equity risk premium compared to the expected return on bond markets. In this study, we employ the historical rate of return (*HRRtn*) for the period from 2001 to 2014 for 40 countries.

4.2.2 Country equity risk premium (*CERP*)

Following existing literature, we employ further alternative measures for the cost of capital, is country equity risk premium (*CERP*) as a measure (see; Damodaran, 2014; and Kwabi et al., 2018). The equity risk premium is an added return acquired by an investor for investing in the capital market above a risk-free rate threshold. It compensates the investors for taking an additional risk on investments. Damodaran employs S & P 500 as its representative capital market to construct this measure and the United States as a base country. The adjusted risk premium is determined by summing up Moody's risk ratings of local currency sovereign bonds

with a default spread (from over base country) compared to the base country representing the adjusted country risk premium for a particular market. In addition, the corresponding premium is raised by the ratio of the volatility of the country's stock exchange to the volatility of the bond market.

4.2.3 Dividend Yield (*DivYld*)

As an alternative measure of the cost of capital, we use dividend yield (DivYld), which is backed by several current studies (see; Fama and French, 2000; Bekaert and Harvey, 2000; Hail and Leuz, 2006; Lau et al., 2010; and Kwabi et al., 2018). As an aspect of the capital asset pricing model, Lau et al. (2010) argue that the return on the dividend is a stable and straightforward determinant of the cost of capital. In addition, Bekaert and Harvey (2005) argue that, especially in the case of emerging markets, dividend yields are a better cost of capital measure than historical realised returns because returns are comparatively more unpredictable in emerging markets than the returns in developed markets. This study employs data from Bloomberg and the world federation of exchanges (WFE) for all countries.

4.2.4 Sovereign credit-risk rating (*CRRsk*)

Following existing literature, we use another measure of the cost of capital is sovereign credit risk ratings. Investors use sovereign credit scores to measure the risk of the capital markets of a given country (See; Jewel and Livingston, 1998; and Kwabi et al., 2016). Fundamentally, the scope of sovereign country credit ratings measures the volatility of a country regarding economic and financial risk. On the other hand, the historical rate of return measures past shocks and potential in a country's market based on past chronological data. Therefore, we assume sovereign country credit risk measure could be resolved the issues and drawback that arises by employing historical equity risk premium estimation measure. Existing literature demonstrates that a country's capital cost positively affects credit scores. Hail and Leuz (2006) argue that the sovereign credit rating measure is strongly and substantially connected to the cost of capital. In addition, Bhattacharya and Daouk (2002) claim that countries' credit ratings, specifically developed countries, are a reliable measure of the portfolio returns concerning potential volatility. We obtain countrywide credit risk scores with the 10-year denominated sovereign bonds in local currency from the website of Damodaran. We then translate the qualitative credit scores into numerical values following the current literature (see; Reeb et al., 2001), a scale based on 1-22. We give AAA=1, AA+=2, AA=3 a value of 1.... All the way to D=22, in our regressions, we employ their natural log. Research data is sourced from S & P and Moody's credit rating data, and Damodaran's database.

4.3 Key independent variable

4.3.1 Central bank independence (*CBI*)

The central bank's independence reflects the central bank's freedom to use monetary policy instruments preparation and implementation without government intervention, instruction, or direction (Henning, 1994). On the other hand, Maxfield (1997) suggests that the independence of central banks signals to potential

investors regarding their credibility and effectiveness. He also argues that the central bank's independence fosters and demonstrates countries' exposure to the global market, which connects through several channels such as the foreign reserves, the balance of payments, cost of capital or foreign portfolio investment. In this study, we employ a central bank independence dataset from Garriga (2016), representing the accountability level in monetary policy execution. Following Cukierman et al. (1992), Garriga (2016) compiled the most comprehensive dataset comprising yearly data from 1970 to 2012 for 182 developed and emerging countries. Several studies have used the *CBI* data (see Grilli et al., 1991; Cukierman et al., 1992; Pollio and Guillen, 2005; Bodea and Hicks, 2015; Garriga, 2016). The CBI Index is comprised of 16 weighted elements divided into four sub-sections. The first sub-section is CEO or governor tenure, appointment, and dismissal (weight 0.20); the second is policy decisions without government interference (weight 0.15); the third is central bank objectives and price stability (weight 0.15), and the fourth is a limitation on the government lending (weight 0.50). The *CBI* scale for each component ranges from 0 to 1, with values closer to 1 indicating greater independence and values closer to 0 implying more extensive government dependence. The prime objective of the central bank independence index is to increase independence from executive control. Monetary policy outcomes would be optimal when the central bank is independent of a country's political government.

4.3.2 Central bank transparency (*CBT*)

Transparency of the central bank is the transmission of relevant information to the market and investors on the central bank's strategy, evaluations, policy decisions, and procedures in an open, transparent, and timely manner (ECB,2021). The independence and transparency of the central banks influence the volatility in the capital market, and the existing degree of independence of the central bank reflects the transparency level in central banks (see; Papadamou et al., 2014). In this study, we use the comprehensive transparency index of the central bank (CBT) developed by Geraats (2002). The index provides a taxonomy of monetary policy transparency by emphasising and establishing a link to several aspects of the policy-making process. That taxonomy is a framework and benchmark for assessing the transparency of central banks (see; Eijffinger and Geraats, 2006; and Dincer and Eichengreen, 2007), which was subsequently extended by Dincer and Eichengreen (2014). The overall index of central bank transparency is the aggregate of the scores from fifteen questions over five evaluation aspects, ranging from 0 to 15. The first aspect is political transparency, which refers to openness concerning monetary policy objectives. The second aspect is economic transparency, which is concerned with the economic data used for monetary policy. The third aspect is procedural transparency, which refers to the process through which monetary policy decisions are made. The fourth aspect is policy transparency, which refers to disclosing and explaining policy decisions. The fifth and final aspect is operational transparency, which refers to executing the central bank's policy actions. Each of the five elements of central bank transparency is scored from 0 to 3, with a maximum level of transparency score of 15. In continuation of the work of Eijffinger and Geraats (2006), Dincer and Eichengreen (2008 & 2014)

have enhanced the central bank transparency index by incorporating a more significant number of central banks over a more extended period, which is appropriate for panel data analysis.

4.4 Other control variables

We control for several factors that may affect the capital market and cost of capital and may influence home and foreign bias of equity and debt portfolios. Almost all of them are country-level variables. We group them into three categories based on their nature: macroeconomic variables, country risk variables and financial market variables.

4.4.1 Macroeconomic variables

The existing literature demonstrates that macroeconomic variables influence the capital market and the cost of capital, such as inflation, exchange rate fluctuations and interest rate volatility (see; Boyd et al., 2001; Gumus et al., 2013; Waqas et al., 2015). Garcia and Liu (1999) show that the macroeconomic variables positively affect the capital market. They argue that actual income level, saving rate and growth of financial intermediary are essential drivers of stock market capitalisation. Billmeier and Massa (2009) argue that countries with poor domestic economic factors inhibit global investors from investing in the country. Better macroeconomic fundamentals enhance investor confidence and longing to invest, ensuring greater market participation, facilitating risk diversification, and reducing the cost of capital. Moreover, Boyd et al. (2001) note that macro-economic stability promotes the growth of the capital market. We employ several indicators to examine the macroeconomic effects of the capital market and the cost of capital. These are interest rate (*IntRt*), exchange rate exposure (*ExcgRt*), inflation risk (*InflRt*), tax rate (*TaxRt*), GDP growth rate (*GdpGrth*), and FDI to GDP (*FdiGdp*). Research data is derived from the world bank's database of world development indicators (WBI)

Interest Rates (*IntRt*)

Changes in the interest rate affect the net present value, thereby impact on the cost of capital. On the other hand, a firm borrowing at a higher interest rate for business expansion would raise the cost of debt. Higher interest expenses may decrease businesses' earnings and dividend payments, leading to a decline in the share price, thereby decreasing the market capitalisation. According to Hymer's (1976) portfolio theory, foreign portfolio investment is driven by the host country's interest rates rather than investment returns. They argue that higher interest rates attract foreign investment because of hot money flows, rising currency rates, and higher returns than investors in their own country. Furthermore, rising interest rates would benefit foreign investors by allowing them to borrow money locally at a cheaper rate and invest it at a higher rate in foreign markets. We employ world bank data for this study.

Exchange Rates (*ExcgRt*)

Countries with a stable exchange rate may experience a higher flow of foreign investment, thereby enhancing greater investor participation in the market, supporting risk diversification, and reducing the cost of capital. This is because exchange rate fluctuations may significantly affect the investment portfolio, even though investors hold only domestic investments. Such exchange rate changes would trigger volatile capital flows rather than efficient and sustainable foreign investment (Brink and Viviers, 2003). Bleaney and Greenaway (2001) claim that actual exchange rate fluctuations increase foreign investment volatility and argue that the devaluation of the host country's currency induces foreign investors to invest because of higher returns. In this study, we employ world bank data for analysis.

Inflation Rates (*InflRt*)

Inflation is the rate at which goods and services rates change over time, which could effectively affect the potential value of savings and investment and is one of the most significant challenges to investors. An increasing rate of inflation turn investors into a disaster as it causes potentially negative consequences on investment. Brandt and Wang (2003) have shown that the difference in the equity risk premium is closely linked to the inflation rate. Stable and moderate inflation represent macroeconomic stability. High levels of price volatility can lead to high levels of uncertainty in equity markets and less motivation for investors to participate in capital markets. In addition, Nelson (1976) and McCarthy et al. (1990) find a negative relationship between stock returns and inflation. In this study, data was collected from the world bank database.

Tax Rates (*TaxRt*)

There is a significant influence of the tax on the capital market and the cost of capital. A host country's tax rules and regulations significantly affect foreign investment (Chen and Tang, 1986). In general, the investment choices are based on the expected post-tax returns on an investment relative to the expected risk. Empirical analysis has shown that it is also one of the most important tools (Kim, 1999) that influence cross-border investment and the cost of capital. In this study, we employ annual corporation tax rate data from the World bank.

GDP growth (*GdpGro*)

The country's GDP growth rate influences portfolio investment, as with other macroeconomic factors. Existing research suggests that higher GDP growth rates, high-interest rates, lower inflation, currency depreciation, and foreign direct investment in a host country lead to lower volatility in international portfolio investment (see; Waqas et al., 2015). GDP Data was collected from the world bank database for this study.

FDI to GDP(*FdiGdp*)

Foreign direct investment also plays a vital role at the microeconomic and macroeconomic levels, influencing portfolio investment like other economic factors. Foreign portfolio investment (FPI) provides a

solid economic boost to a country together with foreign direct investment (FDI). FDI to GDP is a measure of flows of capital inflows relative to the GDP. International portfolio investors emphasise the country's stable macroeconomic setting. Lower volatility in the foreign portfolio of a host country is associated with macroeconomic variables such as high inflows of FDI, high-interest rates, lower inflation, and high GDP growth rates (see; Hashmi and Waqas, 2015). In this study, we employ world bank data for analysis.

4.4.2 Country risk variables

Country risk refers to a country's economic and political threats that create uncertainty that can impact its economy and business firms and subsequently declines in investment. This influences the economies and capital markets, as decision-makers are hesitant to make significant investment decisions. Therefore, financial investors are delaying their decisions while they expect certainty. There is a considerable benefit of international portfolio diversification. However, existing country risk in a host country tends to be a solid determinant for inhibiting diversification. (See; Driessen and Laeven ,2007)

Government effectiveness (*GovEfc*)

Government effectiveness captures the consistency of government policy design and execution and the integrity of government dedication to those policies. It represents the quality of public institutions and the degree to which they are autonomous from political constraints that help to build and sustain a good investment climate that allows investors to optimise their operating performance and return on investment (see; La Porta et al., 1998; and Bekaert et al. 2007). That can be achieved by ensuring that firms comply with the desires and aspirations of investors by reducing the misuse of control, moral hazard, and self-serving actions of corporate insiders. Government effectiveness (*GovEfc)* is graded on a scale of 0 – 100, with countries scoring low (minimum zero) against this indicator, representing poor institutional efficiency. Similarly, high-scoring countries (maximum 100) suggest bureaucratic power and capability rule with no dramatic policy changes or interruptions in the government services provision. This study gathers world bank data from their world governance indices (WGI).

Political stability (*PolStb*)

Alesina and Perotti (1996) demonstrate that socio-political uncertainty causes an unstable political and economic setting, posing threats and decreasing investment. In addition, political uncertainty also contributes to higher inflation, as seen in Aisen and Veiga (2006). Political stability measures the likelihood of political instability and politically driven violence. Political stability (*PolStb)* is graded on a scale of 0 – 100, with countries scoring low (minimum zero) against this indicator, representing poor stability. Similarly, high-scoring countries (maximum 100) suggest a stable political setting. We gather research data from the world bank's database of world governance indicators (WGI).

Regulatory quality (*RegQlt*)

Regulatory quality measures the government's capacity to plan and implement effective policies and guidelines that promote business and investment in a country. The percentage scale reflects the country's rank among all the countries covered by the composite indicator, with 0 referring to the lowest level and 100 to the highest level of regulatory quality (*RegQlt*). Study shows that regulatory quality in a market influences informational asymmetry among different investors (see; Charoenwong et al., 2017). We use research data from the world bank's database world governance indicators (WGI).

Rule of Law (*RulLaw*)

The rule of law is the framework for establishing fair and peaceful societies that contribute to a country's development. Higher judicial strength and the rule of law should give investors better protection, property rights, and a risk-averse business environment. Staats and Biglaiser (2011) claim that a higher level of the rule of law in a host country leads to a higher degree of portfolio investment. We use Rule of Law statistical data (RulLaw) from the World Bank's World Governance Indices (WGI) database. The rule of law (*RulLaw*) is scaled from 0 to 100, with countries scoring low (minimum zero) against this indicator, representing poor law and order. Similarly, high-scoring countries (maximum 100) suggest a prosperous society with law and order.

The heritage foundation's country rating index

Monetary freedom (*MoneFrdm*) is a composite scale of 0 to 100 that combines a measure of price stability with an assessment of price control. A higher score indicates more monetary freedom in the country. Investment freedom (*InvstFrdm*) measures how economically free a country is in terms of having no restrictions on the movement of investment capital. Trade freedom (*TrdFrdm*) is a composite measure that measures the barriers of tariff and non-tariff imports and exports of goods and services; it is measured on a scale of 0 to 100, with a higher score indicating greater trade freedom in the country. Financial freedom (*FinFrdm*) is a 0 to 100 scale measure the independence and efficiency of the financial sector from government interference; a higher score implies more financial freedom in the country. Business freedom (*BusnsFrdm*) measures the effectiveness of government regulation for businesses on a scale of 0 to 100, with a higher score indicating greater business freedom in the country. Government integrity (*GovIntgrt*) measures the effectiveness of the government's rule of law, corruption control, and open market functioning on a scale of 0 to 100, with a higher score indicating greater government integrity in the country.

Government debt to GDP (*GovtDbt*)

The government debt to GDP ratio compares a country's public debt to its gross domestic product (GDP). The debt-to-GDP ratio reliably illustrates a nation's ability to repay its debts by comparing them to production. This often includes a country's financial strength, which determines risk and returns for investors. Research suggested that the proportion of government debt on per capita GDP growth affects the country's

macroeconomic situation and long-term growth. Checherita-Westphal and Rother (2012) indicate that the non-linear growth effect of debt is a plateau at which the government debt-to-GDP proportion hurts the long-term development of some 90 to 100 per cent of GDP. This study uses world bank data based on the annual government debt ratio to GDP.

Governance Index (*Govnc*)

The Economist Intelligence Unit (EIU) 's governance index measures the competence of a country's political and civil liberties. We employ index data from EIU of The Economist. The governance index of the economist intelligence unit (EIU) is gathered from the six indicators consisting of voice and accountability, political stability and peace, government effectiveness, the rule of law, regulatory quality, and control of corruption on a scale of 0 to 100 (percentage). Each category is rated on a scale of 0 to 100, and the total index is the cumulative percentage of the indices in the six groups. A higher score implies a greater degree of governance in a country.

Political risk index (*PolRsk*)

Like other types of risk, political risk negatively impacts the macroeconomy and investment of a country. Investment returns could suffer due to political uncertainty or a country's policy change. Political risk is characterised as the likelihood of tension in the economy, trade, and investment in a country, affecting investors' risk prediction and return on investment (Howell, 2001). The political risk score is measured on a range of 0-100, consists of twelve elements, and is evaluated based on pre-defined questions. We use the PRS political risk index in this study. Risk measures include government stability, corruption, socio-economic situations, military policies, investment profile, internal conflicts, external conflicts, religious tensions, law and order, ethnic wars, bureaucratic efficiency, and democratic accountability. The mean value of these twelve indicators for a particular country is the financial risk score, computed yearly. In this study, we employ data from PRS country risk ratings.

Financial risk index (*FinRsk*)

Financial risk is the likelihood of hurting the return on investment. Financial risk comprises complex and specific risks such as credit, liquidity, and operational risks. Therefore, the lower financial risk of the country is anticipated to attract more excellent portfolio investors. Research shows that country risk, including financial risk, is associated with potential returns on equity (see; Erb et al., 2019). The PRS financial risk index, which ranges from 0 (low) to 50 (high), captures data from the five elements of risk, including GDP proportion to foreign debt, gross exports and services proportion to foreign debt, exchange rate volatility of global liquidity, and current accounts as a proportion of exports and services. The mean value of these five indicators for a particular country is the financial risk score, computed yearly. In this study, we employ PRS financial risk (*FinRsk*) in our analysis

CSP's Polity index

We employ the polity index developed by the centre for systemic peace (CSP). The polity index represents the overall level of democracy in a country; the main three segments of the index are democracy (*Democ*), autocracy (*Autocry*), and polity (*Polity*). The democracy index (*Democ*) has an 11-point additive scale (0-10) higher score means the country is more democratic; in contrast, the higher the score of 11-point (0-10) autocracy (*Autocry*) score implies that country is autocratic. On the other hand, polity (Polity) is determined by subtracting the autocracy (*Autocry*) score from the democracy (*Democ*) score, which results in a polity score ranging from +10 (extremely democratic) to -10 (extremely autocratic). A positive and high *Polity* score indicates that the country is more democratic, whilst a negative and low *Polity* score suggests that the government is less democratic.

Banking Z score (Zscore)

The z-score is a standard measure of stability at each institution's level, especially in banks. It compares safeguards (capitalisation and returns) with a country's risk (return volatility). Banks are an integral part of the financial structure in a country that may influence investment and capital market. We use Bankscope data and the world bank's database in this study. The Z-score compares the country's banking sector buffer (capitalisation and returns) with the uncertainty of such returns, i.e., the likelihood of default of the country's banking system. A low score means the possibility of bankruptcy, and a higher score means the strength of the banking system in the country.

4.4.3 Financial market structure variables

Market performance implies the degree to which the collective actions of all market participants correctly reflect the value of public companies and their common shares at any given period. In an effective market, all the information available to all interested parties is actually and accurately reflected by market prices. Passive index investors who pursue an investment approach to optimise returns by minimising buying and selling will benefit the most from an efficient market. Karolyi (2004) shows that poor-performing capital markets result from inadequate monetary, legal, and other institutional influences. As financial globalisation expands the investment base of countries, better institutional quality may allow foreign investors to manage risk. A better institution requires exploiting potential opportunities, reducing risk, and greater investor participation in the market, reducing capital cost. We employ a set of control variables in this study relevant to a country's market and financial structure.

Financial Market Development

Financial market development and economic growth are mutually advantageous. Effectively developed financial markets facilitate the transfer of resources from savers to investors and contribute to the economy's

resilience to shocks by enabling optimal risk allocation. The IMF's financial access survey (FAS) offers a dataset on access to and use of financial resources to support policymakers in evaluating and monitoring financial inclusion compared to the benchmark. This research uses three sets of IMF data on the development of financial markets, including financial market access (*FmAcc*), financial market depth (*FmDep*) and financial market efficiency (*FmEff*).

Financial Market Access (*FmAcc*)

The IMF's Financial Market Access Index (*FmAcc*) consists of two components: the total number of debt issuers (domestic and international, non-financial and financial) and the percentage of market capitalisation outside the top 10 largest firms. Financial market access (FmAcc) is graded from 0 to 100, with low-scoring countries (minimum zero) representing lower financial access and higher financial market access countries turning towards high scoring (maximum 100).

Financial Market Efficiency (*FmEff*)

The efficiency of the financial markets is a sub-index for the financial market's performance, which depends on the ratio of the stock market turnover, the percentage of the volume of the securities exchanged to the capitalisation of the stock market. Higher liquidity and better market efficiency would result from a higher turnover. The most widely used variable in the bond market is the tightness or narrow gap between the bid and the ask. Financial market efficiency (*FmEff*) is scaled from 0 to 100, with countries scoring low (minimum zero) against this indicator, representing poorer efficiency. Similarly, high-scoring countries (up to 100) indicate greater financial market efficiency.

Financial market depth (*FmDep*)

The degree of depth of the financial market in a country is the financial market concerning the economy. The measure of financial market depth considers the scale of a country's banks, certain financial institutions, and financial markets compared to economic output calculation. Financial market depth (*FmDep*) is scaled from 0 to 100, with countries scoring low (minimum zero) against this indicator, representing lower depth. Similarly, high-scoring countries (maximum 100) suggest a higher financial market depth.

Stock price volatility (*StkPVol*)

Investors assess that the higher level of volatility that comes with bear markets will directly affect investments, thus putting pressure on investors when they see the value of their portfolios fall. This also prompts investors to rebalance the weighting of their portfolios between stocks and bonds. Analysis shows that price volatility is positively associated with institutional sales and negatively correlated with institutional buys (Li Wang, 2010). In this study, we employ data from the world bank. The volatility of the stock prices is the year (360 days) average volatility of the national stock exchange index. Stock price volatility (*StkPVol*) is scaled from 0 to 100, with countries scoring low (minimum zero) against this indicator, with a minor

deviation from year to year representing a more stable market. In contrast, high-scoring countries (maximum 100) suggest a volatile market.

Market liquidity (*MrktLiq*)

Liquidity risk can have a significant effect on the outcomes of investment. Market liquidity evaluation is essential to determine whether to invest that portfolio remains well-diversified while potentially taking advantage of market investment opportunities. Study shows that increasing investor sentiment indexes, i.e., more optimistic investors lead to further liquidity in the stock market. Moreover, increasing market trade volumes are also associated with higher investor sentiment (Liu, 2015). Market liquidity (*MrktLiq*) represents the value of the stock traded as a proportion of GDP in the aggregate number of domestic and foreign shares compounded by their respective values. We employ data from the world bank in this study. Higher market liquidity suggests that securities will be traded at a stable and transparent price.

Equity Index (*EqIndx*)

The stock index or the stock price index indicates the stock market segment. The stock index is measured using the values of selected stocks (usually the weighted average). It is a method used by investors to define the market and compare the return on particular investments. Research shows that the return-seeking behaviour of portfolio investors tends not only to have an effect on their investment decisions but also to evaluate the history of market returns and their volatility – to be more precise, at a day's lag (Mukherjee et al., 2002). The equity index (*EqIndx*) is determined by taking a corporation's market capitalisation by taking the stock's current price and multiplying it over a specific period by outstanding securities in a country. We sourced data from the World bank database for this study.

4.5 Equity home bias (*EHB*) and foreign bias (*EFB*) measures

We use cross-country holding of equity portfolio data from the coordinated portfolio investment survey (CPIS) of the International Monetary Fund (IMF) and market capitalisation data from the World Federation Exchange (WFE) and World Bank database to generate equity home bias (*ehb_log*) and foreign equity bias (*efb_log*) measures for this study. We also use data from the Eurostat and World Bank datasets. In this analysis, for the period from 2001 to 2014, we include data from 40 countries.

4.5.1 Equity home bias (*EHB*)

We define equity home bias (*EHB*) as below in the following existing literature (see; Aharne et al. 2004; and Chan et al. 2005). The equity home bias measure captures the degree of domestic investors over-weighting their portfolio from the benchmark to the domestic equity market.

$$EHB_{lt} = log\left(\frac{w_{llt}}{wlt}\right) \quad (4.1)$$

Where,

$\boldsymbol{w_{llt}}$ denotes the weighting of the domestic market capitalisation of domestic investors and $\boldsymbol{w_{lt}}$ denotes the world ICAPM benchmark allocation country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. It is identical for all the investors of 40 courtiers.

However, $\boldsymbol{w_{llt}}$ and $\boldsymbol{w_{lt}}$ is constructed as follows.

$$w_{llt} = \frac{h_{llt}}{GPH_{lt}} \quad (4.2)$$

where,

$\boldsymbol{h_{llt}}$ denotes the domestic investors' equity holdings in the domestic market and $\boldsymbol{GPH_{lt}}$ denotes the domestic investors' global equity holding (across 40 countries) in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$.

$$w_{lt} = \frac{cap_{lt}}{\sum_{l=1}^{40} cap_{lt}} \quad (4.3)$$

Where,

$\boldsymbol{cap_{lt}}$ denotes the total market capitalisation country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. A positive value for $\boldsymbol{EHB_{lt}}$ in equation (4.1) demonstrate that the investors have a bias in the direction of their home market, whereas the values of $\boldsymbol{EHB_{lt}}$ Zero or less implies that investors are unbiased to their home market.

The construction of global portfolio holdings by domestic investors ($\boldsymbol{GPH_{lt}}$) and domestic portfolio holdings by domestic investors ($\boldsymbol{h_{llt}}$) is required as the existing literature suggests (see; Fidora et al., 2007). The coordinated portfolio investment survey (CPIS) documents only cross-country bilateral foreign equity portfolio holdings. Therefore, it is necessary to compute the domestic portfolio holding country $\boldsymbol{l}$ of the domestic investors for the period of $\boldsymbol{t}$.

Therefore, $\boldsymbol{h_{llt}}$ and $\boldsymbol{GPH_{lt}}$ is constructed as follows.

$$h_{llt} = MCAP_{lt} - \sum_{k=1}^{39} FPH_{k_{lt}}, \qquad l \neq k \quad (4.4)$$

Where,

$\boldsymbol{MCAP_{lt}}$ denotes the market capitalisation of country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. Whereas $\boldsymbol{FPH_{k_{lt}}}$ denotes foreign investors' portfolio holdings of country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$ but domiciled in country $\boldsymbol{k}$. (where l ≠k).

$$\boldsymbol{GPH_{lt}} = h_{llt} + \sum_{k=1}^{39} FPH_{k_{lt}}, \qquad l \neq k \qquad (4.5)$$

Where,

$\boldsymbol{FPH_{lkt}}$ denotes the holdings by domestic investors' foreign portfolio (k) for the period of $\boldsymbol{t}$. i.e., investors are based in the country $\boldsymbol{l}$.

In the empirical analysis of this study, the variable *ehb_log* is the $\boldsymbol{EHB_{lt}}$ it is based on the data from IMF's coordinated portfolio investment survey (CPIS) and the World Exchange Federation (WFE).

4.5.2 Equity foreign bias (*EFB*)

We define equity foreign bias (EFB) as below, following the current literature (see; Chan et al., 2005). Foreign investors over-weight their portfolio from the benchmark to the foreign equity market as captured by the measure of foreign equity bias.

$$\boldsymbol{EFB_{k_lt}} = log(\frac{W_{k_lt}}{w_{lt}}) \qquad (4.6)$$

Where,

$\boldsymbol{w_{klt}}$ denotes the foreign investors' portfolio allocation in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$, though resident in the country $\boldsymbol{k}$. And $\boldsymbol{w_{lt}}$ denotes the world benchmark allocation suggested by ICAPM in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. It is identical for all the investors of 40 courtiers.

However, $\boldsymbol{W_{k_lt}}$ and $\boldsymbol{w_{lt}}$ is constructed as follows.

$$\boldsymbol{w_{klt}} = \frac{h_{k_lt}}{\sum_{l=1}^{39} hklt} \qquad (4.7)$$

Where,

$\boldsymbol{h_{k_lt}}$ denotes the equity holdings by the domestic investors in a foreign market, i.e., investment in country $\boldsymbol{k}$ for the period of $\boldsymbol{t}$. However, for investors domiciled in country $\boldsymbol{l}$, the denotation of $\boldsymbol{w_{lt}}$ as defined in equation (4.3).

In each pair of countries, foreign equity bias can be positive or negative (i.e., $\boldsymbol{kl}$). If the equity portfolio of foreign investors has an overweight against the foreign market more than the global benchmark (in-country $\boldsymbol{k}$) then it would be positive. However, when the equity portfolio of foreign investors are underweight, the investment suggested by the worldwide benchmark would be negative (see; Chan et al., 2005; and Lau et al., 2010).

We consider the weighted foreign bias in equities $\boldsymbol{AEFB_{lt}}$ denotes that portfolio investors of all countries in the country $\boldsymbol{l}$ for the period $\boldsymbol{t}$ as shown, where $\boldsymbol{k}$ =1.....n. for the regression analysis is as follows.

$$\boldsymbol{AEFB_{lt}} = \frac{\sum_{l=1}^{n} EFBklt}{n} \qquad (4.8)$$

Where,

For *fb_log*, the number of countries, i.e., n, is 39 (i.e., except for countries for which foreign bias is estimated, the same as the host countries).

The variable *fb-log* in the empirical analysis of this study that $\boldsymbol{EFB_{lt}}$ is generated from data of the IMF'S coordinated portfolio investment survey (CPIS) and the world federation of exchanges (WFE).

4.6 Debt home bias and foreign bias measures

We use cross-country long-term debt securities portfolio holding data from the coordinated portfolio investment survey (CPIS) of IMF and country-wise bond portfolio year-ending data from the banks for international settlements (BIS) to construct debt home bias (*dhb_log*) and debt foreign bias (*dfb_log*) measures for this study. We also use data from the Eurostat and World Bank datasets. This analysis includes data from 40 countries from 2001 to 2014, the debt home bias (*dhb_log*) and debt foreign bias (*dfb_log*) measures, as described in the following section.

4.6.1 Debt Home bias (*DHB*)

Following the current literature, we define the debt home bias (*DHB*) below (see; Chan et al., 2005). The extent to which domestic investors over-weight their bond portfolio from the global benchmark to the domestic bond market is captured by the debt home bias measure.

$$\boldsymbol{DHB_{lt}} = \log\left(\frac{W_{llt}}{w_{lt*}}\right) \qquad (4.9)$$

Where,

$\boldsymbol{w_{llt}}$ denotes the weighting to the domestic market by the domestic investors in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$, the ratio of the domestic holdings to the overall bond holdings is constructed as follows.

$$\boldsymbol{w_{llt}} = \frac{domestic\ bond\ holdings\ by\ investors\ in\ country\ l\ (hllt)}{total\ global\ bond\ holdings\ by\ investors\ in\ country\ \ l\ (gph\ lt)}$$

$$w_{llt} = \frac{h_{\ llt}}{gph_{\ lt}} \qquad (4.10)$$

where,

$\boldsymbol{h_{llt}}$ denotes the domestic investors' bond holdings in their domestic market and $\boldsymbol{gph_{lt}}$ denotes global holdings (across 40 countries) by domestic investors country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. and $\boldsymbol{w_{lt}}$ denotes the world benchmark allocation suggested by ICAPM in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. The same applies to all the investors of the 40 courtiers. However, $\boldsymbol{w_{lt}}$ is constructed as follows.

$$\boldsymbol{w_{lt}} = \frac{\mathrm{MV}_{lt}}{\sum_{l=1}^{40} \mathrm{MV}_{lt}} \qquad (4.11)$$

Where,

$\mathbf{MV_{lt}}$ denotes the total bond market value of country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. A positive value for $\boldsymbol{DHB_{lt}}$ in equation (4.9) explain that the investors have a bias towards their home market, whereas the zero or fewer values in $\boldsymbol{DHB_{lt}}$ means that investors have not biased in the direction of their home market.

Following the current literature (see; Fidora et al., 2007) generated the global portfolio holdings by domestic investors ($\boldsymbol{gph_{\ lt}}$) and domestic portfolio holdings by domestic investors ($\boldsymbol{h_{llt}}$). The coordinated portfolio investment survey (CPIS) only maintains the country's bilateral foreign debt portfolio data.

Therefore, $\boldsymbol{h_{llt}}$ and $\boldsymbol{gph_{\ lt}}$ are constructed as follows.

$$\boldsymbol{h_{llt}} = Mv_{lt} - \sum_{k=1}^{39} fph_{k_l t} \qquad l \neq k \qquad (4.12)$$

Where,

$\boldsymbol{Mv_{lt}}$ denotes the outstanding debt securities issued in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. Whereas $\boldsymbol{fph_{klt}}$ denotes foreign investors' portfolio holdings of country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$ but domiciled in country $\boldsymbol{k}$. (where l ≠k.)

$$\boldsymbol{gph}_{\boldsymbol{lt}} = h_{llt} + \sum_{k=1}^{39} fph_{k_{l_t}} \quad (4.13)$$

$\boldsymbol{fph_{klt}}$ denotes the holdings by domestic investors of the foreign portfolio ($\boldsymbol{k}$) for the period of $\boldsymbol{t}$. i.e., investor domiciled in country $\boldsymbol{l}$.

In the empiric analysis of this study variable, *dhb log* signifies that $\boldsymbol{DHB_{lt}}$ is a construction based on the data from IMF's coordinated investment portfolio survey (CPIS) and bank of the international settlement (BIS).

The share of portfolio for each country every year, $\boldsymbol{w_{k_l t}}$ is computed as the foreign bond holding of origin country $\boldsymbol{l}$ in destination country $\boldsymbol{k}$, Bond $\boldsymbol{kl}$, compare to country $\boldsymbol{l}$'s total holding of the bond by domestic and foreign investors $Bond_{l,t}^{tot} = \sum_{k=1}^{n} Bond\ klt$:

$$\boldsymbol{w_{klt}} = \frac{Bond\ klt}{Bond_{l,t}^{tot}}$$

Because CPIS data only includes foreign (not domestic) portfolios of bond securities, $Bond_{l,t}^{tot}$ is not directly available. Origin country $\boldsymbol{l}$'s cumulative holding of bonds is measured as follows.

$$\boldsymbol{Bond_{l,t}^{tot}} = Mv_{lt} - \sum_{k=1,k\neq 1}^{n} Liab\ klt + \sum_{K=1,k\neq 1}^{n} Bond\ klt$$

where, $\sum_{k=1,k\neq 1}^{n} Liab\ \boldsymbol{klt}$ is the sum of the rest of the world's bond liabilities held in country $\boldsymbol{l}$. $\sum_{K=1,k\neq 1}^{n} Bond\ klt$ this is the total of all foreign bond assets held worldwide. $\boldsymbol{Mv_{lt}}$ is the market value of local-currency bonds issued in the domestic market $\boldsymbol{l}$, foreign-currency bonds, and bonds issued in the global market (international bonds).

4.6.2 Debt foreign bias (*DFB*)

We define the debt foreign bias (*DFB*) below, following the existing literature (see; Fidora et al., 2007). Foreign investors over-weight their portfolio from the benchmark to the foreign debt market is captured by the measure of debt foreign bias. In this study, bond market data obtain from debt securities statistics from the bank for international settlement (BIS) and coordinated portfolio investment survey (CPIS) of IMF's data for cross-country bond holding portfolios. In our study, we define Debt Foreign Bias (DFB_{lt}) in the light study of Chan et al. (2005).

$$\boldsymbol{DFB_{lt}} = \log\left(\frac{W_{klt}}{w_{lt}}\right) \quad (4.14)$$

Where,

$\boldsymbol{w_{klt}}$ denotes the foreign investors residing in the country $\boldsymbol{k}$ and their portfolio allocation in the country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. And $\boldsymbol{w_{lt}}$ denotes the world benchmark allocation suggested by ICAPM in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. This is equal for all the investors in all 40 courtiers.

However, $\boldsymbol{W_{k_lt}}$ and $\boldsymbol{w_{lt}}$ is constructed as follows

$$\boldsymbol{w_{klt}} = \frac{\mathrm{MV}_{klt}}{\sum_{l=1}^{39} \mathrm{MV}_{klt}} \tag{4.15}$$

Where,

$\mathbf{MV_{klt}}$ denotes the market value of bond holding in a foreign market, i.e., investment in country $\boldsymbol{k}$ for the period of $\boldsymbol{t}$. However, for investors domiciled in country $\boldsymbol{l}$, the denotation of $\boldsymbol{w_{lt}}$ as defined in equation (4.11).

In the case of every pair of countries (i.e., $\boldsymbol{kl}$), debt foreign bias could be either favourable or unfavourable. When the foreign investor's portfolio has over-invested in the foreign market suggested by the global portfolio benchmark (in-country $\boldsymbol{k}$), then it would be favourable. However, if the debt portfolio of foreign investors is under-invested, as indicated by the global portfolio benchmark, it would be unfavourable (see; Chan et al.2005, and Lau et al.2010).

$\boldsymbol{ADFB_{lt}}$ denotes by portfolio investors of the country under observation (k=1.....n) for the country $\boldsymbol{l}$ for each period $\boldsymbol{t}$ is as follows, we use the average of debt foreign bias for the regression analysis.

Where,

$$\boldsymbol{ADFB_{lt}} = \frac{\sum_{l=1}^{n} DFBklt}{n} \tag{4.16}$$

For *fb_log*, the number of countries (i.e., n is 39 except for those for which foreign bias is measured, the same as host countries, $k \neq l$)

An empirical analysis of this study variable *dfb_log* denotes that $\boldsymbol{DFB_{lt}}$ which is based on the data from the IMF's coordinated portfolio investment survey (CPIS) and bank of international settlement (BIS).

Reverse equation of 4.11, 4.15 where host country $\boldsymbol{k}$ instead of $\boldsymbol{l}$

$$\boldsymbol{w_{lkt}} = \frac{\mathrm{MV}_{lkt}}{\sum_{k=1}^{40} \mathrm{MV}_{lkt}}$$

Where,

$\mathbf{MV}_{\boldsymbol{lkt}}$ denotes the market value of bond holding in a foreign market, i.e., investment in country $\boldsymbol{l}$ for the period of $\boldsymbol{t}$. However, for investors domiciled in country $\boldsymbol{k}$, the denotation of $\boldsymbol{w}_{\boldsymbol{lt}}$ as defined in equation (4.11).

$$\boldsymbol{w}_{\boldsymbol{kt}} = \frac{\mathbf{MV}_{\boldsymbol{kt}}}{\sum_{\boldsymbol{k}=1}^{40} \mathbf{MV}_{\boldsymbol{kt}}}$$

Where,

$\mathbf{MV}_{\boldsymbol{kt}}$ denotes the total bond market value of country $\boldsymbol{k}$ for the period of $\boldsymbol{t}$.

Chapter 5: Methodology and analytical procedures

5.1 Chapter overview

This chapter elaborates on the research design and econometric procedures employed in this study, which examine how central bank independence (CBI) and transparency (CBT) mechanisms affect the cost of capital, equity home and foreign bias, and debt home and foreign bias in a country. The quantitative research design is preferred as it aligns with our research goal and objective and offers several advantages over a qualitative research method.

The rationale for selecting the quantitative research method as because we have used numerical data from various countries over several years. The quantitative approach is more suitable for processing a large number of numerical data quakily and accurately than qualitative methods. Most importantly, a quantitative method provides precise outcomes. Also, a specific technique such as quantitative methods can be attained a precise outcome that can be validated and replicated (Hussey and Hussey, 1997). For this study, we find that secondary data is easily accessible in a short period and less expensive. Therefore, we employed secondary data and verified the data source's validity and reliability, consistent with the literature (Creswell, 2003).

There are several sections to this chapter. Section 5.2 describes research paradigms; Section 5.3 discuss research methodology and data sampling; Section 5.4 discusses econometric procedures that comprise 5.4.1 The correlation coefficient; 5.4.2 Panel OLS; 5.4.3 Fixed and Random Effects Regression; 5.4.4 Generalized Moment Method; 5.4.5 autocorrelation and heteroskedasticity; 5.4.6 Other specification issues.

5.2 Research paradigms

This section explains the research paradigms' purpose and how they are adopted in this study. It also discusses how different paradigms are used for other empirical research, explaining the quantitative method's suitability for this research. This section also discusses the positivist approach, its goal, and the constancy of the research study.

The research paradigm supports the selection of appropriate research methodology and research design. To achieve research goals, the research problem, objectives, and hypothesis should be defined before selecting a research paradigm. The ontological and epistemological assumptions linked with the positivist approach suggest using quantitative research methods, whilst those associated with the interpretive approach are considered to dictate the use of qualitative research methods. Two diverse perspectives on research philosophy are ontology and epistemology. In business research, ontology is described as the science or study of being and is concerned with the nature of reality (Crotty, 1998). That reality might be a single reality or truth, several realities or facts, or a continually debated and interpreted reality. The ontological perspective

on quantitative methods states that objective reality exists independent of human perception (Sale et al., 2002); it also assumes in the positivist approach that there is a single objective of fact or truth. Epistemology, on the other hand, attempts to determine actual knowledge or reality, i.e., the thinking process and how to examine that reality (Gray, 2014). That is, knowledge may be measured using design and techniques, the fact must be interpreted by underlining meaning, or knowledge or reality should be measured using appropriate techniques or interpretations. According to the positivist viewpoint, the truth may be measured using tools or techniques process relies on reliable and objective data.

The positivistic research approach, often known as the scientific method, is based on the concept that our reality is defined by a set of basic rules or patterns that can be investigated objectively (Oates, 2007). Positivists' approach suggests that using the scientific process may "reveal" or "discover" information or knowledge. Bryman (2008) characterizes positivism as having four elements: (i) Phenomenalism implies that only scientifically validated knowledge is warranted. (ii) deductivism refers to the theory's purpose of generating hypotheses that may be tested to verify or disprove laws. (iii) Objectivity means that science must be performed in a value-free manner, and (iv) inductivism states that knowledge is achievable through gathering the series of facts that constitute the basis for laws. The goal of this study, which is associated with positivism, is to establish explanatory correlations or causal relationships using quantitative methodologies, with a preference for empirically based conclusions from large sample sizes. In this aspect, positivist research has been directed by generalizable inferences, replication of findings, and controlled experimentation.

5.3 Research methodology and data sampling

In this research, we use the quantitative research method. Quantitative research is the systematic investigation of phenomena through collecting quantifiable data and using statistical, mathematical, or computational methods (Sheard, 2018) appropriate to our research goal and objective. We employ secondary data for analysis. Though secondary data have a lack of control over data quality and some cases, inappropriate, however, there are several advantages to relying on secondary data (i) time-saving, (ii)accessibility, (iii) cost reduction, (iv) breadth of research. and (v) generating new insights from previous analyses (Perez-Sindin, 2017). The sample and data collecting procedures are crucial in defining research quality and the validity of the findings. We randomly selected our research population (countries) and clustered (grouped) developed and emerging countries following the UNDP’s country groping framework. However, data sampling is affected by data availability; therefore, we limited our research data to the period from 2001 to 2014 and within 40 countries.

5.4 Econometric procedures

We discuss the statistical tools and techniques used in this study as follows.

5.4.1 Correlation coefficients

In the primary analysis in the empirical chapters, we provide Pearson's correlation coefficient to show the relationship between the variables used in the study. Through Spearman's correlation coefficient, we can provide an early indication to show whether central bank independence and transparency have a positive or negative relationship with dependent variables given by the following equation.

$$\boldsymbol{pxy} = \frac{\mathbf{cov}\,(\mathrm{r}\dot{\mathbf{x}}_{\mathbf{y}}, r_y)}{\boldsymbol{\sigma_x \sigma_y}} \qquad 5.1$$

Where,

σ_x and σ_Y are the standard deviation of variables, and $\sigma_X \sigma_Y$ is the covariance of the variables.

5.4.2 Panel OLS

The selection of an effective statistical method using panel data is crucial in empirical analysis to ensure a reliable and efficient estimate of the parameters (Baltagi, 2001). Due to the nature of our data and multiple time variables that rarely change over time, we use panel OLS (pooled OLS) regression in this study. OLS is the best unbiased linear estimator for coefficients. The simultaneous equation shows the model of the standard linear equation.

The following equation shows the standard linear equation model.

$$\boldsymbol{Y_{it}} = a + \beta x_1 it + \cdots \beta x_k it + \varepsilon_{it} \qquad 5.2$$

Where,

$\boldsymbol{Y_{it}}$ = is the dependant variable which is a measure of the cost of capital (i.e., Historical rate of return, equity risk premium, dividend yield or sovereign credit risk ratings) in the country = $\boldsymbol{i}$ for the period of = $\boldsymbol{t}$

$X_1 it$ ... $X_k it$ = is the independent variable (i.e., central bank independence or central bank transparency).

β= is the coefficient for the independent variable (i.e., the coefficient for central bank independence or central bank transparency)ε_{it}= is the error term – between country

Where x_{it} represents the K-dimensional vector of the independent variables. The model requires that the intercept a and the slope coefficients in β be the same for all individuals and time intervals. The error term in equation 5.2 differs from individual to time, which captures all unobservable variables that influence the dependent variable Y_{it}. The use of panel OLS to approximate the model includes reliability and impartiality. The following condition must be met.

$$E\{\varepsilon_{it}\} = 0 \qquad 5.3$$

$$E\{\, x_{it}\, \varepsilon_{it}\} = 0 \qquad 5.4$$

Since panel OLS has multiple observations for the same units (countries), it is fair to conclude that the error terms for different times would be correlated. For example, econometric literature indicates that a person's wages can be impacted by unobservable characteristics that differ over time. A typical assumption for statistical processes and hypothesis testing is that the data is independent and identically distributed (IID). The most common assumption is that ε_{it} is IID (independently and identically distributed), and OLS estimates are still unbiased in the presence of clustered errors. Moreover, compared to the estimator that exploits the correlation over time in ε_{it}Panel OLS is more likely to be effective.

A simple regression model in the empirical literature assumes that a linear relationship is $Y = a + \beta X + \varepsilon$ between a dependent variable Y and an explanatory variable X, with the error term ε comprising omitted variables. However, Gujarati (2003) recommends that the OLS requires the following essential assumptions to produce consistent estimates of the parameters.

1. Sample observations are randomly on Y (and x_1 ……., x_k). This assumption requires normality, whereby the sample size must be drawn from a normally distributed population.

2. Mean zero error term {i.e., $E(u) = 0$}. The assumption that error terms are distinct indicates that error terms are independent of each other, and serial correlation is not existing. The explanatory variables have no linear relationship (i.e., no perfect collinearity so the rank (xx) = k , where x = (1,x_1 , … . , x_k).

3. There is no correlation exist among the explanatory variable {i.e. $\text{cov}(x, u) = 0$, for j ….. 1,.., κ , } an error term with zero mean can be used for unbiased estimations of the parameter, according to the explanatory variable { i.e., $E(u / x) = 0$ }. Whether the error term correlates with each explanatory variable, there is a problem of inference. Empirical testing on whether the explanatory variable correlates with the error term in the regression is exceedingly complicated because the error terms are not observable.

Panel data assume ε_{it} = a_i + u_{it} . This is considered that homoscedasticity is not to be correlated over time. In addition, the element is time-invariant and homoscedasticity across the individual units. Homoscedasticity describes the condition in which the variance of a regression model's residual or error term is constant.

The assumption $E\{x_{it}$, $\varepsilon_{it}\}$ = 0, suggests that in all the observable regressors in x_{it} are not correlated with the unobservable features, and the independent variables are not exogenous. In some instances, there is reason to assume that $E\{x_{it}a_i\}$ = 0, and the assumption is known to be somewhat restrictive. We may have unobserved heterogeneity that correlates with one or more independent variables. For example, in a pay calculation, the unobserved skill of an individual may affect wages (y_{it}), but also on the level of education of a person (included in x_{it}). In a firm-level investment equation, unobserved firm characteristics can influence investment decisions (y_{it}) as well as characteristics x_{it} (e.g., cost of capital).

Consistency in OLS necessitates that the error terms (a_i-a+ε_{it}) should not be correlated with OLS. Regressing Y_{it} on x_{it} in the panel, OLS will yield a consistent approximation of β if the composite error u_{it}

in the panel OLS model ($Y_{it} = a + x_{it}\beta + u_{it}$) is not correlated with x_{it} . A violation of OLS assumptions results in econometric problems such as inefficiency and bias in the approximation of coefficients caused by autocorrelation, heteroskedasticity, multicollinearity and endogeneity.

Each country has its specific characteristics that predictor variables may or may not affect (see; Green, 2007); the political structure of a country may have some effect on the domestic and foreign bias, for example. In the form of panel OLS, we employ variables in several countries that are rarely changing, such as the political and financial risk scores of PRS data, allowing for country-specific heterogeneity. However, the OLS panel would not provide a distinction between time and cross-section; therefore, it is often recommended to use fixed effects or random effects regression to achieve a better outcome (see; Wooldridge, 2010).

5.4.3 Fixed and random effects regression (FE and RE)

Fixed effect regression is a technique of estimation used in a panel data set that enables it to control unobserved individual time-invariant features that can be correlated through observed independent variables, in which model parameters are fixed or non-random variables. The equation for the Fixed effect model is as follows.

$$\boldsymbol{Y_{it}} = \beta_1 X_1 it + \cdots + \beta_k X_k it + a_i + u_{it} \qquad 5.5$$

Where,

$\boldsymbol{Y_{it}}$ = denotes the dependant variable, which is a measure of the cost of capital (i.e., sovereign credit rating (*CRRsk*), equity risk premium (*CERP*), dividend yield (*DivYld*) or historical rate of return (*HRRtn*) in the country $\boldsymbol{i}$, for the period of $\boldsymbol{t}$.

$X_1 it$ ... $X_k it$ = represents independent variable (i.e., central bank transparency (*CBT*) or central bank independence (*CBI*) so on)

β_1 ... β_k = denotes the coefficient for the independent variable (i.e., the coefficient for *CBT* or *CBI* and so on)

a_i = denotes the unknown intercept for each country, and country-specific intercepts, where (*i*=1……. *n)*.

u_{it} = denotes the error term between country

Random effect models enable to control of unobserved variability as heterogeneity is consistent over time and is not correlated with independent variables. This constant can be extracted from the data by difference, e.g., by taking the first difference to exclude all time-invariant components of the model. The Random effect model is as follows

$$\boldsymbol{Y_{it}} = \beta_1 X_1 it + \cdots + \beta_k X_k it + a_i + u_{it} + \varepsilon_{it} \qquad 5.6$$

Where,

$\boldsymbol{Y_{it}}$ = is the dependant variable which is a measure of the cost of capital (i.e., *CRRsk, CERP, DivYld* or *HRRtn*) in the country $\boldsymbol{i}$ And for the period of $\boldsymbol{t}$.

$X_1 it$ ... $X_k it$ = represents an independent variable (i.e., central bank independence or central bank transparency)

β_1 ... β_k = is the coefficient for the independent variable (i.e., the coefficient for *CBT* or *CBI* and so on)

a_i denotes the unknown intercept for each country, and country-specific intercepts are n , where (*i*=1…. *n)*

u_{it} denotes the error term between the countries. ε_{it} denotes the error term within the countries.

5.4.4 The generalised methods of moments (GMM)

Generalized moment methods (GMM) is a linear dynamic panel-data model in which the non-observed panel-level effects are correlated with dependent variable lags. This estimator is designed for datasets with several panels and a few cycles and needs the idiosyncratic errors do not autocorrelation. The basic model is as follows.

$$\mathbf{y_{it}} = \mathrm{x}_1\mathrm{it}\beta + \cdots \mathrm{x}_{1\mathrm{k}}\mathrm{it}\beta + \rho_{\mathrm{y_{it}}} - 1 + \alpha_i + u_{it} \qquad 5.7$$

Where,

$\boldsymbol{Y_{it}}$ denotes the dependant variable, which is a measure of the cost of capital (i.e., *CRRsk, CERP, DivYld* or *HRRtn*) in the country i , for the period of t .

X_1it ... X_kit = represents the independent variable (i.e., *CBT* or *CBI,* so on)

β denotes the coefficient for the independent variable (i.e., the coefficient for CBT or CBI and so on)

a_i is the unknown intercept for each country, the country-specific intercept is n . Where *i* =1……. n.

u_{it} denotes the error term between the country, and $\rho_{\mathrm{y_{it}}}$ is the lag for dependent variable *Y*

Where, *t* =1…….T and *i*=1,……..N

5.4.5 Autocorrelation and heteroskedasticity standard error correction

In this section, we present econometric issues relating to the efficiency of OLS in estimating coefficients. We also conduct a series of diagnostic tests to verify whether or not our model has been appropriately defined. Autocorrelation and heteroskedasticity are problems with the efficiency of panel data due to combining time series and cross-section data. The existence of autocorrelation and heteroskedasticity suggests that there is no longer an independent and equal distribution in the model error terms. By equal distribution, we mean that the residual is homoscedastic, implying that they have been obtained from the same population and have a constant variance. Likewise, by being independently distributed, we mean that they are not clustered or serially correlated. Autocorrelation and heteroskedasticity make OLS unbiased, but OLS is no longer efficient and thus generates incorrect standard errors and t-statistics.

$$E\{\varepsilon \,/\, x\} = E\{\varepsilon\} = 0 \qquad 5.8$$

$$v\{\varepsilon \,/\, x\} = v\{\varepsilon\} = \sigma^2 \qquad 5.9$$

The above equations suggest that, provided the explanatory variables' matrix, the errors' conditional distribution has zero mean, constant variance and zero covariance. This implies that each error has the same variance and that the two different error terms are not correlated. The assumption stands $E\{\varepsilon_i/x_i\} = 0$. The model thus correlates to the conditional expectations of y_i given by x_i. Ideally, when testing such a model, we would like an error term to be a random signal of large magnitude at each frequency of $E(\varepsilon_{it},x_{it}) = 0$. Suggesting we have controlled all time variables, the coefficients are unbiased if the $E(a_i,x_{it}) = 0$ for all i. In such a case, we assume that the intercepts are distinct for different variables but are randomly drawn from the distribution with mean μ and σ_a^2 .

5.4.5.1 Autocorrelation

Autocorrelation is a characteristic of data that indicates a degree of similarity over subsequent time intervals between the values of the same variables. Panel data involves repeated observation of the same unit (time series); thus, we should assume a violation of $E\{\varepsilon/x = E\{\varepsilon\}= 0$ and experience a condition where there is a correlation between the time series and its past and future expectations. For example, tomorrow's chance will be rainy is highly likely if today is rainy rather than if today is a dry day. Autocorrelation occurs when the covariance between multiple error conditions is not equal to zero. This means that two or more consecutive error terms are correlated. The presence of autocorrelation makes OLS unbiased, but OLS becomes inefficient and standard errors are wrongly estimated. Error term captures unobserved variables influencing the dependent variable that the model has not accounted for. The persistence of unobserved errors that correlate with each other can result in a serial correlation. Our panel data contains multiple country observations (i.e., time-series data). Therefore, we expect different error terms of an individual observation to be correlated. Given the model:

$$\boldsymbol{Y_{it}} = b_0 + 1^X it + u_{it} \qquad 5.10$$

Autocorrelation implies a systematic relationship between the error terms, or the residues measured at various points in time and the findings at $\text{cov}(\mu_t\mu_t{-}1) \neq 0$. The systematic relationship would be $\mu_t{=}\rho\mu_t{-}1 + e_t - 1 <= \rho <= 1$. This implies that the current residual value is related to the value of the last period, along with the current period random variable e_t. First-order auto-regressive process (AR) is the most common type of autocorrelation if the error term in $Y_{it}{=}x_{it}\beta{+}\varepsilon_{it}$ it is believed to be dependent on its predecessor as $\varepsilon_t{=}\rho\varepsilon_{t-1}{+}\ v_t$, where v_t is an error term with a mean of zero and a constant variance σ^2 that does not have a serial correlation. This implies that the value of the error term in each observation is equal to ρ the value of the previous observation plus the value of the new variable v_tWhich is independent over time.

Autocorrelation is commonly seen as an indication of misspecification, and the conclusion based on the OLS estimator may be misleading as standard errors are based on inappropriate structural models. We test the existence of autocorrelation in our model specification by running the Durbin-Watson (1950) test, which is

a standard test for first-order autocorrelation, particularly for small sample distribution. The Durbin-Watson test is as follows.

$$dw = \frac{\varepsilon_t^T=2\ (e_t - e-1)^2}{\varepsilon_t^T=1\ \ e_t^2} \quad 5.11$$

Where e_t is the OLS is residual (notice the different indices for summations). It is shown by simple algebra that

$$dw \approx 2 - 2p \quad 5.12$$

As a consequence, the dW value is coming to 2, which indicates that the coefficient of first-order autocorrelation ρ is coming down to zero. If dw is much less than 2, this means a positive autocorrelation (ρ> 0); if dw is much greater than 2, then (ρ < 0). The distribution of dw, also under H_0: ρ = 0, not only does it rely on the sample size, T and the number of k variables in x_t, also on the actual x_t Values. The upper and lower limits for critical values, which depend only on the size of the sample and the number of variables in the sample, may be measured. These values have been tabulated by Durbin and Watson (1950).

5.4.5.2 Heteroskedasticity

Heteroscedasticity is a situation under which the variation of the term of error or the residual term in the regression model differs. Explaining the linear model, we discuss the problem of heteroscedasticity. The Linear OLS model is as follows,

$$\boldsymbol{Y_{it}} = \beta_0 + \beta_1 x_{it} + \cdots \beta_k x_{it} + u_{it} \quad 5.13$$

The assumption is that $Var\ (u_i\ /\ x_i) = \sigma_i^2$ This implies that the error term deviation is constant.

$$\text{var}(u_i\ /\ x_i) = \sigma_h^2(x_i) \quad 5.14$$

Heteroscedasticity arises when equation 5.14 is violated, i.e., when the variance of unobserved error X is subject to independent variables that may not be constant. The error variance may be a function of independent variables, where $var(u_{it}\ /\ x_{it})$ is diagonal but is not equal to σ^2 times the identity matrix. It means that the error terms are mutually not correlated, although the variances may differ over the cross-section observations. Heteroskedasticity means that different error terms do not have equal variances, so the diagonal elements of the covariance matrix are not the same. This suggests that the terms of the error in the model are no longer distributed independently and in the same manner.

Verbeek (2012) illustrates a scenario where it denotes food expenditure which consists of a constant and disposable income. The Engel curve (relation between the demand for a good and the income of its buyers) for food needs to be upward since higher incomes on average lead to higher food spending. However, we should assume that the difference in food spending among high-income households is much more significant

than the variation among low-income households. This arises when there is a difference in income rises. The effects of heteroskedasticity signifying are as follows.

1. OLS estimators remain unbiased and consistent as an effect of the fact that neither of the explanatory variables correlates to the error terms. Consequently, a correctly defined equation will generate coefficient estimates identical to the actual parameters.
2. Heteroskedasticity influences the distribution of the coefficient estimates by increasing the distributional variances, rendering the OLS estimates inefficient.
3. Heteroskedasticity underestimates the variances of the estimators resulting in higher values and statistics.

We use the Breusch-Pagan heteroskedasticity test to detect errors that are not IIDs (individually and identically distributed) to detect a specific linear type of heteroskedasticity. The model tests the null hypothesis that the variances of the error terms are equal, as opposed to the alternative, that the variances of the error terms are multiplicative functions of one or more variables. The alternative hypothesis suggests that the error variance increases with the expected rise in values, i.e., the higher the predicted Y value, the more significant the error variance. The null hypothesis of homoskedasticity is given as follows:

$$H_0: \delta_1 = \delta_2 = \cdots = \delta_k = 0 \qquad 5.15$$

The primary approach is to provide a linear function. The Breusch-Pagan heteroskedasticity test first uses OLS equation 5.17 to estimate the model for obtaining squared OLS residues (u^2) for each observation in equation 5.18.

$$Y = \beta_0 + \beta_1 x_1 + \cdots \beta_k x_k + u \qquad 5.16$$

In the second stage, the model runs the following auxiliary regression and keeps the R-squared from the regression, $R^2_{\hat{\pi}_2}$.

$$\hat{u}_t^2 = \delta_0 + \delta_1 x_1 + \delta_2 x_2 + \cdots + \delta_k x_k + v \qquad 5.17$$

Where v is an error term with a mean of zero given the x_jThe dependent variable is the square of the error in equation 5.18, which is the model of the OLS.

Finally, Breusch-Pagan tests the F statistic and determines the p-value. Suppose the p value is comparatively small, which is below the defined degree of significance. In that case, we reject the homoscedasticity null hypothesis and infer that there is significant evidence of heteroskedasticity.

5.4.5.3 Multicollinearity

Multicollinearity causes difficulty in interpreting the coefficients and limits the model's ability to distinguish the statistical significance of the independent variables. When two or more independent variables are

strongly and positively correlated, multicollinearity occurs, suggesting that the effects of the coefficient tend to be highly and negatively correlated. Increased multicollinearity can result in inaccurate estimates of broad standard errors and unexplained signs or magnitudes, indicating that one or more interest parameters are estimated to be significantly inaccurate. Fundamentally, when the data contains insufficient information on the parameters and thus provides normal distribution for the coefficients to be high with small t-statistics. To be statistically significant, the coefficients must be higher. The research uses variance inflation factors (VIF) to assess the presence of multicollinearity between independent variables. Gujarati (2003) suggests that a VIF value of less than 10 is appropriate. However, Hair et al. (1998) and Kennedy (2008) recommended that a VIF of more than 10 could imply the existence of destructive multicollinearity. The issue of multicollinearity may be overcome by omitting one or more strongly correlated explanatory variables. Stata automatically eliminates one or more multicollinear variables.

5.4.5.4 Newey-West autocorrelation and heteroskedasticity standard error

The Newey–West (1987) variance estimator is an enhancement that provides consistent estimates where there is autocorrelation besides potential heteroskedasticity. In this study, we perform a linear regression with Newey-West's (1987) procedure to obtain robust standard errors for heteroskedasticity and autocorrelation. Green (2012) provides technical information about how the correction is to be made. The standard OLS regression is given as follows:

$$Y_{it} = X_{it}\beta + u_{it} \qquad 5.18$$

When in equation 5.14, the variance of $(U_{it}) = 0$ (Omega). If it is heteroskedastic and/or autocorrelated, then the appropriate formula for the variance ($\widehat{\beta}\ oLs$) is as follows.

$$\mathrm{Var}\left(\hat{\beta}_{OLS}\right) = (x'x)^{-1}x'\hat{\Omega}x(x'x)^{-1} \qquad 5.19$$

We employ linear OLS regression is used to estimate the coefficients. A lag (0) shows the lack of autocorrelation. The Newey-West standard errors are calculated based on the option of maximum lag, while the variance estimates are computed using the White robust standard error. They are calculated from the distributed lag of OLS residues and determine the most extended lag at which auto-covariances are to be measured. The Newey-West formula involves the expression in residual squares close to White's robust standard error formula (as well as the second term in residual cross-products). These robust estimates subsume White's normal error correction.

For lag (m), $m > 0$, the Newey-West formula is identical to the White procedure in equation 5.20. However, in equation 5.20, Newey-West applies autocorrelation correction to the White Formula to calculate the variance estimates.

$$x'\hat{\Omega}x\ Newey - West = x'\hat{\Omega}x\ White \qquad 5.20$$

$$x'\hat{\Omega}x = x'\hat{\Omega}_0 x + \frac{n}{n-k}\sum_{l=1}^{m}\left(1-\frac{1}{m+1}\right)\sum_{t=l+1}^{n}\hat{e}_t\hat{e}_{t-1}(x_t'x_{t-1}+x_{t-1}'x_t) \quad 5.21$$

Where x_t is the row of the matrix observed at the time of t. k is the number of predictors of the model, l is the time lag, and m is the maximum time lag. n is the number of observations.

5.4.6 Specifications issues

Several econometric issues could result in a bias in the estimation of coefficients. Initially, the omitted variable bias, whereas omitted variable correlates with the explanatory variables in the error term. Then a reverse causality can occur where the dependent variable affects the critical, independent variable of interest. The non-random sample data cause selection bias. The coefficients may be influenced by others, such as measurement error, inconsistent inference, model misspecification, and common-method variation

5.4.6.1 Omitted variable bias

Omitted-variable bias arises when a statistical model omits one or more relevant variables. This is also known as the issue of missing a crucial variable or under-specifying the model. In practice, omitted variable bias occurs when some variables should be included in a regression model but are not because their data is unavailable or the relationship between them and the response variable is unknown. For example, in the case of international finance, information asymmetry is influenced by several variables, such as both public and private information; however, some of the variable data may be unavailable or not included in the regression model. The failure to observe certain variables to appear in the explanatory variables x, these omitted variables appear in the u. If the omitted variable correlates with the explanatory variables, an endogenous problem causes the inference to residuals.

Failure of $E(u\ /\ x_i, \ldots, x_k) = 0$ results in bias in OLS estimators; the correlation between u and any of $x_i, x_2 \ldots\ldots x_k$. Practically, this would make it likely that the OLS estimators are inconsistent. The OLS is biased and inconsistent if the error is correlated to each independent variable. Ordinary least squares can be represented in a regression equation as follows.

$$y_{it} = a_i + \beta x_{it} + \varepsilon_{it} \quad 5.22$$

When y_{it} denotes a dependent variable, a_i denotes a constant, βx_{it} denotes an independent variable, and ε_{it} denotes an error term, or an unobserved variable, whereby $\varepsilon_{it} = a_i + u_{it}$. The constant error term includes both observable and unobservable. In several studies, fixed effect, or least square dummy variable (LSDV), is used to address unobserved unit (country) effects. In this study, we use several country-specific variables that hardly ever change, such as PRS's political and financial risk scores, to allow for country-specific. OLS suggests that the error terms in the basic OLS regression indicate that the independent variables can vary randomly in estimating the dependent variable. Unless the error term correlates to an independent variable, the estimate would not be random. Thus, the estimated coefficients would be biased and consistent. Fixed

and random effects cause other sources of omitted bias without testing whether variables correlate with fixed or constant impact. Reasonably, there is unobserved heterogeneity present if $E(\eta_1/x_{it}, x_{it}) \neq 0$. Econometrically, unobservable variability is a cause of endogeneity if unobservable factors influence either dependent or independent variables or both. Failing to include essential control variables that correlate with the main independent variables, the estimated coefficients would be biassed and inconsistent. We have a variety of control variables to counter the possibility of omitted variable bias. For example, in the literature on transparency, the effects of specific managerial action, which is usually difficult to measure and even less visible, influence performance. Thus, a performance of OLS regression on board structure, which ignores the unobservable heterogeneity, could find a negative relationship between policymakers' independence and performance.

We employ the Ramsey reset to test whether our model suffers from omitted variable bias. The Ramsey test generates new variables based on the estimated values and uses new variables to assess the variables' statistical significance. The Ramsey test examines whether our model is correctly specified and includes all essential variables.

5.4.6.2 Endogeneity (reverse causality)

As a consequence of reversing causality, endogeneity is, perhaps, an integral and widespread problem encountered in empirical finance studies. Reverse causality occurs when the primary independent variable is determined simultaneously as the dependent variable y. For example, if y_{it} is the cost of capital and x_{it} is home bias. The problem concurrently occurs when the cost of capital partially determines home bias. The bias of simultaneity can be demonstrated as follows.

$$y_{it} = x_{it}\beta + \varepsilon_{it} \qquad 5.23$$

The model has only the explanatory variable x_{it}, which is also determined by y_{it} as follows.

$$x_{it} = \lambda y_{it} + \varepsilon_{it} \qquad 5.24$$

If OLS assumptions are violated, the estimated coefficients will be compromised, and the results will be uninformative and cannot be interpreted causally. The existence of endogeneity as a result of reversing causality would cause OLS to generate bias and inconsistent parameter estimates, making it virtually impossible to create accurate inferences. Endogeneity is not only pervasive but also prevalent across international finance. Unable to consider the presence of endogeneity may be detrimental and have significant consequences for inference. It could, in particular, make the coefficient highly estimated biased, leading to inaccurate outcomes and wrong conclusions about the integrity and reliability of the theory. In addition, the test of the hypotheses may be severely misleading.

Endogeneity is derived from several sources, such as omitted variables that generate a correlation between explanatory variables, simultaneity, and selection bias, where randomization is not feasible in selecting the

samples. Conceivably our main independent variables of interest are determined in an endogenous manner. Roberts and Whited (2011) provide a review article that offers guidance on how to approach the problem of endogeneity. The methods used to discuss endogeneity include lagged independent variables and the Heckman selection model, respectively, to address reverse causality and selection bias. Our effort to explain the impact of central bank independence and transparency on the cost of capital, equity home, foreign bias, and debt home debt and foreign bias will be biased if there is a problem of endogeneity. For example, a country with lower capital costs would attract more foreign investors. Likewise, countries with a more robust capital market can attract a substantial percentage of foreign investors. We employ Newey-West (1987) to address autocorrelation and heteroskedasticity problems, lagged values to address reverse causality issues, and the Heckman selection model to address selection bias.

5.4.6.3 Lagged values

Studies suggest that an internal instrument can be created using panel data when there is an endogenous variable. Verbeek (2012) argues that in dynamic panel data, the endogenous independent variable can be lagged as an instrument to become exogenous. Following several studies using lagged values to overcome the endogeneity problem triggered by reversing causality (see; Yang, 2003: Gelos and Wei, 2005), we employ lagged values of endogenous variables as instrumental variables to fix the problem of reversing causality.

$$y_{it} = a_0 + x_{it_{-.1}} + z_{it} + \varepsilon_{it} \qquad 5.25$$

Where

y_{it} denotes the dependent variable,

a_0 denotes the intercept,

$x_{it_{-.1}}$ denotes the lagged value of the endogenous variable,

z_{it} denotes the explanatory variable or the control variable, and

ε_{it} is the error term.

When x_{it} is a default variable but not precisely exogenous; only the lagged values of x_{it} are valid instruments. If x_{it} is precisely exogenous, the current and lagged value of x_{it} is a valid instrument. Lagged values are converted into exogenous or instrumental variables. These are highly correlated with theoretically endogenous variables to affect independent variables, but that seems unlikely to affect dependent variables even by their effect on independent variables. Lagged values have the advantage of being very simple to implement the additional data requirements are minimal and intuitively appealing. Lagged values provide firmness and clarity to the specification of the model.

Chapter 6: First empirical analysis: The impact of central bank independence and transparency on cost of capital.

In this chapter, the aim is to extend the existing literature by examining the impact of independence and transparency of the central bank on the cost of capital. In line with the theoretical argument, I will test the following hypothesis.

H1 Central bank independence reduces the cost of capital

H2 Central bank transparency reduces the cost of capital

This chapter has structured as follows: section: 6.1 is an introduction; section 6.2 offers a summary analysis; Section: 6.3 presents descriptive statistics; 6.4 provides correlation analysis; section 6.5 presents econometric issues; section: 6.6 provides regression results; section: 6.7 discusses robustness test and procedures; section: 6.8 explains fixed, and random effects regression; 6.9 provided generalised moment method (GMM) and section: 6.9 offers the summary of the chapter.

6.1 Introduction

Cross-border capital flows to a particular country rely on the cost of production, currency exposure, and overall macroeconomic and political circumstances significantly influence investment inflows to a host country (see; Wang and Swain, 1995), thereby affecting the cost of capital. The central bank independence and transparency (*CBI & CBT*) influence macroeconomic conditions such as inflation, exchange rates and interest rates, and it is considered that a credible monetary policy minimises information asymmetry and enhances expectations of financial market participants revealed in existing literature (see; Chortareas et al., 2002; Crowe and Meade, 2008). An increasing level of independence and transparency of the central bank may well support the efficient monetary policy structure, which would endorse a stable macroeconomic environment necessary to exploit a country's competitive advantage and cost of capital reduction (see; Dunning, 2009). Studies suggest that lower-level cost of capital supported by effective macro-economic policies that also maximize firm returns and thus impact investment decisions and enhanced market participation that enables risk sharing among market participants (see; Maxfield, 1997; Uddin and Boateng. 2011). In addition, literature also claims that the central bank's independence and transparency reflect the host economy's creditworthiness and build trust among potential investors (see; Maxfield,1997). In the light of the above, we are inspired to conduct this research considering the relevance of cost of capital to investment decisions at home and abroad and the evaluation of projects. A lower cost of capital will create more projects to have positive NPV, leading to more investment and economic growth and creating more jobs in the country.

We present the empirical analysis based on the research method in Chapter 5. Current studies, for instance, Stulz (1999) and Errunza (2001), offer theoretical models suggesting that the cost of capital reduces when a country attracts sufficient foreign equity investment. In contrast, over-investment in the domestic market by local investors segmented market triggers home bias, which increases the cost of capital; literature shows that home bias reduces firm valuation due to the high cost of capital associated with home bias (see; Chan et al.,2009). Financial globalization leads to financial integration and global diversification (see; Lane and Milesi- Ferretti, 2001 & 2006); more participants in the market enable risk sharing and thereby reducing the cost of capital and enhancing investors' return in a host country (see; Lau et al., 2010; and Uddin and Boateng, 2011).

In this empirical analysis, we aim to forward existing literature by presenting empirical evidence to address the research question of the impact of the independence and transparency of the central bank (*CBI* & *CBT*) on the cost of capital (*CoC*). Our results show that a country with a higher degree of central bank independence and transparency is associated with a lower cost of capital.

6.2 Summary analysis

Table 6.1 reports a summary statistic of the variables by dividing the data into developed and emerging countries. Table 6.1 presents average statistics (mean values) for 2001 to 2014 of four cost of capital measures (*HRRtn, CERP, DivYld*, and *CRRsk*). The independence of central bank measures is set out in column 6, and the measures of the central bank transparency are set out in column 7. In Table 6.1 (Panel B), the summary statistics analysis by developed and emerging countries also shows a combined analysis. Finally, Table 6.1 (Panel C) provides average statistics of dependant and critical, independent variables.

.....Insert Table 6.1 here.....

Summary statistics in Table 6.1 (Panels A and B) show that developed countries are linked to the reduced cost of capital (*HRRtn*, *CERP*, *DivYld* and *CRRsk*) compared to emerging countries. This is consistent with our fundamental assumption that a higher degree of *CBI CBT* could lower the cost of capital. However, the country-level cost of the capital measure exhibits a mixed result. The five countries with the lowest cost of capital (combined cost of capital measure) are The United States, Austria, Canada, Finland, and Australia. Poland and Portugal also observed the lowest cost of capital measure in *HRRtn, CERP* and *DivYld* however, *CRRsk* appears comparatively high.

On the other hand, the five countries that appear higher (average cost of capital measure) are Argentina, Brazil, Turkey, Mexico, and India. China shows a lower cost of capital as the country has lower *HRRtn* and *DivYld* however exhibits a higher *CERP* and *CRRsk*. This trend implies that developed countries are

associated with a lower cost of capital relative to emerging countries, as developed countries pose a higher level of *CBI* and *CBT*.

Table 6.1 (Panel-A) indicates developed countries have a lower cost of capital than emerging countries in terms of *CBI* ranking. The United Kingdom is at the top in terms of *CBI*, followed by Hungary. Countries with the same *CBI* ranking are Germany, France, Austria, Belgium, Finland, Ireland, Spain, and the Netherlands. Similarly, in terms of *CBT*, Panel-A (Developed Countries) of Table 6.1 shows a lower cost of capital relative to Panel-B. (emerging countries). Sweden has the highest *CBT* ranking, followed by New Zealand, the United Kingdom, Hungary, and Canada. Some other countries with a similar *CBT* ranking are Belgium, Denmark, Finland, France, Ireland, and Italy. The findings suggest that developed countries have the highest levels of *CBI* and *CBT* than emerging countries, suggesting that developed countries are associated with a lower cost of capital (i.e., lower *HRRtn, CERP, DivYld*, and *CRRsk).*

The comparison based on summary statistics on individual countries strongly shows that the countries with higher degrees of independence and transparency of the central bank (*CBI* and *CBT*) appear to be associated with the lowest cost of capital. This assumption also is supported by Table 6.1, Panel-B, average summary statistics. In the case of central bank independence (*CBI*), the average score for developed and emerging countries is 64.92%. The average score for developed countries is 73.26%, while the average *CBI* score for emerging countries is 53.64 %. Those emerging countries are about 11.26% below the overall average and approximately 19.62% lower than the average of developed countries.

Similarly, in the case of central bank transparency (*CBT*), the average score for developing and emerging countries is 8.66. In contrast, the average scores for developed and emerging countries are *CBT* 10.49 and *CBT* 6.17, respectively, which are about 2.49 points lower than the average score for both developing and emerging countries and 4.32 points lower than the average of developed countries. This indicates that the developed countries have higher *CBI* and *CBT* than the emerging countries; this is linked to lower cost of capital assumption.

The comparison is based on summary statistics of the cost of capital for individual countries, suggesting that a lower cost of the capital measure is associated with a higher level of *CBI*; similarly, countries with a greater degree of *CBT* are linked with a lower cost of capital.

Regarding the historical rate of return (*HRRtn*), developed countries' average score is 4.65% which is 3.54% lower than the average (8.19%) reported for both developed and emerging counties. On the other hand, emerging countries' average historical rates of return measure (HRRtn) score is 12.98%, which is 4.79% higher than the average of both developed and emerging countries, indicating the prevalence of historical rate of return is higher in emerging economies than developed countries. In terms of the country equity risk premium (*CERP*) measure, developed countries show a lower average score of 5.26%, lower than the average (6.41%) of both developed and emerging countries. On the other hand, emerging countries' average country

equity risk premium (*CERP*) score is 7.96%, which is 1.55% above the combined average of developed and emerging countries (6.41%) and 2.70% higher than developed countries. Regarding dividend yield (*DivYld*), the average score for developed countries is 2.88 %, which is 0.05 % lower than the average (2.93 %) for both developed and emerging countries. On the other hand, the average dividend yield measure (*DivYld*) score for emerging countries is 3.00 %, which is 0.07 % higher than the average for both developed and emerging countries, suggesting that dividend yield is higher in emerging economies than in developed countries. Regarding credit risk rating (*CRRsk*), developed countries have a lower average score of 2.6, which is lower than the aggregate average score of developed and emerging countries (4.96). On the other hand, the average credit risk rating (*CRRsk*) score of emerging countries is 8.16, which is 3.2 degrees higher than the overall average score of developed and emerging countries (4.96) and 5.56 higher than developed countries. This suggests that the developed countries have lower cost of capital measures (*HRRtn, CERP, DivYld,* and *CRRsk)* than the emerging countries.

The summary statistics of other control variables are presented in Table 6.2 and show the result of developed countries (in Panel-A) and emerging economies (in Panel-B). Interest rate (*IntRst*), net interest margin (*NtIntMrgn*), inflation (*Infltn*), government integrity (*GovIntgrt*), investment freedom (*InvstFrdm*), monetary freedom (*MoneFrdm*) and property right (*PropRight*) demonstrate a significant cross-country variation, a greater degree of these controls variables observed in a developed country that emerging counterparts. Japan has the lowest *IntRst* score of 1.21%; in contrast, Peru has the highest score (21.37%). *NtIntMrgn* is 0.08% in Ireland compared to 6.47% and 6.45% in Peru and Mexico, respectively. Japan's score of *Infltn* is the lowest at 0.01%, while Turkey and Russian fed. have the highest score of 15.22% and 10.99%, respectively. The highest *GovIntgrt* is observed in Finland, 95.17% and the lowest is in the Russian fed. (23.72%). Ireland has the highest *InvstFrdm* score of 90.36%; China has the lowest score (28.21%). *MoneFrdm* is 90.57% in Japan compared to 61.19% and 61.79% in Turkey and Russia fed., respectively. And *PropRight* is highest (92.14%) in New Zealand and lowest (24.29%) in China. The cost of capital measures is influenced by multiple control variables rather than an individual control variable. However, there is evidence that the degree of certain control variables mentioned above is strongly associated with the cost of capital (*HRRtn, CERP, DivYld,* and *CRRsk*) measures. It is also observed that these variables are favourably correlated with a country having a higher degree of *CBI* and *CBT*.

…….....Insert Table 6.2 about here.....

6.3 Descriptive statistics of dependent, independent, and control variables

Table 6.3 presents the descriptive statistics of dependent, independent, and control variables showing the standard deviation, mean, median, minimum, and maximum variables. The standard deviation of our sample data is between 0.82 to 126.33, which is, on average, our data are more extended from the mean. The mean of our sample data is between 2.66 to 94.35, which represents broad data clustered in our sample. From our

data, the maximum values of *HRRtn, CERP, DivYld*, and *CRRsk* are 30.35,16.40,5.05 and16.5 respectively; on the other hand, minimum values are -5.67,4.78, 1.43 and 1 respectively.

…….....Insert Table 6.3 about here.....

6.4 Correlation coefficients

All variables included in this study and their coefficients of cross-correlation have been presented in Table 6.4. According to our theoretical expectations, *CBI* is statistically significant and correlated with all four cost of capital measures, showing that a lower cost of capital in countries is attributable to a higher level of *CBI*. Similarly, the *CBT* is statistically significant and correlated with all four cost of capital measures, demonstrating that a lower cost of capital in countries is attributable to a higher level of *CBT*. In addition, Table 6.9 presents the variance inflation factors (VIF) of control variables, which shows a mean value of 3.05. The variance inflation factors (VIF) are remarkably smaller than the threshold mean value of 10 (minimum = 1.20; maximum = 11.76). This indicates no multicollinearity issue between the independent and control variables used in this study.

…….....Insert Table 6.4 here.....

6.5 Econometric issues

Based on Chapter-5 research methodologies, we perform the following diagnostic test to ensure that all econometric issues are detected and addressed accordingly.

6.5.1 Autocorrelation

We test for the presence of autocorrelation by using the Wooldridge test for autocorrelation and run the regression in STATA: We obtained the following result, which suggests that no significant autocorrelation appears.

H0: no first-order autocorrelation

CBI				**CBT**			
HRRtn	F(1.	37) = 15.679	Prob> F = 0.0003	*HRRtn*	F(1.	37) = 56.830	Prob> F = 0.0000
CERP	F(1.	37) = 8.685	Prob> F = 0.0055	*CERP*	F(1.	37) = 3.317	Prob> F = 0.0767
DivYld	F(1.	36) = 2.002	Prob> F = 0.1657	*DivYld*	F(1.	36) = 15.573	Prob> F = 0.0004
CRRsk	F(1.	37) = 35.630	Prob> F = 0.0000	*CRRsk*	F(1.	37) = 81.487	Prob> F = 0.0000

In terms of *CBI,* the probability value mentioned above for three models (*HRRtn*, *CERP*, *CRRsk*) shows that the p-value is less than the 5% level, suggesting that there is no autocorrelation; however, one model (*DivYld)* appear*s* to have autocorrelation. On the other hand, in terms of *CBT* probability mentioned above, the value of our three models (*HRRtn*, *DivYld*, *CRRsk)* seem to have no autocorrelation; however, one model (*CERP*) exists autocorrelation, although not at a significant level.

6.5.2 Heteroskedasticity

To test heteroskedasticity, we use the Breusch-Pagan procedures.

Breusch-Pagan heteroskedasticity test Ho: Constant variance

CBI			**CBT**		
HRRtn	chi2 (1) = 112.28	Prob>chi2 = 0.0000	*HRRtn*	chi2 (1) = 102.05	Prob>chi2 = 0.0000
CERP	chi2 (1) = 512.89	Prob>chi2 = 0.0000	*CERP*	chi2 (1) = 714.06	Prob>chi2 = 0.0000
DivYld	chi2 (1) = 54.36	Prob>chi2 = 0.0000	*DivYld*	chi2 (1) = 7.52	Prob>chi2 = 0.0061
CRRsk	chi2 (1) = 52.63	Prob>chi2 = 0.0000	*CRRsk*	chi2 (1) = 57.50	Prob>chi2 = 0.0000

The probability value mentioned above for the chi-square coefficient is less than the 5% level, suggesting that the null hypothesis to be accepted is that the variance is constant.

6.5.3 Multicollinearity

We use variance inflation factors (VIF) to test for multicollinearity. A value greater than 5 implies that the correlation between the explanatory and other variables in the model is sufficiently significant to require consideration. The mean VIF for our model is 3.05, which indicates that multicollinearity does not appear to be an issue in our model.

…….....Insert Table 6.9 here.....

6.5.4 Omitted variable bias.

We use Ramsey reset test procedures for omitted variables for *CBI* and *CBT* to determine significant variables omitted.

Ramsey reset test uses the fitted values' strengths, Ho: Model does not have omitted variables.

CBI			**CBT**		
HRRtn	F (3,420) = 20.78	Prob > F = 0.0000	*HRRtn*	F (3,448) = 23.13	Prob > F = 0.0000
CERP	F (3,420) = 39.44	Prob > F = 0.0000	*CERP*	F (3,448) = 50.39	Prob > F = 0.0000
DivYld	F (3,396) = 6.61	Prob > F = 0.0002	*DivYld*	F (3,425) = 2.40	Prob > F = 0.0669
CRRsk	F (3,420) = 19.78	Prob > F = 0.0000	*CRRsk*	F (3,448) = 14.46	Prob > F = 0.0000

In terms of CBI & CBT, the probability value mentioned above in our three models (HRRtn, CERP, CRRsk) shows that the p-value is less than 5% level, suggesting that our models do not suffer from omitted variables. On the other hand, the probability value of one of our models (DivYld) in terms of CBI is less than 5% but in terms of CBT is less than 1% level, implying that the model does not have omitted variables.

6.6 Panel (pooled) OLS regression analysis

This study describes the cross-sectional and temporal fluctuations of the central bank's independence and the differing degrees of global differences in the cost of capital. This study uses panel regressions which contain all available contributing factors that may be correlated with the various cost of capital measures.

6.6.1 Central bank independence and cost of capital

Our analysis begins with estimating the impact of the central bank's independence (*CBI*) on the cost of capital (*CoC*) for the period from 2001 to 2014. Table 6.5 describes the regression results showing the impact of the central bank's independence (*CBI*) on four measures of the cost of capital. *t*-statistics are stated in parenthesis. The specification below is estimated.

$$\Delta CoC_{lt}=\alpha+\beta.CBI+\beta.Controls_{lt}+Country\ and\ year\ effects\ +\varepsilon_{lt} \qquad \text{Eq.1}$$

In eq. (1) CoC_{jt} Represents the cost of capital measures (i.e., *HRRtn*, *CERP, DivYld*, and *CRRsk*) in country l for the period of t ,CBI is central bank independence $Controls$ is the control variables, and ε is the error term.

In model 1 of table 6.5, the coefficient on the historical rate of return (*HRRtn*) is negative (coefficient = -0.093, *t*-statistic = -4.32) and statistically significant at the level of 1%; this indicates that a higher degree of *CBI* tends to reduce *HRRtn*, thereby lowering the cost of capital. *HRRtn is* crucial for investment evaluation as it is driven by the experience of market risk and return; it is also widely used to make investment decisions because it influences the cost of capital. *HRRtn* is initially a measure of the trend and past performance of investment tools or securities, i.e., investors evaluate historical return data when intending to forecast future returns or estimating how a security might react to a particular circumstance. Higher returns are desirable, but higher returns are typically linked with increased risk and volatility, and higher volatility in stock prices implies shorter periods bring more significant threats. Existing studies demonstrate that the historical rate of return is likely to capture market volatility, affecting investment growth (see; Bekaert and Harvey, 2000; and Hail and Leuz,2006).In addition to that, there is a favourable connection between the independence of the central bank and the equity market volatility (see; Papadamou et al. 2017); greater central bank independence could reduce stock market volatility and increase investors' return, lowering the *HRRtn* and thereby reduce the cost of capital. It is apparent from our summary statistics table 6.1 columns two that emerging countries tend to have a higher *HRRtn* than developed countries, suggesting that securities from developed countries are less risky than securities from emerging countries, and the summary statistics table 6.1also shows that emerging countries are linked to lower *CBI* than developed countries.

In Model 2 of Table 6.5, the country equity risk premium (*CERP*) coefficient is negative (coefficient = -0.013, *t*-statistic = -2.98) and statistically significant at 1% level, indicating higher *CBI* levels appear to decrease *CERP* and therefore reduce the cost of capital. Country equity risk premium (*CERP*) is commonly estimated for project appraisal and influences the cost of capital. Existing studies suggest that the variance affects the variation in equity risk premiums in anticipated returns on investment opportunities and the variance in the estimation of uninformed investors (see; Wang,1994). Literature further argues that monetary policy rules may significantly impact equity risk premiums and that inflation targeting policy would bring

rise to considerable uncertainty about equity risk premiums whilst emphasizing financial stability than equity risk premiums (see; Zervou and Peng,2015). Our finding also supports the study by Lau et al. (2012), which explores disclosure of information and financial accountability and concludes that countries with a better information environment appear to have lower risk premium volatility, which tends to reduce the cost of capital. It is observed from our summary statistics table 6.1 in column 3 that emerging countries tend to have a higher *CERP* than developed countries, which is the driving force behind the rising cost of capital in emerging countries; in column 6 of the table observed that emerging countries are also associated with lower *CBI*.

In model 3 of the table, 6.5the coefficient on dividend yield (*DivYld*) is negative (coefficient = -1.192, *t*-statistic = -2.92) and statistically significant at the level of 1%; this indicates that a higher degree of *CBI* tends to reduce *DivYld*, thus reduce the cost of capital. A dividend yield is a tool for determining the return as a dividend compared to the stock price. The dividend yield is simple to calculate and relatively consistent; it is also associated with the cost of capital and asset pricing models. The average dividend yield in emerging markets is higher than in developed markets globally. However, it has been shown that countries with lower dividend yields, such as the United States, have the world's largest economies. Perhaps, emerging markets are expected to grow faster than the United States, providing investors with a greater dividend yield, but they are also associated with significant volatility. The dividend yield is crucial for evaluating the strength and sustainability of investment and is also likely to capture investment growth opportunities in a country (see; Bekaert and Harvey, 2000; Bhattacharya and Daouk, 2002; and Hail and Leuz, 2006). Existing literature suggests that central bank independence enhances economic growth and financial stability and plays a vital role in shaping investor expectations (see; Eusepi, 2003). Monetary policy rules and announcements are essential determinants of the expected returns of securities. Also, fluctuations in stock market returns are associated with monetary policy changes (see; Jensen and Johnson,1995; and Patelis, 1997). Therefore, *CBI* influences returns and growth of the capital market and can be reduced *DivYld* and thus the cost of capital. Our summary statistics table 6.1 in column 4 that emerging countries appear to have lower *DivYld* than developed countries, indicating that securities from developed countries are projected to have higher growth prospects than emerging countries, which is a justification for reducing the cost of capital in developed countries. That developed countries are also linked to a higher *CBI* than emerging countries.

In Model 4 of Table 6.5, the country sovereign credit rating risk coefficient (*CRRsk*) is negative (coefficient = -3.880, *t*-statistic =-7.04) and statistically significant at 1% level, implying that higher *CBI* levels appear to lower *CRRsk* and therefore cost of capital. Sovereign credit risk ratings reflect the government's perceived willingness and ability to repay its sovereign debt, which is connected to country risk. Existing research shows that sovereign credit rating influences the capital market, cross-border investment, and cost of capital (see; Gande and Parsley, 2005; Ferreira and Gama, 2007; Syan Chen et al., 2013). Country risk diverges by country-specific fundamentals, such as macro-economic variables. The stance and predictability of monetary

policy are also critical for stabilising capital flows, and the capital market (see; Arora and Cerisola, 2001). The empiric study by Radovic et al. (2018) argues that strengthening the macroeconomic condition is favourably associated with the independence of central banks. Therefore, *CBI* can reduce *CRRsk* by developing economic growth and financial stability that also support lowering the cost of capital. Table 6.1 summary statistics also noted that emerging countries appear to have higher *CRRsk* than developed countries, indicating that investment in emerging countries is at high risk relative to developed countries, increasing the cost of capital in emerging countries. The study claims that a one-unit increase in the country's credit rating log is associated with a 10.47 per cent reduction in the cost of capital (see; Erb et al., 1995); therefore, a 10-unit increase in *CBI* (i.e., 1%) is associated with a reduction in the cost of capital of around-3,400*10=34 basis points (model 4 of table 6.5)

…Insert Table 6.5 here.....

6.6.2 Central bank transparency and cost of capital

The findings of the impact on four cost of capital measures of the transparency of the central bank (*CBT*) for the period from 2001 to 2014. Table 6.6 describes the regression results showing the impact of the central bank's independence (*CBI*) on four measures of the cost of capital. *t*-statistics are stated in parenthesis. The specification below is estimated.

$$\Delta CoC_{lt}=\alpha + \beta.CBT + \beta.Controls_{lt} + Country\ and\ year\ effects + \varepsilon_{lt} \qquad \text{Eq.2}$$

In eq. (2) CoC_{lt} Represents the cost of capital measures (i.e., *HRRtn*, *CERP, DivYld*, and *CRRsk*) in country l for the period of t ,CBT is central bank transparency, $Controls$ is the control variables, and ε is the error term.

In Model 1 of Table 6.6, the historical rate of return (*HRRtn*) coefficient is negative (coefficient = -0.007, *t*-statistic = -3.86) and statistically significant at the 1% level, implying that the higher degree of *CBT* decreases the *HRRtn* and therefore, lowering the cost of capital. The historical rate of return (*HRRtn*) is also used to evaluate the risk and return of securities and is employed as a cost of capital measure (see; Elton, 1999; Lau et al.,2010). The historical rate of return (*HRRtn*) is crucial and facilitates potential investors to evaluate market volatility and potential growth opportunities for investment. *HRRtn* measures the trend and past performance of investment instruments; in other words, investors analyse historical returns to estimate how security could react to a specific condition. Higher returns are desirable but are connected with more risk and volatility; also, higher volatility in stock prices indicates taking greater risk within a short period. Literature suggests that a higher degree of central bank transparency may decrease stock market volatility (see; Papadamou et al., 2017). In addition, *HRRtn* is driven by present and past market information, and central banks have an influence on the economic outlook and market information of a country through their

policy and procedures of monetary policy (see; Jarocinski and Karadi, 2020); thus, increasing *CBT* likely to reduce *HRRtn* and thus lowering the cost of capital. It is observable from summary statistics table 6.1 in column 2 that emerging countries appear to have a higher *HRRtn* than developed countries, indicating that securities from developed countries are less volatile than securities from emerging countries, which is an explanation for the higher cost of capital in emerging countries, and also observed that emerging countries are linked to a lower *CBT* than developed countries.

In model 2 of table 6.6, the coefficient on country equity risk premium (*CERP*) is negative (coefficient = -0.002, *t*-statistic = -3.42) and statistically highly significant at the level of 1%; this indicates that a higher degree of *CBT is* likely to reduce *CERP*, thus lowering the cost of capital. The country risk premium is a dominant factor to be considered while investing in foreign markets; investors pursue higher returns on volatile assets, whereas they are often willing to accept a moderate return on safer investments. Through macroeconomic variables, *CBT* is linked with *CERP*. By lowering interest rates, central banks are sending signals to investors and businesses about future growth and future investment consequences (see; Geraats, 2002). Existing research suggests a positive relationship between inflation, interest, and a risk premium (see; Tzavalis,2004; Argyropoulos and Tzavalis, 2016); moreover, monetary policy transparency enhances investors' expectations of market assessments (see; Blinder et al., 2008). In column 3 of summary statistics, table 6.1 shows that emerging countries tend to have a higher *CERP* than developed countries, which is the crucial factor behind the increasing cost of capital in emerging countries. Column 7 of the table confirms that emerging countries have a lower *CBT* than developing countries.

In model 3 of table 6.6, the coefficient on dividend yield (*DivYld*) is negative (coefficient = -0.107, *t*-statistic = -2.95) and statistically significant at the level of 1%; this indicates that a higher degree of *CBT* tends to reduce *DivYld*. A dividend yield is a tool that estimates the return as a dividend relative to the stock price. The dividend yield is simple to calculate and reasonably steady; it is also related to the cost of capital and asset pricing models. The dividend yield is an essential investing feature as the dividend is a crucial part of the overall investment return and may increase over time. As economic conditions strengthen, stock and dividends increase and generate dividend yields. Higher dividend yields are desired, yet dividend yields in emerging markets are higher than in developed markets worldwide. Although emerging markets are expected to expand faster than developed countries, delivering investors with a higher dividend yield, but are also associated with high volatility. Unsurprisingly, countries with lower dividend yields, such as the United States, have the world's largest economies. Existing literature suggests a positive association between the return on securities and the dividend yield (see; Rozeff, 1984; Campbell and Shiller, 1988; and Fama and French, 1988, 1989 & 1990). The average dividend yield varies per nation due to a variety of factors such as tax rates (Black and Scholes, 1974), interest rates & exchange rates (Hyde, 2007, Vaz et al., 2008), inflation (Bekaert and Engstrom,2010), and economic growth (Olweny and Kimani,2011). Study Also shows that expected returns on security and dividend yields are affected by monetary policy regulations (see; Jensen et al., 1996). Therefore, an increase in *CBT* can reduce *DivYld*, thus the cost of capital. Summary

statistics in Table 6.1 in Column 4 also indicate that emerging countries appear to have lower *DivYld* than developed countries, suggesting that securities from developed countries are expected to have better growth opportunities than emerging countries, which is a reason for lowering the cost of capital in developed countries. Developed countries are also correlated with higher *CBT* compared to emerging countries.

In Model 4 of Table 6.6, the country sovereign credit rating risk (*CRRsk*) coefficient is negative (coefficient = -0.382, *t*-statistic = -6.24) and statistically significant at a 1% level, implying that a higher level of *CBT* appears to lower *CRRsk* and therefore reducing the cost of capital. Evaluating the sovereign credit rating of a country is crucial to making a potential investment. The existing research also shows that country credit ratings influence a county's capital cost (see; Kliger and Sarig, 2000; Jorion et al., 2005; and Kisgen and Strahan, 2010). A country with a lower credit rating risk is considered a more secure investment than a country with a higher credit rating risk. The study also finds that sovereign credit ratings have the function of improving the clarity of the market credit risk profile and may thus have a substantial effect on its capital market investment flow; therefore, credit outlooks have a more significant influence on the market (see; Christopher et al., 2012). Sovereign credit rating determinants include per capita income, GDP growth, inflation, fiscal balancing, foreign debt balance, the degree of economic growth, and the history of default (see; Cantor and Packer, 1996), most of which are monetary policy functions. Monetary policy may stabilise, restrict, or enhance effects on inflation, unemployment, and economic development; thus, *CBT* can be reduced *CRRsk* and the cost of capital in a host country. Observing the summary statistics table 6.1 in column 5 reveals that emerging countries appear to have higher *CRRsk* than developed countries, which means that investment in emerging countries is at high risk compared to developed countries, also increases capital costs in emerging countries, in column 6 of the table, as the lower *CBT* associated with emerging countries.

…….....Insert Table 6.6 here.....

6.6.3 Control variables

Table 6.5 and Table 6.6 shows the control variables, most of which have the expected sign with statistical significance and play a substantial role in explaining the cost of capital with *CBI* and *CBT*.

Model 1 of table 6.5 explains the impact of central bank independence (*CBI*) on the historical rate of return (*HRRtn*). The coefficient on *HRRtn* of control variables *IntRst* (coefficient = 0.003, *t* statistic = 2.40), *NtIntMrgn* (coefficient = 0.020 , *t* statistic = 7.14), *Infltn* (coefficient = 0.004 , *t* statistic = 3.00), *PolStb* (coefficient = 0.001 , *t* statistic = 2.44), *FinRsk* (coefficient = 0.010 , *t* statistic = 2.30), *InvstFrdm (*coefficient = 0.001 , *t* statistic =2.93), *EqIndx* (coefficient = 0.000 , *t* statistic = 2.35) and *FmEff* (coefficient = 0.021 , *t* statistic = 1.80) are positive and statistically significant, suggesting that a decrease in the variables *IntRst, NtIntMrgn, Infltn, PolStb, FinRsk, InvstFrdm, EqIndx* and *FmAcc* reduce *HRRtn* thereby cost of capital. In contrast the variables *GovIntrgt* (coefficient = -0.001, *t* statistic = -2.81) and *Zscore* (coefficient = -0.001 , *t*

statistic = -1.68) are negative and statistically significant , that indicates that along with *CBI* , variables *GovIntrgt* and *Zscore* reduce *HRRtn.*

On the other hand, model 1 of table 6.6 explains the impact of central bank transparency (*CBT*) on the historical rate of return (*HRRtn*). The coefficient on *HRRtn* of control variables *Infltn* (coefficient = 0.003, *t* statistic = 3.07)*, NtIntMrgn* (coefficient = 0.025 , *t* statistic = 11.08)*, MrktCpGDP* (coefficient = 0.000 , *t* statistic = 3.27),*GovDbt* (coefficient = 0.000, *t* statistic = 4.18)*, InvstFrdm* (coefficient = 0.001, *t* statistic = 2.16)*,* and *FmAcc* (coefficient = 0.056 , *t* statistic = 3.38) are positive and statistically significant, suggesting that a decrease in the variables *Infltn, NtIntMrgn, MrktCpGDP, GovDbt, InvstFrdm,* and *FmAcc* reduce *HRRtn* thereby reduce cost of capital.

Model 2 of table 6.5 explains the impact of central bank independence (*CBI*) on country equity risk premium (*CERP*). The coefficient on *CERP* of control variables *IntRst* (coefficient = 0.001, *t* statistic = 4.45)*, NtIntMrgn* (coefficient = 0.002, *t* statistic = 2.75)*, Infltn* (coefficient = 0.001, *t* statistic = 4.78), and *PolStb* (coefficient = 0.001, *t* statistic = 2.53)*,* are positive and statistically significant, suggesting that a reduction in the variables *IntRst, NtIntMrgn, Infltn,* and *PolStb* decrease *CERP*. In contrast the variables *MoneFrdm* (coefficient = -0.000, *t* statistic = -2.88), *PropRight* (coefficient = -0.000, *t* statistic = -3.69) and *Zscore* (coefficient = -0.000, *t* statistic = -1.86) are negative and statistically significant, that indicates that variables *MoneFrdm, PropRight* and *Zscore* reduce *CERP* along with *CBI.*

On the other hand, model 2 of table 6.6 explains the impact of central bank transparency (*CBT*) on country equity risk premium (*CERP*). The coefficient on *CERP* of control variables *Infltn* (coefficient = 0.001, *t* statistic = 5.24)*, NtIntMrgn* (coefficient = 0.003, *t* statistic = 4.96)*, StkPVol* (coefficient = 0.000, *t* statistic = 2.15)*,* and *GovDbt* (coefficient = 0.000, *t* statistic = 3.23) are positive and statistically significant, suggesting that the variables *Infltn, NtIntMrgn, StkPVol* and *GovDbt* are positively associated with *CERP,* i.e., increases *CERP*. On the other hand, variables *FinRsk* (coefficient = -0.003, *t* statistic = -2.16)*, MoneFrdm* (coefficient = -0.001, *t* statistic = -4.85)*,* and *FmEff* (coefficient = -0.012, *t* statistic = -413) are negative and statistically significant, that indicates that along with *CBT* variables *FinRsk*, *MoneFrdm,* and *FmEFF* reduce *CERP.*

Model 3 of table 6.5 explains the impact of central bank independence (*CBI*) on dividend yield (*DivYld*). The coefficient on *DivYld* of control variables *IntRst* (coefficient = 0.073, *t* statistic = 3.40), and *InvstFrdm* (coefficient = 0.017, *t* statistic = 2.79) are positive and statistically significant, suggesting that a decrease in the variables *IntRst* and *InvstFrdm* are reduce *CERP*. In contrast the variables *NtIntMrgn* (coefficient = -0.180, *t* statistic = -3.46), *FinRsk* (coefficient = -0.264, *t* statistic = -3.42), *GDPgro* (coefficient = -0.042, *t* statistic = -1.97), *PropRight* (coefficient = -0.033, *t* statistic = -3.61) and *EqIndx* (coefficient = -0.011, *t* statistic = -6.19) are negative and statistically significant, that indicates that variables *NtIntMrgn, FinRsk, GDPgro, PropRight* and *EqIndx* reduce *DivYld* along with *CBI.*

On the other hand, model 3 of table 6.6 explains the impact of central bank transparency (*CBT*) on dividend yield (*DivYld*). The coefficient on *DivYld* of control variables *NtIntMrgn* (coefficient = -0.055 , *t* statistic = -1.24)*, FinRsk* (coefficient = -0.195 , *t* statistic = -2.29)*, GDPgro* (coefficient = -0.103 , *t* statistic = -4.11),*StkPVol* (coefficient = -0.016 , *t* statistic = -1.90), *GovDbt* (coefficient = -0.009 , *t* statistic = -4.69) and *FmAcc* (coefficient = -0.799, *t* statistic = -2.52) are negative and statistically significant , that indicates that along with *CBT* variables *NtIntMrgn, FinRsk, GDPgro, StkPVol, GovDbt* and *FmAcc* reduce *DivYld.*

Model 4 of table 6.5 explains the impact of central bank independence (*CBI*) on sovereign credit risk rating (*CRRsk*). The coefficient on *CRRsk* of control variables *IntRst* (coefficient = 0.276, *t* statistic = 9.37), *NtIntMrgn* (coefficient = 0.142, *t* statistic = 2.00), and *Infltn* (coefficient = 0.128, *t* statistic = 3.43) are positive and statistically significant, suggesting that a decrease in the variables *IntRst, NtIntMrgn* and *Infltn* reduce *CRRsk*. In contrast the variables *FinRsk* (coefficient = -0.214, *t* statistic = -1.84), *GDPgro* (coefficient = -0.088, *t* statistic = -2.95), *GovIntgrt* (coefficient = -0.067, *t* statistic = -5.72), *PropRight* (coefficient = -0.032, *t* statistic = -2.64), *Zscore* (coefficient = -0.071, *t* statistic = -4.40) and *FmEff* (coefficient = -0.875, *t* statistic = -2.97) are negative and statistically significant, that indicates that variables *FinRsk, BusnsFrdm, MoneFrdm* and *FmEff* reduce *CRRsk* along with *CBI.*

On the other hand, model 4 of table 6.6 explains the impact of central bank transparency (*CBT*) on sovereign credit risk rating (*CRRsk*). The coefficient on *CRRsk* of control variables *NtIntMrgn* (coefficient = 0.598, *t* statistic = 7.32), *MrktCpGDP* (coefficient = 0.002, *t* statistic = 2.21), *StkPVol* (coefficient = 0.040, *t* statistic = 2.64), and *GovDbt* (coefficient = 0.030, *t* statistic = 8.67) are positive and statistically significant, suggesting that a decrease in the variables *NtIntMrgn, MrktCpGDP, StkPVol* and *GovDbt* reduce *CRRsk*. In contrast the variables *FinRsk* (coefficient = -1.182, *t* statistic = -7.39), *BusnsFrdm* (coefficient = -0.065, *t* statistic = -5.26), *MoneFrdm* (coefficient = -0.141, *t* statistic = -6.41), and *FmEff* (coefficient = -3.061, *t* statistic = -7.74) are negative and statistically significant, that indicates that variables *FinRsk, BusnsFrdm, MoneFrdm* and *FmEff* reduce *CRRsk* along with *CBT.*

6.7 Newey-west regression analysis

The Newey-West regression is appropriate for the model robustness test; it also controls autocorrelation with lags while adjusting autocorrelation and heteroscedasticity (heterogeneity of variances). Whenever the residuals are heteroscedastic and/or autocorrelated, the Newey-west method may employ to enhance the ordinary least squares (OLS) regression. Therefore, Newey–West estimator is used with standard assumptions of regression analysis to test robustness.

6.7.1 Central bank independence and cost of capital

The findings of the Newey-west regression showing the impact of central bank independence (*CBI*) on four cost of capital measures for the period from 2001 to 2014 are described in Table 6.7. In parentheses, the *t*-

statistics are reported. Table 6.7 shows that the CBI coefficients are negative and statistically significant. The finding provides convincing evidence that a higher degree of central bank independence (*CBI*) correlates with a lower cost of capital.

In Model 1 of Table 6.7, the historical rate of return (*HRRtn*) coefficient is negative (coefficient = -0.093, *t*-statistic = -2.87) and statistically significant at the 1% level, implying that a higher degree of *CBI* appears to reduce *HRRtn*, thereby decreasing the cost of capital. Potential investors often use historical returns to measure equities and debt performance. However, the historical performance of the securities is influenced by the economic conditions of the host country, and macroeconomic variables are affected by central bank independence. This is consistent with our hypothesis that a decrease in the degree of HRRtn may increase CBI, thus reducing the cost of capital.

In Model 2 of Table 6.7, the country equity risk premium (*CERP*) coefficient is negative (coefficient = -0.013, *t*-statistic = -2.36) and statistically significant at the 5% level, implying that a higher degree of *CBI* tends to reduce *CERP*, therefore lowering the cost of capital. The country's risk premium is a crucial driver of potential investors planning to invest in foreign markets. A country's risk premium is influenced by political uncertainty, and economic risks include inflation, interest and currency exposure, and sovereign debt and default levels. *CBI* can reduce risk premium by developing macroeconomic conditions and financial stability, reducing CERP and the cost of capital in a host country.

In Model 3 of Table 6.7, the coefficient of dividend yield (*DivYld*) coefficient is negative (coefficient = -1.192, *t*-statistic = -2.85) and statistically significant at the 1% level, indicating that the higher degree of *CBI* appears to decrease *DivYld*, thereby reducing the cost of capital. Investors often evaluate dividend yields to maximise future investment gains and assess the uncertainties involved with a particular investment. Economic growth and financial stability have a favourable effect on investor returns and dividend yields. Central bank independence may improve economic conditions and investors' return, increasing DivYld and thereby minimising the cost of capital.

In Model 4 of Table 6.7, the coefficient on sovereign country credit risk *(CRRsk)* coefficient is negative (coefficient = -3.880, *t*-statistic = -4.24) and statistically significant at a 1% level, implying that a higher degree of *CBI* tends to reduce *CRRsk*, and therefore reducing the cost of capital. Investors use sovereign credit ratings to evaluate the likelihood of risk in the capital market of the host country. The factors influencing sovereign credit ratings include per capita income, GDP growth, inflation, external debt, and the country's default record. Central bank independence affects these macro-economic factors, and *CBI* is supposed to be able to minimise *CRRsk* by facilitating economic growth and stability, thus may reduce the cost of capital.

…….....Insert Table 6.7 here.....

6.7.2 Central bank transparency and cost of capital

The findings of the Newey-west regression showing the impact of central bank transparency (*CBT*) on four cost of capital measures for the period from 2001 to 2014 are described in Table 6.8. In parentheses, the *t*-statistics are stated. In Table 6.8, the *CBT* coefficients show that they are negative and statistically significant. The results provide convincing evidence that a higher degree of central bank transparency (*CBT*) correlates with a lower cost of capital.

In Model 1 of Table 6.8, the coefficient of historical rate of return (*HRRtn*) coefficient is negative (coefficient = -0.007, *t*-statistic = -2.01) and statistically significant at the 5% level, implying that the higher degree of *CBT* appears to reduce *HRRtn*, thereby lowering the cost of capital. Through measuring historical returns, prospective investors assess how, under certain circumstances, the price of an asset has behaved in the past and may provide insight into how it might react in the future. The historical return of investments and securities is influenced by the economic circumstances of the host country, and economic growth is supposed to be affected by central bank transparency. Therefore, a decreased *HRRtn* may result in higher *CBT*, which also reduces the cost of capital

In Model 2 of Table 6.8, the coefficient for the country equity risk premium (*CERP*) coefficient is negative (coefficient = -0.002, *t*-statistic = -2.37) and statistically significant at 5% level, indicating that a higher degree of *CBT* tends to reduce *CERP*, thereby decreasing cost of capital. The higher risk of a country derives from the economic and political risks, and therefore the country's risk premium increases, inhibiting foreign investment. Bekaert et al. (2013) suggest a more substantial relationship between financial market risk factors, monetary policy decisions and economic activity. Central bank transparency may reduce the country's risk premium by developing a macroeconomic situation that would reduce *CERP* and the host country's capital cost.

In Model 3 of Table 6.8, the dividend yield (*DivYld*) coefficient is negative (coefficient = -0.107, *t*-statistic = -1.99) and statistically significant at the 5% level, indicating the higher degree of *CBT* continues to reduce *DivYld*, thereby lowering the capital expense. Investors also emphasise dividend yields, particularly investors seeking regular earnings by dividends and interest income and expecting to earn stable and increasing dividends from their investment, often in the pursuit of capital appreciation. *CBT* may facilitate growth by developing macroeconomic variables that will provide higher investment returns that encourage more participants and reduce the cost of capital.

In Model 4 of Table 6.8, the coefficient on sovereign country credit risk (*CRRsk*) coefficient is negative (coefficient = -0.382, *t*-statistic = -3.77) and statistically significant at a 1% level, implying that a higher degree of *CBT* tends to reduce *CRRsk*, and therefore reducing the cost of capital. Sovereign credit scores provide investors with an insight into the degree of risk associated with their potential investment in the host country. It would minimise inflation risk, preserve political stability and reduce market volatility because of

more substantial sovereign ratings. An increase in *CBT* influences macroeconomics; by economic prosperity and financial stability, central bank independence would minimise the *CRRsk* and thus the cost of the capital.

…….....Insert Table 6.8 here.....

6.8 Fixed and random effects regression analysis (FE and RE)

Panel OLS may not differentiate between time and cross-section, which is a baseline analysis technique. Therefore, I run a fixed and random effect model, which is more robust with fewer error terms. This study employs fixed-effect models to investigate the effects of variables that change over time and random effects to analyse the impact of variables on countries. Using fixed effects models, we can examine the influence of variables that vary over time rather than in different countries; on the other hand, using random effects models, we can assess the effects of variables that are considered to be random and irrelevant to the independent variable across countries (see; Green,2008).

Fixed effects and random effects regression show the insignificant result and are placed these results in Appendix. Appendix-1 shows fixed effects regression of *CBI* on the cost of capital proxies for the period from 2001 to 2014, Appendix-2 shows random effects regression of *CBI* on the cost of capital proxies for the period from 2001 to 2014, Appendix-3 shows fixed effects regression of *CBT* on the cost of capital proxies for the period from 2001 to 2014, and Appendix-4 shows random effects regression of *CBT* on the cost of capital proxies for the period from 2001 to 2014. We also use the Hausman test to assess the estimator's consistency and compare it with its alternatives. The Hausman test is beneficial in determining whether the random or fixed effect model should be used.

Ho: random effects are an appropriate model Ha: fixed effects are appropriate.

CBI		**CBT**	
HRRtn	Prob > Chi2 = 0.0060	*HRRtn*	Prob > Chi2 = 0.0000
CERP	Prob > Chi2 = 0.0844	*CERP*	Prob > Chi2 = 0.0000
DivYld	Prob > Chi2 = 0.0170	*DivYld*	Prob > Chi2 = 0.0066
CRRsk	Prob > Chi2 = 0.0060	*CRRsk*	Prob > Chi2 = 0.0000

In terms of *CBI* and *CBT*, the probability value mentioned above in all of our four models (*HRRtn*, *CERP*, *DivYld CRRsk*) shows that the p-value is less than the 10% level, suggesting that fixed effects are the appropriate model.

6.9 The generalised moment method (GMM) analysis

We use the two-step dynamic GMM method to resolve endogeneity problems associated with the error term in the explanatory variable. Dynamic GMM estimation is appropriate where the time interval is smaller, and the cross-section of observations is larger. The Generalized Moment Method (GMM) is a beneficial

technique based on the Arellano–Bond estimator used to approximate panel data models to address the endogeneity issues (see; Bhargava and Sargan,1983; and Arellano and Bond,1991). Since our data set consists of 14 years of annual observations from 2001 to 2014 for 40 sample countries (cross-section), the dynamic GMM method is empirically appropriate to resolve endogeneity. It is also efficient and robust to heteroscedasticity and autocorrelation (see; Roodman, 2009). The independence and transparency of the central bank cause a deferential cost of capital competitiveness that may attract foreign investors to invest more. Whether this is the case, our calculations may be influenced by endogeneity problems resulting from the reversal of causality. We address the possible issue of endogeneity by using one-year lagged values of independence and central bank transparency (*CBI* and *CBT*) as pre-determined exogenous variables.

There is a significant result of GMM; however not consistent with our hypothesis; thus, we placed them in Appendix -5 shows the GMM result of *CBI* on the cost of capital proxies, and Appendix -6 shows the GMM result of *CBT* on the cost of capital proxies.

6.10 Chapter Summary

This analysis aims to investigate the impact of the independence and transparency of the central bank (*CBI* and *CBT*) on the cost of capital. Our main hypothesis is that the central bank's independence and transparency (CBI and CBT) interact to decrease the cost of capital. Using global data from 40 countries (developed and emerging) following the current literature, we employ four measures of the cost of capital (*HRRtn, CERP, DivYld*, and *CRRsk*). Using robust econometric techniques and comprehensive specifications, our study finds that a higher degree of independence in the central bank (*CBI*) lowers the cost of capital; equally, greater transparency in the central bank (*CBT*) is associated with a lower cost of capital.

The study has important implications for policymakers, particularly governments in emerging countries, as the independence and transparency of the central bank are crucial to explaining a country's cost of capital. Our findings will contribute to the financial literature that explores variables that define cross-country capital flows and portfolio investment in a particular country (see; Chan et al., 2005; Daly and Vo, 2013). More precisely, this study will provide new insights into how the independence and transparency of the central bank influence investment decisions and cross-border fund inflows in a host country.

Chapter 7: Second empirical analysis: The impact of central bank independence and transparency on equity home bias and foreign bias.

In this chapter, I extend the existing literature by examining the impact of central bank independence and transparency on equity home and foreign bias. I test the following four hypotheses in line with the theoretical argument and existing literature.

H1 Central bank independence reduces equity home bias.

H2 Central bank independence increases equity foreign bias.

H3 Central bank transparency reduces equity home bias.

H4 Central bank transparency increases equity foreign bias.

This chapter is structured as follows: section 7.1 introduces the chapter; section 7.2 offers a summary analysis; section 7.3 presents descriptive statistics; 7.4 provides the correlation analysis; section 7.5 presents econometric issues; section 7.6 provides regression analysis; section 7.7 discusses robustness test and procedures; section 7.8 discussed endogeneity test, and section 7.9 is the summary of the chapter summary.

7.1 Introduction

This chapter presents the empirical analysis for our second research question, "The impact of independence and transparency of central bank on equity home bias and equity foreign bias". Earlier studies have demonstrated that the independence and transparency of the central bank affect macroeconomic variables, such as interest rates, inflation, and exchange rates, which are essential in formulating a credible monetary policy, reducing information asymmetry, and enhancing expectations of participants of the financial market, and ensuring level playing field for investors from home and abroad (see; Chortareas et al. 2002; and Crowe and Meade, 2008). In particular, Maxfield (1997) explicitly states that the central bank's independence signals the attractiveness of the host country to prospective investors.

The global investment landscape has been changing rapidly over the last few decades. Studies show that financial globalisation has led to financial integration and international diversification (see; Lane and Milesi-Ferretti, 2001 & 2006). A growing number of studies have demonstrated that monetary policy and general macroeconomic fluctuations influence the allocation of equity portfolios and capital flows in the host country. The existing literature postulates that higher portfolio risk and lower returns in the financial market returns are attributed to increased information asymmetry (see; Rogoff, 1985; Cukierman et al.,1992; Alesina and Summers, 1993; Walsh,1995; Eijffinger and Geraats, 2006; Dincer and Eichengreen, 2014 and Bekaert et al., 2014). Examining the impact of the independence and transparency of the central bank on the institutional quality and cross-border flows of investments, Kwabi et al. (2020) argue that higher institutional quality is related to a greater degree of independence and transparency of the central bank and is key to

attracting foreign investors and promoting cross-border portfolio flows. The cost of capital can be reduced by efficient and successful macroeconomic policies, which maximise investors' returns and influence investors' portfolio allocation (see; Uddin and Boateng, 2011; Maxfield, 1997).

I first present a summary statistic of our dependent variables (*EHB* & *EFB*), followed by our key independent variables (*CBI* and *CBT*), other control variables, and correlation analysis. I then proceed to provide a multivariate analysis of our results. This study employed a panel dataset of 40 countries from 2001 to 2014, including 23 developed and 17 emerging countries. I have organised countries following the World Bank and UNDP framework.

This study shows that central bank independence (*CBI*) and transparency (*CBT*) are positively related to *EHB* and *EFB*, with higher *CBI* lowering *EHB* and rising *EFB*. Similarly, increasing *CBT* decreases *EHB* while increasing *EFB*.

7.2 Summary analysis

Table 7.1 reports a summary statistic of the variables by partitioning the data into developed and emerging countries. Table 7.1 presents average statistics (mean values) from 2001 to 2014 on the equity home and foreign bias measures. The independence of central bank measures is set out in column 6, and the measures of the central bank transparency are set out in column 7. The summary statistics are grouped by developed (Panel-A) and emerging countries (Panel-B). Finally, Table 7.1 (panel C) presents averages of dependant and key independent variables.

.....Insert Table 7.1 here .....

The summary statistics in panels A and B of table 7.1 indicate that developed countries have a low equity home bias (EHB) and a higher equity foreign bias (*EFB*) compared to emerging countries. This is consistent with the fundamental assumption that a higher degree of CBI and *CBT* lower *EHB* and rises *EFB*. However, a mixed result has been observed concerning the individual country-level equity home and foreign bias (*EHB* & *EFB*) measure.

The five countries with the lowest equity home bias (EHB) are Belgium, the Netherlands, Denmark, Italy, and Austria. On the other hand, five emerging countries with a higher equity home bias (*EHB*) are Qatar, Turkey, India, Russian Federation, and Egypt. However, Singapore and Hongkong show lower equity home bias than the global benchmark. Conversely, Belgium has the highest equity foreign bias (*EFB*), followed by the Netherlands, Denmark, Italy, and Austria. Then, Turkey, followed by India, the Russian Federation, Egypt, and Brazil, are the five emerging countries with the lowest equity foreign bias. On the contrary, developed countries Poland, followed by Ireland, Greece, Spain, and Australia, have more downward equity foreign bias (EFB) and more considerable equity home bias (EHB) than the global benchmark.

Panel-A (Developed Countries) of Table 7.1 indicates higher equity foreign bias and lower equity home bias compared to Panel-B (emerging countries) in terms of *CBI* ranking. The United Kingdom is at the top in terms of *CBI*, followed by Hungary. Countries with the same *CBI* ranking are Germany, France, Austria, Belgium, Finland, Ireland, Spain, and the Netherlands. Similarly, in terms of *CBT*, Panel-A (Developed Countries) of Table 7.1 shows higher equity foreign bias and lower equity home bias relative to Panel-B. (emerging countries). Sweden has the highest *CBT* ranking, followed by New Zealand, the United Kingdom, Hungary, and Canada. Some other countries with a similar *CBT* ranking are Belgium, Denmark, Finland, France, Ireland, and Italy. The findings suggest that developed countries have the highest levels of *CBI* and *CBT* than emerging countries, resulting in lower *EHB* and higher *EFB*.

The comparison based on summary statistics for individual countries shows that countries with greater central bank independence (*CBI*) have a lower equity home bias (*EHB*) as well as an increased equity foreign bias (*EFB*). Similarly, countries with greater transparency of the central bank (*CBT*) are associated with a reduction in the equity home bias (*EHB*) as well as a rise in the equity foreign bias (*EFB*),

In the case of central bank independence (*CBI*), the average score for developed and emerging countries is 64.92%. The average score for developed countries is 73.26%, while the average *CBI* score for emerging countries is 53.64 %. Those emerging countries are about 11.26% below the overall average and approximately 19.62% lower than the average of developed countries. Similarly, in the case of central bank transparency (*CBT*), the average score for developing and emerging countries is 8.66. In contrast, the average scores for developed and emerging countries are CBT 10.49 and CBT 6.17, respectively, which are about 2.49 points lower than the average score for both developing and emerging countries and 4.32 points lower than the average of developed countries. This suggests that the developed countries have higher *CBI* and *CBT* than the emerging countries.

Regarding equity home bias (*EHB*), developed countries' average score is 60.83% which is 11.97% lower than the average (72.80%) reported for both developed and emerging counties. On the other hand, emerging countries' average equity home bias measure (*EHB*) score is 88.98%, which is 16.18% higher than the average of both developed and emerging countries, indicating the prevalence of equity home bias is higher in emerging economies than developed countries. In the equity foreign bias (*EFB*) measure, developed countries show a higher average score of 39.17%, which is higher than the average (27.21%) of both developed and emerging countries. On the other hand, emerging countries' average equity foreign bias (*EFB*) score is 11.02%, which is 16.19% below the combined average of developed and emerging countries (27.21%) and 28.5% lower than developed countries. This suggests that the developed countries have higher *EFB* and lower *EHB* than the emerging countries.

The summary statistics of other control variables are presented in Table 7.2 and show the result of developed countries (in Panel-A) and emerging economies (in Panel-B). Political stability (*PolStb*), regulatory quality

(*RegQlt*), voice and accountability (*VocAct*), government integrity (*GovIntgrty*) and business freedom (*BusinsFrdm*) demonstrate a significant cross-country variation; a greater degree of these controls' variables observed in a developed country that emerging counterparts. Finland has the highest *PolStb* score of 98.91%; in contrast, Israel has the lowest score (12.25%). *RegQlt* is 97.93% in Denmark compared to 25.85% and 40.42% in Argentina and India, respectively. Norway's score on *VocAct* is the highest at 98.88%, while China and Egypt have the lowest score of 6.18% and 17.30%, respectively. The highest *GovIntgrt* is observed in Finland, 95.17% and the lowest is in the Russian Federation (23.72%). And *BusinsFrdm* is highest (96.60%) in Denmark and lowest (47.46%) in India. The equity home and foreign bias measure are influenced by multiple control variables rather than an individual control variable. However, there is evidence that the degree of certain control variables mentioned above is strongly associated with equity home (*EHB*) and foreign bias (*EFB*) measures. It is also observed that these variables are favourably correlated with a country having a higher degree of *CBI* and *CBT*.

…….....Insert Table 7.2 about here.....

7.3 Descriptive statistics of dependent, independent, and control variables

Table 7.3 represents the descriptive statistics of dependant, independent and control variables showing the standard deviation, mean, median, skewness, kurtosis, minimum and maximum variables from our dataset of 40 countries from 2001 to 2014. Our sample data is distributed as skewness is between -1.45 to 3.53, which is highly skewed (Bulmer, 1979). Kurtosis of our sample data is between – 1.41 to 16.15, which is leptokurtic (Westfall, 2014), meaning that boarded fluctuation between variables. From our data, the maximum value of *EHB* and *EFB* is 0.13 and 0.50, and the minimum values are -0.53 and -2.52, respectively.

…….....Insert Table 7.3 about here.....

7.4 Correlation coefficients

All variables included in this study and their coefficient of cross-correlation have been presented in Table 7.4 for the period from 2001 to 2014. In line with the theoretical expectations, *CBI* is statistically significant and correlated with *EHB* and *EFB* measures and suggests that countries with higher levels of CBI are likely to have lower *EHB* and high *EFB*. Similarly, the degree of *CBT* is also favourably correlated with *EHB* and *EFB* measures, indicating a decrease in equity home bias (*EHB*) and an increase in equity foreign bias (*EFB*). In addition, Table 7.9 presents the variance inflation factors (VIF) of control variables, which show mean values of 3.41. The variance inflation factors (VIF) are remarkably smaller than the threshold mean value of 10 (minimum = 1.20; maximum = 11.76). This indicates no multi-collinearity issue between the independent and control variables used in this study.

…….....Insert Table 7.4 here.....

7.5 Econometric issues

Based on research methodologies Chapter-5, I perform the following diagnostic test to ensure that all econometric issues are detected and addressed accordingly.

7.5.1 Autocorrelation

I test for the presence of autocorrelation by using the Wooldridge test for autocorrelation and run the regression in STATA: I obtained the following result, which suggests that there is no autocorrelation or autocorrelation not at a significance level.

H0: no first-order autocorrelation

CBI		**CBT**	
EHB	F (1, 36) = 1.343 Prob > F = 0.2541	*EHB*	F (1, 36) = 0.066 Prob > F = 0.7983
EFB	F (1, 35) = 33.227 Prob > F = 0.0000	*EFB*	F (1, 35) = 39.722 Prob > F = 0.0000

Regarding *CBI,* the probability value mentioned above in one of our models (*EFB*) shows that the p-value is less than the 5% level, suggesting that there is no autocorrelation; however, another model (*EHB)* appears to have autocorrelation. On the other hand, in terms of *CBT*, one of our models (*EFB)* seems to have no autocorrelation; however, another model (*EHB*) exists autocorrelation.

7.5.2 Heteroskedasticity

I test heteroskedasticity using the Breusch-Pagan procedures.

Breusch-Pagan/ Cook-Weisberg Heteroskedasticity test.

H0: Constant variance

CBI		**CBT**	
EHB	chi2 (1) = 101.52 Prob > chi2 = 0.0000	*EHB*	chi2 (1) = 195.91 Prob > chi2 = 0.0000
EFB	chi2 (1) = 69.67 Prob > chi2 = 0.0000	*EFB*	chi2 (1) = 96.42 Prob > chi2 = 0.0000

The probability value mentioned above for the chi-square coefficient is less than the 5% level, suggesting that the null hypothesis to be accepted is that the variance is constant.

7.5.3 multi-collinearity

I use variance inflation factors (VIF) to test for multi-collinearity. A value greater than 5 suggests that the model's correlation between the explanatory and other variables is significant. However, a value less than 10 proves that multi-collinearity does not exist. VIF's mean for our model is 3.41, which indicates that multi-collinearity is not an issue in our model (see; Gujarati, 2003).

…….....Insert Table 7.9 here.....

7.5.4 Omitted variable bias

I use Ramsey reset test procedures for omitted variables for *CBI* and *CBT* to determine significant variables omitted. We have results as follows, suggesting that models have no omitted variables.

H0: Model does not have omitted variables.

CBI		**CBT**	
EHB	F (3, 391) = 9.37 Prob > F = 0.0000	*EHB*	F (3, 399) = 25.15 Prob > F = 0.0000
EFB	F (3, 381) = 27.17 Prob > F = 0.0000	*EFB*	F (3, 388) = 26.34 Prob > F = 0.0000

Regarding *CBI & CBT*, the probability value mentioned above in our model (*HRRtn, CERP,DivYld* and *CRRsk*) shows that p value is less than 5% level, suggesting that our model does not suffer from omitted variables.

7.6 Panel (pooled) OLS regression analysis

This study investigates cross-country and temporal variations in the independence and transparency of the central bank (*CBI & CBT*) on differing degrees of equity home bias and equity foreign bias (*EHB & EFB*) in different countries around the world. This analysis uses panel regressions and includes all available that could be correlated with the various degrees of equity home and foreign bias.

7.6.1 Central bank independence and equity home and foreign bias

Our analysis begins with the estimation of the impact of the independence of the central bank (*CBI*) on equity home bias (*EHB*) and equity foreign bias (*EFB*). Table 7.5 describes the regression results showing the relationship between *CBI*, *EHB* and *EFB* from 2001 to 2014. The specification below is estimated.

$$\Delta EHB_{lt}=\alpha+\beta.CBI+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \qquad \text{Eq.1}$$

In eq. (1) EHB_{lt} Represents equity home bias in country l for the period of t ,CBI is central bank independence, $Controls$ is the control variable, and ε is the error term.

$$\Delta EFB_{lt}=\alpha+\beta.CBI+\beta.Controls_{lt}+Country\ and\ year\ effects+\ \varepsilon_{lt} \qquad \text{Eq.2}$$

In eq. (2) EFB_{lt} Represents equity foreign bias in country l for the period of t ,CBI is central bank independence, $Controls$ is the control variable, and ε is the error term.

In model 1 of table 7.5, the coefficient of *EHB* is -0.182 (*t* statistic -2.85), which is negative and statistically highly significant at 1%. This indicates that a higher degree of *CBI* tends to reduce *EHB* by decreasing the factors affecting equity home bias (*EHB*).

Current literature shows that capital market development is one of the critical determinants of equity home bias, among other factors (See; Levine and Zervos, 1996; Chan et al., 2005; and Thapa and Poshakwale, 2012). On the other hand, capital market developments are linked to long-term macroeconomic growth and financial stability (see; Levine and Zervos,1998; Boyd et al., 2001). Financial stability is the fundamental goal of the central bank independence, and *CBI* also has a positive effect on macroeconomic developments (see; Eichengreen 1998; Blinder 1998; Maxfield 1997), which could contribute to the development of the capital market in a host country, as a result, reduces equity home bias in a host country. Literature shows that *CBI* is positively associated with economic growth and capital market development influenced by changes in macroeconomic factors such as inflation, exchange rates and interest rates (see; Arnone et al., 2007; Papadamou et al., 2014, Radovic et al., 2018).

I argue that central bank independence can also protect governance and investors by exercising regulatory powers to control the host country's financial markets, thus increasing market participation and capital flows. Investor protection is a crucial factor in foreign equity bias; investors are not attracted to a poorly regulated market and are often concerned regarding protecting minority interests. Moreover, a country with a lower degree of investor protection and a lack of reasonable depth and breadth of stock offerings contributes to a less developed and complex capital market (see; La Porta et al.,1997; Stulz, 2005; and Bae et al., 2008). Therefore, through financial market development and protecting investors, CBI builds trust among prospective investors and can also reduce equity home bias and provide a level playing field for home and foreign investors, facilitating market integration and risk sharing. Our result also confirms the empirical study on investors' preference in equity portfolio allocation, that *CBI* influences investor decisions (see; Kwabi et al.,2020), and a higher level of *CBI* tends to decrease equity home bias.

In model 2 of table 7.5, the coefficient of *EFB* is 0.708 (*t* statistic 4.24), which is positive and statistically significant at 1%, indicating that a higher degree of *CBI* tends to increase *EFB* with lessening or extirpate that the factors affecting equity foreign bias. The results suggest that central banks' independence attracts foreign equity investors by promoting risk sharing among home and foreign investors.

Central bank independence is essential in providing a well-functioning financial market in a country that could attract more foreign investment. Existing literature emphasises that institutional quality is the driving factor behind foreign equity bias (see; Papaioannou, 2009; Mishra and Contech, 2014; and Eichler and Lucke, 2015). A well-functioning financial market also includes more sophisticated financial institutions such as banks and brokers acting as market makers (see; Eichengreen and Luengnaruemitchai, 2004), which enhance liquidity and market efficiency. Return chasing behaviour on portfolio investment motivates investors to keep a significant amount of foreign equity, which decreases home bias and increases the foreign bias (see; Bleaney and Greenaway, 2001; Amadi, 2004; Massa and Simonov, 2006; and Norden, 2008; Ferreira and Miguel,2011). There is a strong relationship between monetary policy and the real economy;

thereby, monetary rule influences economic activity. Therefore, the development of the financial market and the return on equity are affected by monetary policy (see; Jensen and Johnson,1995; Bernanke and Gertler, 1995; and Goodhart and Hofmann,2000). This is consistent with our analysis that by economic growth and capital market development, CBI can attract foreign investors, thereby increasing equity foreign bias. This finding is consistent with the study by Kwabi et al. (2020) that *CBI* affects the investor's decision to portfolio allocation and that the higher-level *CBI* is likely to increase equity foreign bias.

…….....Insert Table 7.5 here.....

7.6.2 Central bank transparency and equity home and foreign bias

Table 7.6 presents the regression results of the varying effects of central bank transparency (*CBT*) on equity home bias (*EHB*) and equity foreign bias (*EFB*) for the period from 2001 to 2014. The specification below is estimated.

$$\Delta EHB_{lt}=\alpha+\beta.CBT+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \quad \text{Eq.3}$$

In eq. (3) EHB_{lt} Represents equity home bias in country l for the period of t ,CBT is central bank transparency, $Controls$ is the control variable, and ε is the error term.

$$\Delta EFB_{lt}=\alpha+\beta.CBT+\beta.Controls_{lt}+Country\ and\ year\ effects+\ \varepsilon_{lt} \quad \text{Eq.4}$$

In eq. (4) EFB_{lt} Represents equity foreign bias in country l for the period of t ,CBT is central bank transparency, $Controls$ is the control variable, and ε is the error term.

In model 1 of table 7.6 the coefficient of *EHB* is negative and statistically significant at 1% level (coefficient = -0.013; *t* statistic = -3.06). This finding suggests that a greater level of *CBT* tends to reduce *EHB*; increasing *CBT* is supposed to lessen the elements affecting *EHB*.

The economic performance of the host country influences the equity home bias that a less developed capital market is associated with less economic growth (see; King and Levine, 1993; Levine and Zervos, 1998; Chan et al., 2005; and Lane and Milesi-Ferreti, 1993). Central banks have a crucial role in safeguarding financial stability, accelerating economic growth, and promoting the country's financial globalisation. Papadamou et al. (2017) argue that the central bank's policy could lead to lower exchange-rate volatility, a more stable capital market, and economic growth in the country. Several literatures also investigate and found that central bank transparency is positively associated with macroeconomic variables (see; Cooper and Kaplains, 1994; Chortareas et al., 2002; van Wincoop and Warnock, 2006; Evans and Speight, 2010; Demertzis and Hallet, 2007; and de Mendonça and Filho, 2007). These studies, therefore, indicate that central bank transparency could assure investors and encourage home investors to diversify their investment globally. Our finding is also consistent with the prior study on investor choices in equity portfolio allocation,

which show that CBT influences investor decisions and that *CBT lowers* equity home bias (see; Kwabi et al.,2020).

In model 2 of table 7.6, the coefficient on *EFB* (coefficient = 0.057; *t*-statistics 3.53) is positive and statistically significant at 1%, indicating that a higher degree of *CBT* tends to increase *EFB;* thereby, *CBT* can decrease or purge that the factors affecting *EFB. This* finding suggests that the central bank's transparency may attract foreign equity investors.

Information asymmetry is caused by the information gap between home and foreign investors and inhibits foreign investors from investing in a host country, resulting in increased home bias, and decreased foreign tendency (see; Gehrig, 1993; Brennan and Cao,1997; Lane and Milesi-Ferreti, 2004 & 2005; Chan et al. 2005; and Brennan et al., 2005). Familiarity or information asymmetry is one of the crucial motives for home bias in equity portfolios since home investors perceive the foreign market to be more volatile (see; Solnik, 1995 and Huberman, 2001) and therefore disregard portfolio diversification, which facilitates risk sharing and better returns (see; Grubel, 1968; and Levy and Sarnat, 1970).

Significant transparency in monetary policy is desirable, as it enables investors to make better decisions. Most analysts recognise that a substantial degree of transparency will not only enhance stakeholders' confidence but also strengthen the credibility, efficiency, and reputation of central banks (see; Blinder, 1998; Eusepi, 2003 & 2005; and Eijffinger and Geraats, 2006). Transparency of the central bank could ensure a level playing field for cross-country investors and increase foreign bias in a country by providing a sufficient amount of information to the investors on the policy decisions of the central bank disproportionately, enhancing investors' expectations and increasing investors' expectations more investors participate in the market. The empirical study by Kwabi et al. (2020) on investor equity portfolio allocation shows that *CBT* affects investors' portfolio allocation, and that higher *CBT* is much more likely to increase equity foreign bias, which is supported by this result.

…….....Insert Table 7.6 here.....

7.6.3 Control variables

Table 7.5 and Table 7.6 shows the control variables, most of which have the expected sign with statistical significance and play a substantial role in explaining equity home and foreign bias with *CBI* and *CBT*.

Model 1 of table 7.5 explains the relationship between equity home bias (*EHB*) and central bank independence (*CBI*). The control variables *VocAct (*coefficients-0.003, *t* statistic -3.39*), FinRsk (*coefficients -0.040, *t* statistic -3.04*), and Trade to GDP (*coefficients-0.001, *t* statistic -2.69*)* are negative and statistically highly significant at the level of 1%. Moreover, *PolStb (*coefficients -0.002, *t* statistic -2.26*), GovIntgrty (*coefficients -0.003, *t* statistic -2.43*), BusinsFrdm (*coefficients -0.003, *t* statistic -2.25*)* and *Zscore (*coefficients -0.004, *t* statistic -2.12*)* are also negative and statistically significant at the level of 5%, that

suggest that along with *CBI* the variables *VocAct, FinRsk, Trade to GDP, PolStb, GovIntgrt, BusinsFrdm and Zscore* also reduce or exterminate the factors affecting *EHB*.

In contrast, the following variables have positive and statistically significant coefficients: *RegQlt (*coefficients 0.004, *t* statistic 2.86*), FmAcc (*coefficients 0.147, *t* statistic 3.10*)* and *GDP growth (*coefficients 0.009, *t* statistic 2.74*)* at the level of 1%, and *MoneFrdm (*coefficients 0.003, *t* statistic 1.68*)* at the level of 10%, that suggest that along with *CBI* a decrease in variables *RegQlt, FmAcc, GDP Growth* and *MoneFrdm* also reduce or exterminate the factors affecting *EHB*.

Model 2 of table 7.5 reports the effects of central bank independence (*CBI*) on equity foreign bias (*EFB*). The control variables *PolStb (*coefficients 0.006, *t* statistic 2.96*), VocAct (*coefficients 0.014, *t* statistic 4.97*), BusinsFrdm (*coefficients 0.012, *t* statistic 4.16*), MoneFrdm (*coefficients 0.030, *t* statistic 6.26*), Zscore (*coefficients 0.017, *t* statistic 3.64*),* and *Trade to GDP (*coefficients 0.002, *t* statistic 2.75*)* are positive and statistically highly significant at the level of 1%. Also, *GovIntrty (*coefficients 0.006, *t* statistic 2.05*)* is positive and statistically significant at the level of 5%. That suggests that along with *CBI,* the variables *PolStb, VocAct, BusinsFrdm, MoneFrdm, Zscore, Trade to GDP,* and *GovIntgrt* also increase *EFB* by reducing the factors affecting *EFB*.

In contrast, negative and significant variables include *RegQlt* (coefficients -0.011, t statistic -2.89) and *GDP Growth* (coefficients -0.038, t statistic -4.28) at the 1% level, implying a drop in variables *RegQlt* and *GDP Growth* increases *EFB* while decreasing the factors impacting *EHB*.

Model 1 of table 7.6 shows the effects of central bank transparency (*CBT*) on equity home bias (*EHB*) and central bank transparency (*CBT*). The control variables *PolStb (*coefficients-0.002, *t* statistic -3.34*), VocAct (*coefficients-0.002, *t* statistic -3.07*), FinRsk (*coefficients-0.035, *t* statistic -3.43*), GovIntgrt (*coefficients-0.003, *t* statistic -3.29*), Trade to GDP (*coefficients-0.001, *t* statistic -3.78*)* and *InvstFrdm (*coefficients-0.003, *t* statistic -3.66*)* are negative and statistically highly significant at the level of 1%. Moreover, *Zscore (*coefficients -0.003, *t* statistic -2.32*)* is negative and 5% significant level. This suggests that along with *CBT,* the variables *PolStb, VocAct, FinRsk, GovIntgrty, Trade to GDP, InvstFrdm,* and *Zscore* also reduce *EHB* as well reduce the factors affecting *EHB*.

While *RegQlt (*coefficients 0.005, *t* statistic 5.26*), MrktLiq (*coefficients 0.000, *t* statistic 3.75*)* and *FmAcc (*coefficients 0.107, *t* statistic 2.80*)* are positive and statistically significant at the level of 1%, suggesting that along with *CBT* a decrease in the variables *RegQlt, MrkLiq* and *FmAcc* also reduce *EHB* as well as reduce the factors affecting *EHB*.

Model 2 of table 7.6 presents the impact of central bank transparency (*CBT*) on equity foreign bias (*EFB*). The control variables *PolStb (*coefficients 0.011, *t* statistic 5.02*), VocAct (*coefficients 0.012, *t* statistic 4.24*), Zscore (*coefficients 0.17, *t* statistic 3.74*),* and *InvstFrdm (*coefficients 0.009, *t* statistic 2.97*)* are positive and

statistically highly significant at the level of 1%. Moreover, *GovIntgrty (*coefficients 0.008, *t* statistic 2.38*)* and *Trade to GDP (*coefficients 0.002, *t* statistic 2.49*) are* positive and 5% significant level, also *ExcgRT (*coefficients 0.541, *t* statistic 1.83*)* is positive and statistically significant at the level of 10%. This suggests that along with CBT, the variables PolStb, VocAct, Zscore, InvstFrdm, GovIntgry, Trade to GDP, and ExcgRt also increase EFB as well as reduce the factors affecting *EFB*.

Whereas *RegQlt (*coefficients -0.013, *t* statistic -3.38*)* is negative and statistically significant at 1%, suggesting that along with *CBT,* a decrease in the variables *RegQlt* also increases *EFB* and reduces the factors affecting *EFB*.

This indicates the positive influence of *CBI* and *CBT* on the macroeconomic and political environment. Existing studies document those macroeconomic variables such as inflation, exchange rate, and stock price volatility are influenced by central bank monetary policy (see; Walsh,1995; Radovic et al., 2018; Goodhart and Hofman, 2000; and Booth et al.,2001). Similarly, political variables such as political stability, governance, and the rule of law are also influenced by central bank monetary policy (see; de Haan and van 't Hag, 1997; Gilson,2000; Alfaro et al., 2005; Crowe and Meade,2008; and Smimou,2014).

7.7 Newey-west regression analysis

The Newey-West regression is appropriate for the model robustness test; it also controls autocorrelation with lags while adjusting autocorrelation and heteroscedasticity (heterogeneity of variances). Whenever the residuals are heteroscedastic and autocorrelated, the Newey-west method may employ to enhance the ordinary least squares (OLS) regression. Therefore, Newey–West estimator is used with standard assumptions of regression analysis to test robustness.

7.7.1 Central bank independence and equity home bias and equity foreign bias

The findings of the Newey-west regression showing the impact of central bank independence (*CBI*) on equity home bias (*EHB*) and equity foreign bias (*EFB*) are described in Table 7.7. In parentheses, the *t*-statistics are reported. Table 7.7 shows that the CBI coefficients are positive and statistically significant. The finding provides convincing evidence that a higher degree of central bank independence (*CBI*) is correlated with lower equity home bias (*EHB*) and increased equity foreign bias (*EFB*).

In Model 1 of Table 7.7, the equity home bias (*EHB*) coefficient is negative (coefficient = -0.182, *t*-statistic = -2.35) and statistically significant at the 5% level, implying a higher degree of *CBI* appears to reduce *EHB*, thereby decreasing the cost of capital. This is consistent with our hypothesis that a decrease in the degree of *EHB* may increase *CBI*, more participants in the market, increase risk sharing and reduce the cost of capital.

In Model 2 of Table 7.7, the equity foreign bias (*EFB*) coefficient is positive (coefficient = 0.708, *t*-statistic = 2.36) and statistically significant at the 5% level, implying that a higher degree of *CBI* tends to increase

EFB, suggesting that more market participation, promote risk sharing and thereby lowering the cost of capital.

…….....Insert Table 7.7 here.....

7.7.2 Central bank transparency and equity home bias and equity foreign bias

The findings of the Newey-west regression showing the impact of central bank transparency (*CBT*) on equity home bias (*EHB*) and equity foreign bias (*EFB*) are described in Table 7.8. In parentheses, the *t*-statistics are stated. In Table 7.8, the *CBT* coefficients show that they are positive and statistically significant. The results provide convincing evidence that a higher degree of central bank transparency (*CBT*) is correlated with lower equity home bias (*EHB*) and increased equity foreign bias (*EFB*).

In Model 1 of Table 7.8, the equity home bias (*EHB*) coefficient is negative (coefficient = -0.013, *t*-statistic = -2.89) and statistically significant at the 1% level, implying a higher degree of *CBI* appears to reduce *EHB*, thereby decreasing the cost of capital. This is consistent with our hypothesis that a decrease in the degree of EHB may result in an increase in *CBI*, more market participants, increased risk sharing and reduced cost of capital.

In Model 2 of Table 7.8, the equity foreign bias (*EFB*) coefficient is positive (coefficient = -0.057, *t*-statistic = 1.88) and statistically significant at the 10% level, implying a higher degree of *CBI* tends to increase *EFB*, encouraging more foreign participants in the market.

…….....Insert Table 7.8 here.....

7.8 Fixed and random effects regression analysis (FE and RE)

Panel OLS may not differentiate between time and cross-section, which is a baseline analysis technique. Therefore, I run a fixed and random effect model, which is more robust with less error terms. This study employs fixed-effect models to investigate the effects of variables that change over time and random effects to analyse the impact of variables on countries. Using fixed effects models, we can examine the influence of variables that vary over time rather than different countries; on the other hand, using random effects models, we can assess the effects of variables that are considered to be random and irrelevant to the independent variable across countries (see; Green,2008).

Fixed effects and random effects regression show an insignificant result, and we placed these in Appendix. Appendix-7 shows fixed effects regression of *CBI* on *EHB* and *EFB* for the period from 2001 to 2014, Appendix-8 shows random effects regression of *CBI* on *EHB* and *EFB* for the period from 2001 to 2014, Appendix-9 shows fixed effects regression of *CBT* on *EHB* and *EFB* for the period from 2001 to 2014, and Appendix-10 shows random effects regression of *CBT* on *EHB* and *EFB* for the period from 2001 to 2014.

We also use the Hausman test to assess the estimator's consistency and compare it with its alternatives. The Hausman test is beneficial in determining whether the random or fixed effect model should be used.

Ho: random effects are an appropriate model Ha: fixed effects are an appropriate model.

CBI		**CBT**	
EHB	Prob > Chi2 = 0.0021	*EHB*	Prob > Chi2 = 0.1562
EFB	Prob > Chi2 = 0.0000	*EFB*	Prob > Chi2 = 0.0000

Except for *CBT* on *EHB*, in terms of *CBI* and *CBT,* the probability value mentioned above in both of our models (*EHB* and *EFB*) shows that the p-value is less than the 5% level, suggesting that fixed effects are the appropriate model.

7.9 The generalised moment method (GMM) analysis

We use the Arellano and Bond (1991) two-step dynamic GMM model to address endogeneity concerns. The dynamic GMM estimation model is appropriate where the time interval is smaller, and the cross-section of observations is more extensive (see; Arellano and Bond,1991). Our data set consists of 14 years of annual observations from 2001 to 2014 for 40 sample countries (cross-section). The dynamic GMM method is empirically appropriate to resolve endogeneity. It is also efficient and robust to heteroscedasticity and autocorrelation (see; Roodman, 2009). The deferential cost of capital may attract foreign investors to invest more because of the central bank's independence and transparency. If this is the case, our estimates could be affected by the problems of endogeneity arising from the reversal of causality. We address the possible endogeneity issue by incorporating one-year lagged values of central bank independence and transparency (*CBI* and *CBT*) as exogenous pre-determined variables.

There is a significant result of GMM*;* however not consistent with our hypothesis; thus, we placed Appendix -11 shows the GMM result of *CBI* on both of our models (i.e., *EHB* and *EFB*), and Appendix -12 shows the *GMM* result of *CBT* on both of our model (i.e., *EHB* and *EFB*).

7.10 Chapter Summary

This empirical chapter aims to investigate the effects of central bank independence and transparency on home equity and foreign bias (*EHB* & *EFB*). We hypothesised the independence and transparency of the central bank decreased home equity bias (*EHB*) and increased foreign equity bias (*EFB*). Using global data from 40 countries (developed and emerging) following the current literature, we use equity home and foreign bias measures. Using robust econometric techniques and comprehensive specifications, our study finds that a higher degree of independence of the central bank (*CBI*) maximises the equity foreign bias (*EFB*) and minimises the equity home bias (*EHB*). Equally, greater transparency in the central bank (*CBT*) is associated with a lower equity home bias and a higher equity foreign bias.

The study has important implications for policymakers, especially governments in emerging countries, as the independence and transparency of the central bank (*CBI* and *CBT*) are crucial to explaining home and foreign bias in a country. Our findings will contribute to the financial literature that explores variables that define cross-country capital flows and foreign portfolio investment (see; Cooper and Kaplanis, 1994; Gelos and Wei, 2005; and Chan et al., 2005). This study is also consistent with a recent analysis by Kwabi et al. (2020) that *CBI & CBT* affects the investor's decision to portfolios allocation and that the higher-level *CBI & CBT* is likely to increase equity foreign bias. More precisely, we are providing new insights into how the independence and transparency of the central bank influence investment decisions and portfolio allocation in the host country.

Chapter 8: Third empirical analysis: The impact of central bank independence and transparency on debt home bias and debt foreign bias.

In this chapter, I enhance the existing research by investigating the impact of central bank independence and transparency on debt home bias and debt foreign bias. Following the theoretical argument and current literature, I examine the following hypothesis:

H1 Central bank independence reduces debt home bias.

H2 Central bank independence increases debt foreign bias.

H3 Central bank transparency reduces debt home bias.

H4 Central bank transparency foreign bias.

The chapter is structured as follows; section 8.1 is an introduction to the chapter; section 8.2 offers a summary analysis; section 8.3 provides descriptive statistics; 8.4 provides correlation analysis; section 8.5 presents econometric issues; section 8.6 provides regression analysis; section 8.7 discusses robustness tests and procedures; section 8.8 discussed endogeneity test, and section 8.9 is the chapter summary.

8.1 Introduction

This chapter presents the empirical analysis for our third research question, "The impact of independence and transparency of central bank on debt home bias and debt foreign bias". As a crucial institution, the central bank plays a vital role in advancing the macroeconomic environment, investment, and financial market development in the globalized world—the prevailing international financial environment consisting of two aspects of cross-border investments. Firstly, almost three decades have been a significant spike in cross-border financial transactions (see; Lane and Milesi-Ferretti 2002a). Secondly, in the wake of this massive surge of financial globalization, international portfolios remain strongly biased against domestic assets (see; French and Poterba,1991; Tesar and Werner,1995; and Ahearne et al., 2004). A well-functioning financial market usually includes more established financial institutions, such as banks and brokers operating as market makers (see Eichengreen and Luengnaruemitchai, 2004), encouraging increased liquidity and market efficiency. As a key institution, the central bank plays a vital role in the growth of the macro-economic environment and financial markets. Government policies, such as the exchange rate, inflation, and interest rates, as well as the monetary and fiscal policies of the host country, play an essential role in attracting domestic and foreign investors by providing symmetrical information, thereby increasing market confidence, and developing the financial analysis of the macro-economic and political climate. Central banks play an important role in a country's economy and investment, vital for financial stability and economic growth and lessening economic uncertainty (see; Bernhard, 2002; Fausch and Sigonius, 2018; and Barucci and Milani, 2018). Current literature has shown that the central bank's independence and transparency influence

macroeconomic factors such as interest rates, inflation, and exchange rates, all of which are critical to structuring a credible monetary policy that reduces information asymmetry and also increases financial market participants' perceptions (see; Chortareas et al. 2002; and Crowe and Meade, 2008). The study by Kwabi et al. (2020) shows that higher institutional quality is related to greater central bank independence and transparency, which is vital for attracting foreign investors and supporting cross-border portfolio investment. We present a summary statistic of our dependent variables (*DHB* and *DFB*), followed by our key independent variables (*CBI* and *CBT*), other control variables, and correlation analysis. We then proceed to provide a multivariate analysis of our results. This study employed a panel dataset of 40 countries from 2001 to 2014, including 23 developed and 17 emerging countries. We have organized countries following the World Bank and UNDP framework.

The findings of this study indicate that central bank independence (*CBI*) and transparency (*CBT*) are positively associated with both *DHB* and *DFB*, with higher *CBI* lowering *DHB* and rising *DFB*. Similarly, increasing *CBT* reduces *DHB* and raises *DFB*.

8.2 Summary analysis

Table 8.1 reports a summary statistic of the variables by partitioning the data into developed and emerging countries. Table 8.1 presents average statistics (mean values) on the debt home bias and debt foreign bias measures. Column 6 describes the independence of central bank measures, whereas column 7 describes the transparency of central bank measures. Countries are grouped into two panels in the summary statistics Table 8.1, developed countries (Panel -A) and emerging countries (Panel -B). Finally, Panel C of table 8.1 presents averages of dependent and key independent variables

.....Insert Table 8.1 here.....

The summary statistics in panels A and B indicate that developed countries have a low level of debt home bias (*DHB*) and a higher level of debt foreign bias (*DFB*) compared to emerging countries. This is consistent with the fundamental assumption that *CBI* and *CBT* lower *DHB* and increase *DFB*. However, a mixed result has been observed concerning the individual country-level *DHB* and *DFB* measures. The five countries with the lowest *DHB* are Ireland, Norway, Belgium, Finland, and France. On the contrary, India, Brazil, China, South Africa, and Malaysia are the five emerging countries with the highest *DHB*. On the other hand, Ireland, followed by Norway, Belgium, Finland, and Austria, has the largest *DFB*. India, followed by Brazil, Turkey, China, and South Africa, are the five emerging countries with the lowest *DFB*.

Table 8.1 shows that Panel-A (Developed Countries) has a higher degree of *DFB* and lower *DHB* than Panel-B (emerging countries). The United Kingdom is the top *CBI* ranking country, followed by Hungary. Then countries with the same *CBI* ranking are Germany, France, Austria, Belgium, Finland, Ireland, Spain,

and the Netherlands. Similarly, in terms of debt, Panel-A (Developed Countries) of Table 8.1 shows higher debt foreign bias and lower debt home bias relative to Panel-B (emerging countries).

In terms of *CBI*, the United Kingdom ranks first, followed by Hungary. Germany, France, Austria, Belgium, Finland, Ireland, Spain, and the Netherlands have the same *CBI* ranking. Sweden ranks first in *CBT*, followed by New Zealand, the United Kingdom, and Canada. Belgium, Denmark, Finland, France, Ireland, and Italy are some more countries with similar *CBT* rankings. According to the findings, developed countries exhibit more significant levels of *CBI* and *CBT* than emerging countries, leading to lower *DHB* and greater *DFB*.

Based on summary statistics, we observed that countries with higher central bank independence (*CBI*) have a decreased debt home bias (*DHB*) as well as an increased debt foreign bias (*DFB*). On the other hand, countries with greater central bank transparency (*CBT*) are correlated with a decrease in the debt home bias (*DHB*) as well as an increase in the debt foreign bias (*DFB*).

The comparison based on summary statistics for individual countries shows that countries with greater *CBI* have a lower *DHB* and an increased *DFB*. Equally, countries with a higher *CBT* have a lower degree of DHB and a rise in the *DFB*; in the case of *CBI,* the average score for both developed and emerging countries is 64.92%. The average score for developed countries is 73.26%, while the average *CBI* score for emerging countries is 53.64 %, which is about 11.26% below the overall average. Similarly, in the case of central bank transparency (*CBT*), the average score for developing and emerging countries is 8.92. In contrast, the average score for developed and emerging countries are *CBT* 10.88 and *CBT* 6.27, respectively. This suggests that the developed countries have higher *CBI* and *CBT* than the emerging countries, which is associated with a lower debt home bias (*DHB*) and a higher debt foreign bias (*DFB*).

Regarding debt home bias (*DHB*), developed countries' average score is 69.34% which is lower than the average of both developed and emerging counties is 73.74%. On the other hand, emerging countries' average debt home bias measure (*DHB*) score is 79.69%, indicating the prevalence of higher *DHB* in emerging economies than in developed economies. In terms of debt foreign bias (*DFB*) measure, developed countries show a higher average score of 30.66%, which is higher than the average of both developed and emerging countries at 23.76%. On the other hand, emerging countries' average score of debt foreign bias (*DFB*) is 14.43% which is far below the average of developed countries (30.66%) and 9.33% below the benchmark (average of both developed and emerging countries, 23.76%).

The summary statistics of other control variables are presented in Table 8.2 and show the result of developed countries (in Panel-A) and emerging economies (in Panel-B). The rule of law (*RulLaw*), control of corruption (*Coruptn*), voice and accountability (*VocAct*), government efficiency (*GovEfc*) and business freedom (*FinFrdm*) demonstrate a significant cross-country variation; a greater degree of these controls' variables observed in a developed country that emerging counterparts. Finland has the highest *RulLaw* score of 99.49%; in contrast, Russia has the lowest score (21.99%). *Corruptn* is 99.75% in Denmark compared to

17.38% in Russia. Norway's score on *VocAct* is the highest at 98.88%, while China and Egypt have the lowest score of 6.18% and 17.30%, respectively. The highest *GovEfc* is observed in Finland, 99.41% and the lowest is in Egypt (38.12%). And *FinFrdm* is highest (90%) in Australia and lowest (30%) in China. The debt home and foreign bias measure are influenced by multiple control variables rather than an individual control variable. However, there is evidence that the degree of certain control variables mentioned above is strongly associated with debt home bias (*DHB*) and foreign bias (*DFB*) measures. It is also observed that these variables are favourably correlated with a country having a higher degree of *CBI* and *CBT*.

…….....Insert Table 8.2 about here.....

8.3 Descriptive statistics of dependent, independent, and control variables

Table 8.3 represents the descriptive statistics of dependant, independent and control variables showing the standard deviation, mean, median, skewness, kurtosis, minimum and maximum variables. Our sample data is distributed as skewness is between -2.57 to 4.94, which is highly skewed (Bulmer, 1979). Kurtosis of our sample data is between – 1.18 to 27.25, which is leptokurtic (Westfall, 2014), meaning that boarded fluctuation between variables. From our data, the maximum value of *DHB* and *DFB* is 0.08 and 0.67, and the minimum values are -0.82 and -3.75, respectively.

…….....Insert Table 8.3 about here.....

8.4 Correlation coefficients

Table 8.4 produces the cross-correlation matrix of all the variables employed in our regression analysis from 2001 to 2014. Following the theoretical expectations, *CBI* correlates significantly with debt home and foreign bias measures. This suggests that countries with a higher level of *CBI* are likely to have low debt home bias (*DHB*) and high debt foreign bias (*DFB*). Similarly, *CBT* is also positively correlated with *DHB* and *DFB* measures. This indicates a decrease in debt home bias (*DHB*) and an increase in debt foreign bias (*DFB*). In addition, Table 8.9 presents the variance inflation factors (VIF) of control variables, showing mean values of 7.49. The variance inflation factors (VIF) are remarkably smaller than the threshold mean value of 10 (minimum = 1.20; maximum = 11.76). This indicates no multicollinearity issue between the independent and control variables used in this study.

…….....Insert Table 8.4 here.....

8.5 Econometric issues

Based on research methodologies (in chapter 5), we perform the following diagnostic test to ensure that all econometric issues are detected and addressed accordingly.

8.5.1 Autocorrelation

We test for the presence of autocorrelation by using the Wooldridge test for autocorrelation and run the regression in STATA: We obtained the following result, which suggests that there is no autocorrelation or appears insignificance autocorrelation.

H0: no first-order autocorrelation

CBI		**CBT**	
DHB	F (1, 35) = 0.0000 Prob > F = 0.9994	*DHB*	F (1 , 36) = 0.017 Prob > F = 0.8977
DFB	F (1, 35) = 19.193 Prob > F = 0.0001	*DFB*	F (1, 36) = 39.961 Prob > F = 0.0000

Regarding *CBI,* the probability value mentioned above in one of our models (*DFB*) shows that the p-value is less than the 5% level, suggesting that there is no autocorrelation; however, another model (*DHB)* appears to have autocorrelation. On the other hand, in terms of *CBT,* one of our models (*DFB)* seems to have no autocorrelation; however, another model (*DHB*) exists autocorrelation.

8.5.2 Heteroskedasticity

We test heteroskedasticity using the Breusch-Pagan procedures.

Breusch-Pagan Heteroskedasticity test.

H0: Constant variance

CBI		**CBT**	
DHB	chi2 (1) = 183.15 Prob > chi2 = 0.0000	*DHB*	chi2 (1) = 169.91 Prob > chi2 = 0.0000
DFB	chi2 (1) = 71.04 Prob > chi2 = 0.0000	*DFB*	chi2 (1) = 120.71 Prob > chi2 = 0.0000

The probability value mentioned above for the chi-square coefficient is less than the 5% level, suggesting that the null hypothesis to be accepted is that the variance is constant.

8.5.3 Multicollinearity

We use variance inflation factors (VIF) to test for multicollinearity. A value greater than 5 suggests that the correlation between the explanatory and other variables in the model is significant; however, a value less than 10 considered that multicollinearity does not exist. VIF's mean for our model is 7.49, which indicates that multicollinearity may not appear to be an issue in our model (see; Gujrati, 2003).

…….....Insert Table 8.9 here.....

8.5.4 Omitted variable bias

We use Ramsey reset test procedures for omitted variables for *CBI* and *CBT* to determine significant variables omitted.

H0: Model does not have omitted variables.

CBI			CBT		
DHB	F (3, 375) = 13.12	Prob > F = 0.0000	*DHB*	F (3, 369) = 30.85	Prob > F = 0.0000
DFB	F (3, 375) = 35.19	Prob > F = 0.0000	*DFB*	F (3, 369) = 1.71	Prob > F = 0.1637

Regarding *CBI*, the probability value mentioned above in our model (*HRRtn, CERP,DivYld* and *CRRsk*) shows that p value is less than 5% level, suggesting that our models do not suffer from omitted variables. However, one model (*DFB*) may suffer from omitted variables regarding *CBT*.

8.6 Panel (pooled) OLS Regression analysis

This study describes cross-country and temporal variations in the independence and transparency of the central bank (*CBI* and *CBT*) and, on that basis, demonstrates the differing degrees of debt home bias and debt foreign bias (*DHB* and *DFB*) in different countries around the world. This analysis uses panel regressions and includes all available that could be correlated with the different degrees of debt home and foreign bias.

8.6.1 Central bank independence and debt home and foreign bias

Our analysis begins with the estimation of the impact of the independence of the central bank (*CBI*) on debt home bias (*DHB*) and debt foreign bias (*DFB*). Table 8.5 presents the regression results showing the relationship between *CBI*, *DHB* and *DFB* from 2001 to 2014. The specification below is estimated.

$$\Delta DHB_{lt}=\alpha+\beta.CBI+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \qquad \text{Eq.1}$$

In eq. (1) DHB_{lt} Represents debt home bias in country l for the period of t ,CBI is central bank independence, $Controls$ is the control variable, and ε is the error term.

$$\Delta DFB_{lt}=\alpha+\beta.CBI+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \qquad \text{Eq.2}$$

In eq. (2) DFB_{lt} Represents debt foreign bias in country l for the period of CBI is central bank independence, $Controls$ is the control variable, and ε is the error term.

In model 1 in Table 8.5, the coefficient of *DHB* (coefficient -0.297, t- statistics -5.71) is negative and statistically significant at the 1% level. This implies that a higher degree of CBI associated with lower DHB may also reduce the factors affecting *DHB*.

Existing literature shows that risk and returns dynamics and the cost of investment influence *DHB*. Less developed countries are associated with market inefficiency, which often generates deadweight cost (cost associated with market inefficiencies) to portfolio investment, and thus economic development is a driver of debt home and foreign bias (see; King and Levine, 1993, Levine and Zervos, 1998; and Lane and Milesi-Ferreti, 2008a). Investors' return chasing behaviour causes *DHB*, which also influences the allocation of

global portfolios; while domestic markets are underperforming, investors are more likely to invest in foreign markets (see; Bohn and Tesar,1996; Brennen and Cao,1997; and Amadi, 2004). Several studies have claimed that a credible monetary policy positively affects the overall macroeconomic situation (see; Rogoff 1985; Alesina and Summers 1993; Dincer and Eichengreen 2014), thereby reducing market uncertainty and increasing investor returns that encourage the diversification of the debt portfolio. Literature shows that *CBI* positively affects economic growth and financial market development by improving macroeconomic factors such as inflation, exchange rate and interest rates (see; Arnone et al., 2007; Papadamou et al., 2014, Radovic et al., 2018). Therefore, it is supposed that *CBI* could possibly minimize deadweight costs by strengthening economic conditions that also contribute to reducing debt home bias. Our finding supports the empirical analysis of investor preference in portfolio allocation, that *CBI* influences investor decisions (see; Kwabi et al, 2020), and it indicates that a higher degree of *CBI* appears to decrease *DHB*.

In model 2 of Table 8.5, the coefficient of *DFB* (coefficient= 1.557, t statistic = 10.38) is positive and statistically significant at the level of 1%, which indicates that a higher degree of *CBI* tends to increase *DFB* or influence the factors that enhance *DFB.*

Investor protection is an essential determinant of debt home and foreign bias. A country with weak investor protection is associated with a comparatively smaller capital market; on the other hand, countries with more vital institutions and better investor protection are linked to a more significant capital market (see; La Porta et al.,1997; Burger and Warnock, 2003). Investors hesitate to invest in the market unless their right is secured. Moreover, improved protection is only expected from a fairer institution. For instance, the central bank's initiative to improve regulation and develop standards and procedures in the financial services industry provides the basis for a healthy and stable economy. Existing study shows that cross-country differences in investment holdings are influenced by capital controls, corporate governance, or macroeconomic stability, which relies on the host country's institutions and legal system (see; Burger and Warnock, 2003 and 2007; Gelos and Wei, 2005; and Poshakwale and Thapa, 2011). In collaboration with other financial institutions, the central banks play a significant role in contributing to financial stability, developing national fiscal policies, and cross-border financial integration; (see; Schoenmaker 2011). Therefore, *CBI* may foster investor trust and confidence, so those home investors are encouraged to diversify their portfolios and attract foreign investors to invest in the host country. This also indicates our findings implying that CBI can attract foreign investors, thereby increasing debt foreign bias.

…….....Insert Table 8.5 here.....

8.6.2 Central bank transparency and debt home and foreign bias.

Table 8.6 presents the regression results of the impact of central bank transparency (*CBT*) on debt home bias (*DHB*) and debt foreign bias (*DFB*) for the period from 2001 to 2014. The specification below is estimated.

$$\Delta DHB_{lt}=\alpha+\beta.CBT+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \quad \text{Eq.3}$$

In eq. (3) DHB_{lt} Represents debt home bias in country l for the period of t ,CBT is central bank transparency, $Controls$ is the control variable, and ε is the error term.

$$\Delta DFB_{lt}=\alpha+\beta.CBT+\beta.Controls_{lt}+Country\ and\ year\ effects+\varepsilon_{lt} \quad \text{Eq.4}$$

In eq. (4) DFB_{lt} Represents debt foreign bias in country l for the period of t ,CBT is central bank transparency, $Controls$ is the control variable, and ε is the error term.

In model 1 of Table 8.6, the coefficient of *DHB* (coefficient = -0.017, *t* statistic= -3.08) is negative and statistically significant at the level of 1%, which indicates that a higher degree of *CBT* tends to reduce *DHB* or lower the factors affecting *DHB*.

A large number of studies have found clear evidence that familiarity or similarities are significant factors in determining the degree of diversification of portfolios and debt home bias (*DHB*), where domestic investors believe that foreign markets are more volatile than foreign investors are (see; Amadi 2004; Bertaut and Kole 2004; Chan et al., 2005; and Massa and Simonov 2006). Factors affecting investment bias, such as political constraint and instability in a country, domestic creditor protection and familiarity with behavioural bias, inhibit portfolio diversification (see; Ferrira and Miguel, 2011; Pradkhan, 2016; and Eicher and Plaga, 2017). Existing research also shows that capital market information asymmetry is crucial in terms of asset appropriation and that investors have considerably higher returns on investment due to information asymmetries and friction (see; Coval and Moskowitz, 1999; Hau, 2001, Portes et al., 2001; Khalil et al., 2019). The transparency of central banks, defined as symmetrical information between monetary policy authorities and other economic stakeholders in a country, as well as the transparency of central banks, can provide a range of benefits, such as economic development, financial stability, a constructive financial market, and credibility building (see; Geraats, 2002). Thus, *CBT* could minimize information asymmetry among home and foreign investors and attract more foreign investors to a host country. The empirical study by Kwabi et al. (2020) demonstrates that the transparency of the central bank affects the allocation of investors' portfolios, which is confirmed by this study's findings that reducing DHB encourages more investors in the market and risk sharing by providing increasing *CBT*.

Model 2 of table 8.6 shows that the *DFB* coefficient (Coefficient= 0.048, *t*-statistics= 2.42) is positive and statistically significant at the level of 5%; this implies that a higher *CBT* appears to increase *DFB or* influence the factors affecting *DFB*.

A developed bond market attracts investors because of credibility, lower transaction cost and liquidity (see; Burger and Warnock, 2007). Central banks have a crucial role in safeguarding financial stability, accelerating economic growth, and promoting the country's financial market. Costs associated with the investment are

the determining factors for the allocation of foreign portfolios, such as information costs, exchange rate costs, inflation costs, commission costs and brokerage costs (see; Black, 1974; Stulz, 1981; Erurunza and Losq, 1985; and Martin and Rey, 2004). Central bank transparency could contribute to the development of financial markets and economic growth, thus increasing market participation and capital flows. It has been shown that a more developed market with a more significant market size tends to reduce transaction costs (see; Chan et al. 2005), thereby increasing foreign bias.

Moreover, a credible monetary policy will foster economic growth and the development of capital markets. Existing study shows that the central bank enhances its reputation and trust by allowing monetary policy to be followed based on commitment or discretion (see; Kydland and Prescott, 1977), which could build confidence among investors and encourage domestic investors to diversify their investment as well as attract foreign investors in a host country. A developed bond market is also influenced by credible financial structure; the institutions of the host country provide a framework for assessing the relative governance performance of a country which is essential for attracting foreign investors (see; Hoskisson et al., 2013; Grosse and Trevino, 2005, Kho et al.,2006). Good governance contributes to a credible institution, and the integrity of the monetary policies of the central banks represents more vital institutions in the country (see Bodea and Hicks, 2015), and that is why the policy instruments of the central bank could promote good governance thereby attracting more foreign investors to the host country. The economic performance of the host country influences the debt home bias of the less developed capital market associated with less economic growth (see; King and Levine, 1993; Levine and Zervos, 1998; Chan et al.,2005; and Lane and Milesi-Ferreti, 1993). Therefore, it is supposed that *CBT* reduces *DHB* and increases DFB, which is confirmed by this study's findings that increasing DFB encourages more investors in the market and risk sharing by increasing *CBT*.

…….....Insert Table 8.6 here.....

8.6.3 Control variables

Table 8.5 and Table 8.6 shows the control variables, most of which have the expected sign with statistical significance and play a substantial role in explaining the cost of capital with *CBI* and *CBT*.

Model 1 of Table 8.5 demonstrates the association between debt home bias (*DHB*) and the central bank's independence (*CBI*). The *DHB* coefficient of the control variables *IntRt* (coefficients -0.016, *t* statistics -4.59), *VocAct* (coefficients -0.005, *t* statistics -4.05), *GDPprCap* (coefficients -0.128, *t* statistics -2.61), *FinRsk* (coefficients -0.036, *t* statistics -3.31), are negative and statistically significant at the level of 1%. Also, *BusnsFrdm* (coefficients -0.002, *t* statistics -2.15) is negative and statistically significant at the 5% level, and *PropRight* (coefficients -0.002, *t* statistics -1.76) is also negative and statistically significant at the 10% level. This suggests that *CBI*, *IntRt, VocAct, GDPprCap, FinRsk, BusinsFrdm and PropRight* also reduce the *DHB*.

In contrast, control variables *NetIntMargn* (coefficients 0.025, *t* statistics 3.64), *Polity* (coefficients 0.014, *t* statistics 2.73), and *FinFrdm* (coefficients 0.004, *t* statistics 4.64) is positive and statistically significant at the level of 1%. Moreover, GovEfc (coefficients 0.003, *t* statistics 1.99) and *FmEff* (coefficients 0.077, *t* statistics 2.58) are statistically significant at the level of 5%, and *GovDbt* (coefficients 0.000, *t* statistics 1.88) is statistically significant at the level of 10%. This suggests that along with *CBI,* a decrease in *NetIntMargn, Polity, FinFrdm, GovEfc, FmEff,* and *GovDbt* also reduce the factors affecting *DHB.*

Model 2 of Table 8.5 demonstrates the association between debt home bias (*DFB*) and the central bank's independence (*CBI*). The *DFB* control variables *IntRst* (coefficients 0.037, *t* statistics 3.79), *GDPprCap* (coefficients 0.803, *t* statistics 5.71), *FinRsk* (coefficients 0.094, *t* statistics 3.02), *PropRight* (coefficients 0.008, *t* statistics 2.67), and *BusinsFrdm* (coefficients 0.015, *t* statistics 5.19) are positive and statistically significant at 1% level. This suggests that along with *CBI*, an increase in *IntRst, GDPprCap, FinRsk, PropRight,* and *BusinsFrdm* also reduce the *DHB.*

In contrast, negative and statistically significant control variables are *NetIntMargn* (coefficients -0.129, *t* statistics -6.44), *Polity* (coefficients -0.047, *t* statistics -3.10), *Trade to GDP* (coefficients -0.002, *t* statistics -3.16), *FinFrdm* (coefficients -0.009, *t* statistics –4.07) and *FmEff* (coefficients –0.522, *t* statistics -6.07) at the level of 1%, and *PolRsk* (coefficients -0.091, *t* statistics -1.73) is negative and statistically significant at the level of 10%. This indicates that along with *CBI,* a decrease in control variables *NetIntMargn, Polity, Trade to GDP, FinFrdm, FmEff,* and *PolRsk* also increases *DFB.*

Model 1 of Table 8.6 demonstrates the association between debt home bias (*DHB*) and the central bank's independence (*CBI*). The *DHB* coefficient of the control variables *IntRt* (coefficients -0.011, *t* statistics -3.10), *VocAct* (coefficients -0.007, *t* statistics -4.64), *Trade to GDP* (coefficients -0.001, *t* statistics -4.77), and *FinRsk* (coefficients -0.098, *t* statistics -7.98) are negative and statistically significant at 1% level, and *RulLaw* (coefficients -0.004, *t* statistics -2.17) is negative and statistically significant at the level of 5%. That suggests that *CBI*, *IntRt, VocAct, Trade to GDP, FinRsk,* and *RulLaw* also reduce the *DHB.*

In contrast, control variables *MrktCpGDP* (coefficients 0.001, *t* statistics 5.12) are positive and statistically significant at the level of 1%, and Polity (coefficients 0.013, *t* statistics 2.11), *PolRsk* (coefficients 0.055, *t* statistics 2.56) and *FmEff* (coefficients 0.115, *t* statistics 2.57) is also positive and statistically significant at 5% level. This suggests that along with *CBT,* a decrease in *MrktCp to GDP*, *Polity, PolRsk* and FmEff also reduce the factors affecting *DHB.*

Model 2 of Table 8.6 demonstrates the association between debt home bias (*DFB*) and the central bank's independence (*CBT*). The control variables *FinRsk* (coefficients 0.200, *t* statistics 4.56) and *StkPVol* (coefficients 0.016, *t* statistics 3.80) are positive and statistically significant at a 1% level, and *VocAct* (coefficients 0.10, *t* statistics 2.01) is positive and statistically significant at the 5% level, and *Coruptn*

(Coefficients 0.11, t statistics 1.70) is positive and statistically significant at the level of 10%. This indicates that along with *CBI*, an increase in, *FinRsk, StkPVol, VocAct* and *Coruptn* also reduces the *DHB.*

In contrast, *MrktCpGDP* (coefficients -0.003, *t* statistics -3.36) and *FmEff* (coefficients -0.745, *t* statistics -4.66) are negative and statistically significant at the level of 1%, and *Polity* (coefficients -0.048, *t* statistics -2.26) and *EqIndx* (coefficients -0.002, *t* statistics -2.29), are also negative and statistically significant at the level of 5%. This suggests that along with *CBI,* a decrease in control variables *MrktCpGDP,FmEff, Polity,* and *EqIndx* also increases *DFB.*

8.7 Newey-west regression analysis

The Newey-West regression is appropriate for the model robustness test; it also controls autocorrelation with lags while adjusting autocorrelation and heteroscedasticity (heterogeneity of variances). Whenever the residuals are heteroscedastic and/or autocorrelated, the Newey-west method may employ to enhance the ordinary least squares (OLS) regression. Therefore, Newey–West estimator is used with standard assumptions of regression analysis to test robustness.

8.7.1 Central bank independence and equity home bias and equity foreign bias

The findings of the Newey-west regression showing the impact of central bank independence (*CBI*) on debt home bias (*DHB*) and debt foreign bias (*DFB*) are described in Table 8.7 for the period from 2001 to 2014. In parentheses, the *t*-statistics are reported. Table 8.7, the *CBI* coefficients indicate that they are statistically significant. The finding provides convincing evidence that a higher degree of central bank independence (*CBI*) is correlated with lower debt home bias (*DHB*) and increased debt foreign bias (*DFB*).

In Model 1 of Table 8.7, the debt home bias (*DHB*) coefficient is negative (coefficient = -0.297, *t*-statistic = -3.74) and statistically significant at the 1% level, implying a higher degree of *CBI* appears to reduce *DHB*, thereby decreasing the cost of capital. This is consistent with our hypothesis that a decrease in DHB may result in increased CBI, more market participants, increased risk sharing and reduced cost of capital.

In Model 2 of Table 8.7, the equity foreign bias (*DFB*) coefficient is positive (coefficient = 1.557, *t*-statistic = 5.07) and statistically significant at the 1% level, implying that a higher degree of *CBI* tends to increase *DFB*; therefore, more foreign participants in the market, promote risk sharing, thereby lowering the cost of capital.

…….....Insert Table 8.7 here.....

8.7.2 Central bank transparency and equity home bias and equity foreign bias

The findings of the Newey-west regression showing the impact of central bank transparency (*CBT*) on debt home bias (*DHB*) and debt foreign bias (*DFB*) for the period from 2001 to 2014 are described in Table 8.8. In parentheses, the *t*-statistics are stated. In Table 8.8, the *CBT* coefficients show that they are statistically

significant. The results provide convincing evidence that a higher degree of central bank transparency (*CBT*) is correlated with lower debt home bias (*DHB*) and increased debt foreign bias (*DFB*).

In Model 1 of Table 8.8, the debt home bias (*DHB*) coefficient is negative (coefficient = -0.017, *t*-statistic = -1.96) and statistically significant at the 10% level, implying a higher degree of *CBI* appears to reduce *DHB*, thereby decreasing the cost of capital. This is consistent with our hypothesis that a decrease in DHB may result in increased CBI, more market participants, increased risk sharing and reduced cost of capital.

In Model 2 of Table 8.8, the debt foreign bias (*DFB*) coefficient is positive (coefficient = -0.048, *t*-statistic = 1.09) however statistically insignificant.

…….....Insert Table 8.8 here.....

8.8 Fixed and random effects regression analysis (FE and RE)

We employ fixed effects and random effects regression which is more robust with less error terms. Panel OLS models may not differentiate between time and cross-section; thus, we run fixed effects regression to test the impact of variables that vary over time rather than across countries; on the other hand, using random effects models, we can test the effects of variables that are random and irrelevant to the independent variable across countries (see; Green,2008).

Fixed effects and random effects regression show a significant result, and we placed these in Appendix. Appendix-13 shows fixed effects regression of *CBI* on *DHB* and *DFB* for the period from 2001 to 2014, Appendix-14 shows random effects regression of *CBI* on *DHB* and *DFB* for the period from 2001 to 2014, Appendix-15 shows fixed effects regression of *CBT* on *DHB* and *DFB* for the period from 2001 to 2014, and Appendix-16 shows random effects regression of *CBT* on *DHB* and *DFB* for the period from 2001 to 2014. We also use the Hausman test to assess the estimator's consistency and compare it with its alternatives. The Hausman test is beneficial in determining whether the random or fixed effect model should be used.

Ho: random effects are an appropriate model Ha: fixed effects are an appropriate model.

CBI		**CBT**	
DHB	Prob > Chi2 = 0.1802	*DHB*	Prob > Chi2 = 0.1626
DFB	Prob > Chi2 = 0.0000	*DFB*	Prob > Chi2 = 0.0064

Both in terms of *CBI* and *CBT* probability value mentioned above, our model *DFB* shows that the p-value is less than the 5% level, suggesting that fixed effects are the appropriate model; however, both in terms of *CBI* and *CBT* on *DFB* show a p-value more than 15% indicate that random effects are the suitable model.

8.9 The generalized moment method (GMM) analysis

We use the two-step dynamic GMM method to resolve endogeneity problems associated with the error term in the explanatory variable. The dynamic GMM estimation is appropriate where the time interval is smaller, and the cross-section of observations is more significant (see; Arellano and Bond, 1991). Our data set includes 14 years of annual observations from 2001 to 2014 for 40 different countries (cross-section); the dynamic GMM method is empirically appropriate to resolve endogeneity; it is also efficient and robust to heteroscedasticity and autocorrelation (see; Roodman, 2009). We address the possible endogeneity issue by incorporating one-year lagged values of central bank independence and transparency (CBI and CBT) as exogenous pre-determined variables.

There is a significant result of GMM; however not consistent with our hypothesis; thus, we placed Appendix -17 shows the GMM result of *CBI* on both of our models (i.e., *DHB* and *DFB*), and Appendix -18 shows the GMM result of *CBT* on both of our model (i.e., *DHB* and *DFB*).

8.10 Chapter Summary

The objective of this empirical chapter is to investigate the effects of central bank independence (*CBI*) and transparency (*CBT*) on debt home bias (*DHB*) and debt foreign bias (*DFB*). Our main hypothesis is that independence and transparency of the central bank interact to decrease debt home bias (*DHB*) and increase debt foreign bias (*DFB*). We used panel data of 40 countries (developed and emerging) for the period from 2001 to 2014. Employing robust econometric techniques and comprehensive specifications, our study shows that a higher degree of *CBI* maximizes the *DFB* and minimizes the *DHB*. Equally, a greater level of *CBT* is associated with a lower *DHB* and a higher *DFB*.

The study has substantial implications for policymakers, particularly governments in developing countries, because the independence and transparency of the central bank (*CBI* and *CBT*) are crucial in explaining a home and foreign in a country. This study is also consistent with a recent study by Kwabi et al. (2020) showing *CBI* and *CBT* influence investor portfolio allocation decisions ;and that higher-level *CBI* and *CBT* are likely to enhance debt foreign bias and reduce home bias. This study will extends the literature on international finance and debt investment ;more specifically, we provide additional insight through this study that the central bank's independence and transparency influence investors decisions on portfolio allocation.

Chapter 9: Conclusions, Implications, and future research

In this study, we investigate how central bank independence (*CBI*) and transparency (*CBT*) interact with the cost of capital, equity home bias (*EHB*), equity foreign bias (*EFB*), and debt home bias (*DHB*) and debt foreign bias (*DFB*). We find that a higher degree of *CBI* and *CBT* decreases the cost of capital. Also, a higher degree of *CBI* and *CBT* reduces *EHB* and *DHB* and increases *EFB* and *DFB.*

9.1 Summary research findings

One of the primary functions of a central bank is to provide long-term stability in financial markets and to promote market efficiency by preserving price stability in a country. Therefore, the central bank, the financial market, and the economy are closely connected. Several existing studies have provided compelling evidence that macroeconomic conditions interact with monetary policy and influence the cost of capital and investor decisions on portfolio allocation. This study examines the impact of central bank independence (*CBI*) and transparency (*CBT*) on the cost of capital, equity home bias (*EHB*), equity foreign bias (*EFB*), and on debt home bias (*DHB*), and debt foreign bias (*DFB*), on a dataset of 40 countries comprises developed and emerging economies from 2001 to 2014. We employ robust econometric procedures in our analysis, and following the current study, we used four cost of capital measures.

The first empirical chapter (chapter 6) investigates whether *CBI* and *CBT* impact the cost of capital. We find that *CBI* and *CBT* have a significant and positive relationship with the cost of capital. Our results show that countries with a higher level of *CBI* and *CBT* are associated with a lower cost of capital. We find that developed countries have higher *CBI* and *CBT* levels compared to emerging countries.

The second empirical chapter (chapter 7) of this study examines whether *CBI* and *CBT* have varying impacts on equity home bias (*EHB*) and equity foreign bias (*EFB*). Our finding shows that *CBI* and *CBT* substantially influence *EHB* and *EFB*. We find that countries with greater levels of *CBI* and *CBT* have a lower degree of *EHB*. Similarly, countries with higher degrees of *CBI* and *CBT* have higher *EFB*. This relationship implies that an increased level of *CBI* and *CBT* reduces *EHB* and increases *EFB* in a host country. Increased *EFB* facilitates risk-sharing among home and foreign investors. It also increases the flow of capital toward a host country, promoting economic growth. On the other hand, decreasing *EHB* suggests that home investors may diversify their portfolio into foreign markets to take advantage of portfolio diversification, lower risk, and higher returns; as a result, concentration in the home market may reduce. In other words, it increases foreign bias and reduces home bias.

The final empirical chapter (chapter 8) examines whether *CBI* and *CBT* affect debt home bias (*DHB*) and debt foreign bias (*DFB*). The findings indicate that *CBI* and *CBT* considerably impact *DHB* and *DFB*. Our results show that countries with increasing levels of *CBI* and *CBT* have decresing levels of *DHB*. Similarly, courtiers with a higher degree of *CBI* and *CBT* have a higher degree of *DFB*. This implies that an increase

in *CBI* and *CBT* lowers *DHB* and increases *DFB* in a country. Increased *DFB* facilitates risk-sharing among domestic and foreign investors and economic growth in the host country. At the same time, a decreased *DHB* indicates that home investors prefer to invest in the foreign and home markets. As a result, the proportion of their portfolio in the home market may decline as they diversify their portfolio into international markets to benefit from risk sharing and higher returns from portfolio diversification.

9.1.1 Findings on the relationship between central bank independence (*CBI*) and central bank transparency (*CBT*) with the cost of capital.

We examined central bank independence and central bank transparency affect the cost of capital and used four cost of capital proxies as dependent variables based on earlier research (Lau et al., 2010, Kwabi et al., 2016). The first proxy is the historical rate of return (*HRRtn*), commonly a measure of the trend and past performance of investment tools or securities. Investors evaluate historical return data when intending to forecast future returns or estimate how a security might react to particular circumstances. Our findings (see Table 6.1) show that emerging countries have higher *HRRtn* than developed countries, implying that capital markets in emerging countries are riskier and more volatile than those in developed countries. In terms of *CBI* and *CBT*, developed countries tend to have a greater degree of *CBI* and *CBT* than emerging countries, indicating that developed countries have more financial stability and economic growth than emerging countries. Our results are consistent with our hypothesis that a higher degree of *CBI* and *CBT* reduces *HRRtn* in a country, thereby reducing the cost of capital. The global financial crisis (GFC_2008) critically impacted finance and the economy in many countries. That crisis has led to a comprehensive reform of the financial regulatory and supervisory structure; several countries generally regard the central bank as both a supervisory authority and an independent body. Thus, it is supposed that an independent central bank, in its supervisory position, could maintain effective institutional practice, providing investor protection, quality institutions, and a sound regulatory environment.

On the other hand, Central bank transparency (*CBT*) implies an absence of asymmetrical information between financial markets and monetary authorities. Primarily the transparent central banks are expected to reduce the uncertainty associated with monetary policy and enable better expectations for investors in markets. Therefore, investors will be convinced that their investment will provide a higher return in the future, encouraging potential investors.

Our second cost of capital proxy is the country equity risk premium (*CERP*) to investigate the impact of central bank independence and transparency on the cost of capital. *CERP* is a measure to estimate the additional premium required to compensate investors for the increased risk of investing in foreign markets. The risk in a foreign market connected with a country's political, social, and economic context is crucial in foreign investment. *CERP* may have the potential and a substantial influence on firm value and investment decisions. Our findings (see Table 6.1) suggest that emerging countries have greater *CERP* than developed

countries, indicating that capital markets in emerging countries are riskier and more volatile. Hence, investors may expect a higher risk premium from emerging countries than from developed countries. Emerging countries have lower *CBI* and *CBT* levels, implying that developed countries have a lower risk and more stable financial market than emerging countries. Our results are consistent with our hypothesis that a higher degree of *CBI* and *CBT* reduces *CERP* in a country, thereby reducing the cost of capital. Central bank transparency is expected to allow more effective communication between central banks and their numerous stakeholders, decreasing uncertainty and leading to better policy decisions. On the other hand, central bank independence is expected to take the forefront in long-term policy objectives that enhance future growth rather than short-term political gains. Since the policy of an independent central bank is not compromised by political interests, it is believed that a foreign investor would be encouraged to invest in that country.

The dividend yield (*DivYld*) is our third cost of capital proxy for examining the impact of central bank independence and transparency on the cost of capital. A dividend yield is a tool that estimates the return as a dividend relative to the stock price. The dividend yield model is an accurate and relatively consistent measure used in the cost of capital and asset pricing models. Our results (see Table 6.1) suggest that emerging countries have higher *DivYld* than developed countries, implying that capital markets in emerging countries are riskier and more volatile. Thus, investors may expect a higher dividend yield than in developed countries. *CBI* and *CBT* levels in emerging countries are lower, showing that developed countries have a lower risk and more stable financial sector than emerging countries. Our findings are consistent with our hypothesis that a higher degree of *CBI* and *CBT* lowers *DivYld* in a country, thereby reducing the cost of capital. Based on our results, we conclude that central bank independence and transparency may strengthen economic development and financial stability; hence a reasonable dividend yield may support lowering the cost of capital in a country.

Our fourth cost of capital proxy is sovereign country credit rating risk (*CRRSk*), which is an impartial evaluation of a country's or sovereign institution's creditworthiness. Sovereign ratings assess the risk of capacity and willingness of debt servicing by examining factors affecting the country's solvency and liquidity, such as political stability, financial stability, and economic growth. Improving sovereign credit ratings is significant because they may affect the cost of capital and credit availability. Our findings indicate that emerging countries have higher *CRRsk* than developed countries (Table 6.1), meaning that capital markets in emerging countries are riskier and more volatile. Therefore, investors may be reluctant to invest in emerging countries. We also find that emerging countries have lower *CBI* and *CBT* levels, indicating that developed countries have a lower risk and more stable financial system than emerging countries. Our findings support our hypothesis that a higher degree of *CBI* and *CBT* reduces *CRRsk* in a country, lowering

the cost of capital. Decreased *CRRsk* may increase credit availability, influence economic activity, and contribute to a country's economic growth, thereby reducing the cost of capital.

9.1.2 Findings on the relationship between central bank independence (*CBI*) and central bank transparency (*CBT*) with equity home bias (*EHB*) and foreign equity bias (*EFB*)

We employ the model used by existing literature to examine the impact of central bank independence and transparency on equity home bias and equity foreign bias (Chan et al., 2005; Lau et al., 2010). Equity home bias (*EHB*) is investors' tendency to allocate most of their portfolios to local equities, despite the benefits of diversification provided by foreign assets. Our findings suggest that emerging countries have higher *EHB* than developed countries (Table 7.1), implying that capital markets in emerging countries are much less integrated and associated with home bias. Thus, investors in emerging countries may not enjoy the benefit of diversification and risk sharing as much as those in developed countries. We find that emerging countries have lower *CBI* and *CBT* levels, meaning that, compared to developed countries, emerging countries' financial markets are less connected to the global market. The findings support our hypothesis that higher levels of *CBI* and *CBT* reduce *EHB* in a country. Therefore, we can conclude that Central bank independence and transparency reduce investment barriers, lessen information asymmetry, and improve capital market and financial institutions in a country, promoting market integration and lower equity home bias.

We employ the existing literature model (Lau et al., 2010; Chan et al.,2005) to examine the impact of central bank independence and central bank transparency on equity foreign bias (*EFB*). Our findings suggest that developed countries have higher *EFB* than emerging countries (Table 7.1), implying that capital markets in developed countries are much more integrated with the world market and associated with foreign bias rather than home bias. Therefore, investors in developed countries may benefit from portfolio diversification and risk-sharing more than in emerging countries. The developed countries have a higher level of *CBI* and *CBT* than the emerging countries, indicating that the developed countries are more connected to the global financial market and associated with a higher degree of foreign bias. Our findings are consistent with the hypothesis that higher levels of *CBI* and *CBT* increase *EFB* in a country.

9.1.3 Findings based on the relationship between central bank independence (*CBI*), and central bank transparency (*CBT*) with debt home bias (*DHB*) and debt foreign bias (*DFB*)

In this study, we investigate how central bank independence (*CBI*) and central bank transparency (*CBT*) impact debt home bias (*DHB*). Following existing literature, we adopt the *DHB* model, which is similar to the equity home bias model (Burger and Warnock, 2003; Chan et al.,2005). Debt home bias, like equity home bias, is characterized as the preference of investors to invest the majority of their portfolio in local

bonds/debt while disregarding the benefits of diversifying into foreign bonds/ debt. Our findings (Table 8.1) demonstrate that relatively emerging countries have higher *DHB* than developed countries, implying that capital markets in emerging countries are far less integrated and associated with debt home bias. Thus, investors in emerging countries may not advantage as much as those in developed countries from diversification and risk sharing. Emerging countries have lower *CBI* and *CBT* levels than developed countries, implying that developed countries have a more integrated financial market than emerging countries and have a lower level of debt home bias. Our findings confirm our hypothesis that higher levels of *CBI* and *CBT* in a country lower *DHB*. Well-functioning financial markets boost economic growth by lowering transaction and agency costs, enhancing resource allocation, routing credit and capital resources, and fostering market innovation. Like a bank credit, the bond market is vital for liquidity and financing. The growth of the bond market supports economic growth by supplying long-term funding, reducing maturity and currency mismatches, and diversifying banking sector risks. Central bank monetary policy has a massive effect on bond yields. The central bank's core role is to set interest rates and control the level of inflation. Interest rates are assumed to define a country's risk-free rate of return. The risk-free rate of return affects all financial instruments, not only bonds. It is often believed that as interest rates rise, bond yields rise, but bond prices fall; conversely, when interest rates fall, bond yields fall, but bond prices rise. We, therefore, may conclude that central bank independence and transparency reduce investment barriers, minimize information asymmetry, and strengthen capital markets and financial institutions in a country, promoting market integration and reducing debt home bias (*DHB*) in a country.

We employ a model following existing studies (Burger and Warnock, 2003; Chan et al., 2005) to investigate the impact of central bank independence and central bank transparency on debt foreign bias (*DFB*). Foreign bias in bond/debt, likewise equity bias, refers to foreign investors under or overweighting international markets, country weights, and excess returns by utilizing the whole cross-section of assets in foreign countries (the foreign bias) instead of holdings in their own country (the home bias). Our findings (Table 8.1) imply that developed countries have higher *DFB* than emerging countries, suggesting that capital markets in developed countries are much more integrated with the global market and are associated with foreign bias rather than home bias. As a result, investors in developed countries may benefit more from portfolio diversification and risk sharing than investors in emerging countries. Developed countries have a greater level of *CBI* and *CBT* than emerging countries, meaning that developed countries have a more significant degree of foreign bias and are more tied to the global financial market. Our findings support our hypothesis that higher levels of *CBI* and *CBT* increase *EFB* in a country.

The central bank impacts the bond/debt market via the economy's money supply channel. While a country's central bank buys bonds, money flows from the central bank to individuals, banks, and the economy, leading to increased money circulation. On the other hand, money is returned from individuals to central banks in the economy when a central bank sells bonds, lowering the amount of money in circulation. The central bank

usually raises interest rates to tackle higher inflation; changing interest rate also affects exchange rates—also, central bank independence and transparency facilitate economic growth and financial stability. Therefore, we may conclude that central bank independence and transparency minimize information asymmetry, reduce exchange rate volatility, strengthen bond markets, improve law and regulations, and structure quality institutions, increasing debt foreign bias in a country.

9.2 Key contributions to the knowledge

This study contributes to the literature by providing empirical evidence that central bank independence and transparency have a varying degree of impact on the cost of capital. This research also sheds new insight on the effects of central bank independence and transparency on investment behaviour and decision-making in equity and debt investment in a country. First and foremost, this research extends the literature on international financial management and monetary policy practices.

The specific contributions of this study are as follows.

In the first empirical analysis of this research, we add to the existing literature by demonstrating that central bank independence and transparency affect the cost of capital. A literature review reveals that research has concentrated on the relationship between monetary policy, macroeconomic factors, the cost of capital, and the capital market; nevertheless, central bank independence and transparency remain unexplored. To the best of our knowledge, this is the first empirical study to investigate the relationship between central bank independence and transparency and the cost of capital. Therefore, this study will provide new insight and support policymakers to develop a deeper understanding of monetary policy principles and international portfolio management. In particular, this study contributes to the literature by demonstrating that central bank independence and transparency have varying impacts on the cost of capital.

Existing studies have examined the determinants of equity home bias and equity foreign bias in a country. Most are concentrated on information asymmetry, capital control, institutional quality, investor protection, and transaction cost. However, this study examined, in particular, whether central bank independence and transparency influence a country's equity home and foreign bias. The second empirical analysis of this research contributes to the literature on home and foreign bias by investigating central bank independence and transparency on equity home and foreign bias. The fund manager and portfolio investors will find this study invaluable in deciding investment portfolio allocation.

Several studies have examined the factors that influence a country's debt, home bias and foreign bias. In particular, these focus on institutional quality, investor protection, capital market development, currency volatility, inflation, taxation, and familiarity or similarity. Yet, very little or no study has been conducted to determine whether central bank independence and transparency influence debt home bias and debt foreign bias. Our third empirical study of this research adds to the literature on debt/bond investment management

by examining central bank independence and transparency on debt home and foreign bias. This research will support fund managers, and portfolio investors make decisions regarding bond/debt investment allocation.

The findings of this study may provide new insight by extending the literature on international finance, central banking, and the cost of capital. This study will facilitate academics, policymakers, investors, and politicians to design and implement better policies that result in a country's economic growth and financial market development. Consequently, a country may attract investors from home and abroad, promoting risk sharing among investors, lower cost of capital, and overall economic growth.

9.3 Implications of this research

This study demonstrates that *CBI* and *CBT* impact cross-country variations in the cost of capital and investor portfolio allocation decisions. Therefore, this research has several important policy implications. It suggests that governments in emerging countries may attract foreign investments while encouraging domestic investors to diversify worldwide by devising and executing *CBI* and *CBT* reforms.

Existing research also suggests that lower cost of capital and financial stability attract foreign investors. Foreign portfolio investment also increases the liquidity of domestic capital markets and can improve a host country's market efficiency and economic growth; therefore, policymakers should devise policies to attract more foreign investors. The findings of this study suggest that a higher level of *CBI* and *CBT* are linked to a lower-level cost of capital. Moreover, countries with higher *CBI* and *CBT* have a better macroeconomic outcomes. Therefore, central bank policymakers can safeguard a country's economic growth and financial market development by improving the central bank's independence and transparency, consequently attracting more foreign investors to a host country.

The findings of the study have important policy implications for policymakers. The results show that higher levels of *CBI* and *CBT* are associated with lower *EHB* and higher *EFB*, suggesting that policymakers in emerging countries can encourage foreign investment. At the same time, it also motivates domestic investors to diversify globally by developing and implementing better monetary policy with improved *CBI* and *CBT* initiatives. The findings of this study suggest central bank independence and transparency are crucial in attracting foreign equity investors and motivating domestic investors to benefit from portfolio diversification. Despite having some drawbacks, portfolio diversification has several advantages, including the ability to diversify risk, currency exposure, and market cycle timing. Consequently, by improving *CBI* and *CBT*, a country attracts foreign investors and strengthens its capital market. Increasing *CBI* and *CBT* enhance a country's strong governance and regulatory quality through central bank supervisory capacity.

This study's findings suggest that higher levels of *CBI* and *CBT* are associated with lower *DHB* and greater *DFB*. Based on the results, *CBI* and *CBT* play essential roles in encouraging foreign debt investors and motivating local investors to benefit from portfolio diversification. Therefore, a country can prosper from

improved *CBI* and *CBT*. Governments in emerging countries, in particular, must strengthen *CBI* and *CBT* to attract and retain foreign investors, maintain capital markets, and ensure the country's economic development.

9.4 Limitations of the research

This study has some potential limitations; these are as follows.

Firstly, the conclusions of this study are limited to 40 countries due to data constraints. We excluded a few emerging and developed countries due to the unavailability of data for some variables.

Second, due to a lack of data, we have to conclude this study in 2014. If the most recent data were available, this study could be extended to the most recent year, and the conclusions would be more relevant.

Finally, we employ the quantitative research method in this study, which is constrained in its pursuit of explicit, statistical links, and focused on numbers only. Quantitative research's findings may have limitations as it has disregarded the more unique viewpoints and relationships which could be done by qualitative research.

9.5 Recommendation for future research

Despite the exciting findings of this study, further research in this area is recommended. Future research may examine the impact of *CBI* and *CBT* on the cost of capital in developed and emerging countries, equity home and foreign bias, and debt home and foreign bias, using the latest updated and comprehensive dataset. A different research approach, such as qualitative or mixed methodological investigations, can be used in future studies. These methodologies consider human experiences and may enrich the understanding of this research. The prospective study explores the effects of *CBI* and *CBT* on portfolio return and risk dynamics to understand this topic better. A study of the link between capital market development and the impact of *CBI* and *CBT* might develop the extent of the research.

Table 4. 1: Definitions of variables (Data summary)

First empirical study: Impact of Central bank Independence and transparency on cost of capital

Name of variable	Abbreviation	Definition of variables	Data Source
Historical stock market Return	***HRRtn***	The historical rate of return is the average annual stock price index's growth rate. The average yearly stock market index is calculated on a daily stock market index average.	Bloomberg / theglobaleconomies.com
Country Equity Risk Premium	***CERP***	An equity risk premium is an excess return that an investor receives by trading at a risk-free rate in the capital market. In addition to sovereign risk default premium (scaled by the expected volatility of equity to the bond market), here base country is the United States).	domadaran.com / Bloomberg.
Dividend Yield	***DivYld***	The dividend yield is measured as a proportion of the country's market capitalization by the cumulative volume of the country's share dividend.	Bloomberg.
Sovereign credit rating-based risk	***CRRsk***	The qualitative credit scores have been translated into numerical values, i.e., a higher credit score is associated with lower credit risk (AAA=1, AA+=2, AA=3..... D/SD=22)	Self-constructed from S & P and Moodys Country Credit Ratings

Second empirical study: Impact of Central bank Independence and transparency on Equity home and foreign bias

Name of variable	Abbreviation	Definition of variables	Data Source
Equity Home bias	***ehb_log***	Equity foreign bias (EFB) is calculated from market capitalization and portfolio allocation data (please see data section)	Coordinated Investment Fund Survey (CPIS) of the IMF, World Federation of Exchanges (WFE) and World Bank
Equity Foreign bias	***efb_log***	Equity foreign bias (EFB) is calculated from market capitalization and portfolio allocation data (please see data section 3.1)	Coordinated Investment Fund Survey (CPIS) of the IMF, World Federation of Exchanges (WFE) and World Bank

Third empirical study: Impact of Central bank Independence and transparency on Debt home and foreign bias

Name of variable	Abbreviation	Definition of variables	Data Source
Debt Home bias (DHB)	***dhb_log***	Debt home bias (DHB) is calculated from long-term debt securities data from BIS (Bank of International settlement) and portfolio allocation data (please see data section)	Coordinated Investment Fund Survey (CPIS) of the IMF, Bank of International Settlement (BIS)

Debt Foreign bias (DFB)	***dfb_log***	Debt foreign bias (DFB) is calculated from long-term debt securities data from BIS (Bank of International settlement) and portfolio allocation data (please see data section)	Coordinated Portfolio Investment Survey (CPIS) of the International Monetary Fund and the Bank for International Settlement (BIS).

All three empirical studies: Others control variables

Name of variable	Abbreviation	Definition of variables	Data Source
Central Bank Independence	***cbi***	Central bank independence index. The average value of determinates in percentage. A higher percentage point means a higher degree of independence	NergizDincer and Barry Eichengreen, (2010), Ana Carolina Garriga, (2012).
Central Bank Transparency	***cbt***	Central bank transparency index. The average value of determinates on a scale from 0-15. A higher scale point means a higher degree of Transparency	Nergiz Dincer and Barry Eichengreen, (2010), Barry Eichengreen, (2014).
Interest Rate	***IntRt***	Financial, Interest Rates, Government Securities, Government Bonds, Percent per annum	IMF database
Inflation	***InflRt***	A lagging annual inflation rate of one year is dependent on the index of consumer prices.	WDI of the world bank
Exchange rate	***ExcgRt***	The official exchange rate refers to the national authorities' exchange rate or the rate fixed in the lawfully approved exchange market. It is measured according to monthly averages (local currency units compared to the U.S. dollar) as an annual average.	The world bank
Corporation tax rate	***TaxRt***	Rate of corporation taxes in a country.	The world bank
GDP growth rate	***GdpGro***	Gross domestic product (GDP) growth rate over the year	The world bank
FDI percentage to GDP	***FdiGdp***	Foreign direct investment (FDI), net inflows gross domestic product (GDP) percentage.	The world bank
Government Effectiveness	***GovEff***	Government effectiveness captures views of how policymakers devise and enforce sound policies that encourage the growth of the private sector and enable foreign investors to influence domestic investors. WGI uses data from multiple sources to create a regulatory quality measure ranging from 0 (low) to 100 (low) (high).	The world bank
Political stability	***PolStb***	Political stability composite measure captures institutional effectiveness and bureaucracy's quality in protecting domestic and foreign investors. WGI awards 0 (low score) to countries with weak government effectiveness and 100 (high score) to countries with government effectiveness.	The world bank
Regulatory quality	***regqlt***	Regulatory quality captures expectations of how policymakers devise and enforce sound policies that encourage the growth of the private sector and enable foreign investors to influence domestic markets. WGI uses data from multiple sources to create a regulatory quality measure ranging from 0 (low) to 100 (low) (high).	The world bank

Rule of law	***rullaw***	Rule of law captures views of how policymakers devise and enforce sound policies that encourage the growth of the private sector and enable foreign investors to influence domestic markets. WGI uses data from multiple sources to create a regulatory quality measure ranging from 0 (low) to 100 (low) (high).	The world bank
Economic freedom index	***econ_fredm***	The Index on Economic Freedom confirms the enormous positive relationship between economic freedom and growth. The index weighted the average rating out of the twelve subcategories.	Data maintained by The Heritage Foundation
Investment Freedom index	***Invst_fredm***	The Economic Freedom Index confirms the enormous positive relationship between economic freedom and growth. This is the first of twelve groups of independence scores	Data maintained by The Heritage Foundation
Government debt to GDP	***GovDbt***	Government debt is the entire stock of direct government fixed-term contractual obligations to others outstanding on a particular date and its percentage of gross domestic product (GDP).	WDI of the world bank
Political risk	***PolRsk***	Country's Political Risk Ranking Index	(PRS Political Risk Services–ICRG)
Financial Risk	***FinRsk***	A country's financial risk ranking index.	PRS Political Risk Services–ICRG
Banking Z Score	***Zscore***	The index captures the likelihood that a country's financial system will default. Z-score contrasts the country's financial sector buffer (capitalization and dividends) with the uncertainty of those returns.	The world bank / Bankscope
Financial market access	***FmAcc***	Financial market access measured a weighted average of-GDP equity capitalization (GDP trading stacks, Government debt securities to GDP, Total debt securities of financial companies to GDP and Total debt securities of non-financial corporations to GDP)	Maintained by International Monetary Fund (IMF)
Financial Market efficiency	***FmEff***	Stock market turnover ratio (stocks traded to capitalization)	World Bank / IMF
Financial market depth	***FmDep***	Weighted average stock capitalization to GDP (Stocks exchanged to GDP, Foreign debt securities traded to GDP, Total debt securities of financial companies to GDP and Total debt securities of non-financial corporations to GDP).	World Bank / IMF
Stock price volatility	***StkPVol***	Stock price volatility is the measured 360-day national stock market index volatility.	World bank
Stock market liquidity	***MrktLiq***	The sum of the shares traded in the aggregate number of domestic and international shares multiplied by their respective corresponding values. Per cent of GDP	world bank
Equity Index	***EqIndx***	The market capitalization of a stock is determined by taking the existing share price and multiplying it by the outstanding stock.	S & P database and World bank
Democracy	***Democ***	The democracy index (*Democ*) has an 11-point additive scale (0-10) higher score means the country is more democratic,	CSP Polity Index
Polity	***Polity***	polity (Polity) is score ranges from +10 (extremely democratic) to -10 (extremely autocratic). A positive and high *Polity* score indicates that the country is more democratic, whilst a negative and low *Polity* score indicates that the country is less democratic.	CSP Polity Index

Monetary Freedom	***MoneFrdm***	Monetary freedom (*MoneFrdm*) is a composite scale of 0 to 100 that combines a measure of price stability with an assessment of price control. A higher score indicates more monetary freedom in the country.	The Heritage Foundation
Investment Freedom	***InvstFrdm***	Investment freedom (*InvstFrdm*) measures how economically free a country is in terms of having no restrictions on the movement of investment capital. A higher score indicates more investment freedom in the country.	The Heritage Foundation
Trade Freedom	***TrdFrdm***	Trade freedom (*TrdFrdm*) is a composite measure that measure the barriers of tariff and non-tariff imports and exports of goods and services, it is measured on a scale of 0 to 100, with a higher score indicating greater trade freedom in the country.	The Heritage foundation
Financial Freedom	***FinFrdm***	Financial freedom (*FinFrdm*) is a 0 to100 scale measure the independence and efficiency of financial sector from the government interference, higher score implies more financial freedom in the country.	The Heritage foundation
Business Freedom	***BusnsFrdm***	Business freedom (*BusnsFrdm*) measures the effectiveness of government regulation for businesses on a scale of 0 to100, with a higher score indicating greater business freedom in the country.	The Heritage foundation
Government Integrity	***GovIntgrt***	Government integrity (*GovIntgrt*) measures the effectiveness of the government's rule of law, corruption control, and open market functioning on a scale of 0 to 100, with a higher score indicating greater government integrity in the country.	The Heritage foundation

Table 6. 1: Summary statistics of dependant and key independent variables

Panel - A: Developed countries

Country	HRRtn (% country specific)	CERP (% country specific)	DivYld (% country specific)	CRRsk (1-22 scale)	CBI (%)	CBT (0-15 scale)
Australia	1.64	5.12	3.95	1.29	35.36	9.93
Austria	2.56	4.91	2.17	1.00	85.65	10.86
Belgium	3.79	5.51	3.28	2.29	85.65	10.86
Canada	2.62	4.97	2.46	1.14	47.24	10.89
Denmark	7.08	4.89	1.64	1.00	59.21	7.18
Finland	2.31	4.89	3.39	1.00	85.65	9.31
France	4.63	4.89	3.36	1.14	85.65	10.86
Germany	4.68	4.89	2.54	1.00	85.65	10.86
Greece	9.98	6.16	3.05	8.29	79.56	6.04
Hungary	17.71	6.43	2.50	7.43	88.15	11.54
Ireland	2.31	5.00	1.94	4.07	85.65	10.86
Italy	2.51	6.27	3.93	3.79	79.56	10.86
Japan	7.22	6.09	1.52	4.36	54.60	9.75
Netherlands	3.82	4.86	3.47	1.00	85.65	10.86
New Zealand	5.04	4.90	4.05	1.29	47.95	13.96
Norway	9.31	4.86	3.25	1.00	40.97	9.75
Poland	- 1.29	6.32	2.69	6.29	83.31	8.75
Portugal	- 1.18	5.91	3.34	5.43	79.56	10.31
Spain	2.32	4.90	3.77	2.79	85.65	10.31
Sweden	8.27	4.87	2.73	1.14	77.67	14.79
Switzerland	5.79	4.83	2.10	1.00	73.20	9.68
United Kingdom	3.81	4.78	3.10	1.07	90.91	12.29
United States	1.90	4.78	1.91	1.00	62.58	10.86

Panel - B: Emerging countries

Country	HRRtn (% country specific)	CERP (% country specific)	DivYld (% country specific)	CRRsk (1-22 scale)	CBI (%)	CBT (0-15 scale)
Argentina	30.35	16.40	4.11	16.50	75.16	4.50
Brazil	24.35	9.77	3.61	11.79	43.53	8.25
Chile	12.70	6.36	3.16	5.14	73.31	7.93
China	- 5.67	6.35	2.76	5.43	56.16	2.89
Egypt, Arab Rep.	7.50	8.88	5.05	11.14	48.88	3.11
Hong Kong	14.10	5.92	3.28	3.71	38.20	7.25
India	21.42	8.90	.	11.36	29.50	2.75
Israel	2.59	6.37	3.69	5.57	51.51	9.39
Korea, Rep.	10.54	6.53	1.43	6.36	41.06	8.86
Malaysia	7.50	6.68	3.34	7.29	50.78	6.00
Mexico	22.65	7.10	1.77	8.29	63.83	5.71
Peru	12.52	8.00	3.62	10.29	79.78	7.86
Qatar	14.22	6.17	4.80	4.93	46.62	3.29
Russia	2.32	7.96	2.20	9.64	68.25	3.86
Singapore	14.29	5.16	2.99	1.14	45.60	5.07
South Africa	7.02	6.79	3.05	7.00	35.28	9.00
Turkey	22.22	11.98	2.12	13.21	64.50	9.25

Panel – C: Average of both and country group

Country	HRRtn (% country specific)	CERP (% country specific)	DivYld (% country specific)	CRRsk (1-22 scale)	CBI (%)	CBT (0-15 scale)
Average of both	8.19	6.41	2.93	4.96	64.92	8.66
Developed countries	4.65	5.26	2.88	2.60	73.26	10.49
Emerging countries	12.98	7.96	3.00	8.16	53.64	6.17

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index; *CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change; *NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrt* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 2: Summary statistics of other control variables

Panel - A: Developed countries

country	IntRst	NtIntMrg	Infltn	PolStb	GovIntgrt	FinRsk	GDPgro	BusnsFrdm	InvstFrdm	MoneFrdm	PropRight	GovDbt	MrktCpGDP	StkPVol	EqIndx	Zscore	FmEff	FmAcc
Australia	5.08	2.00	2.86	80.86	86.76	6.88	3.00	88.09	75.36	83.94	90.00	18.14	110.04	14.79	11.38	14.93	78.66	81.56
Austria	3.61	2.04	2.05	90.22	79.96	7.88	1.42	74.27	74.29	83.71	90.00	73.01	29.34	22.02	12.72	20.92	39.96	92.13
Belgium	3.80	1.32	2.05	75.53	70.30	7.82	1.42	84.25	85.36	81.89	84.29	99.56	63.68	17.99	8.68	10.63	41.86	30.03
Canada	4.09	2.23	1.96	84.69	87.76	8.05	2.05	91.60	62.86	81.36	90.00	77.36	114.12	17.18	9.77	16.27	72.56	61.15
Denmark	3.45	1.26	1.93	86.55	94.91	8.62	0.86	96.60	80.36	84.93	90.36	41.40	52.65	20.26	14.31	16.20	51.80	36.57
Finland	3.50	0.88	1.71	98.91	95.17	7.24	1.24	90.31	75.36	84.79	90.36	44.21	109.79	27.74	1.62	12.29	89.70	34.03
France	3.59	0.92	1.61	63.86	69.35	7.60	1.19	80.01	57.50	82.11	73.57	74.94	75.51	23.23	2.96	16.93	81.06	26.76
Germany	3.27	0.98	1.58	77.24	78.58	8.18	1.16	82.85	87.14	84.24	90.00	69.39	43.78	23.09	9.73	15.90	95.50	60.08
Greece	7.53	2.94	2.55	54.41	42.01	6.55	- 0.04	73.20	55.36	77.61	50.71	129.36	42.55	27.46	0.39	4.62	49.39	60.59
Hungary	7.24	3.94	4.82	74.72	50.04	6.78	1.94	73.88	72.86	74.90	68.21	68.11	21.12	24.85	11.55	5.48	71.96	54.52
Ireland	4.79	0.80	2.15	88.89	75.20	7.45	3.09	88.66	90.36	82.36	90.00	60.02	49.72	21.30	7.91	4.37	13.70	95.01
Italy	4.43	1.90	2.07	63.39	47.11	7.55	- 0.04	74.72	72.86	82.54	57.50	110.18	41.44	23.47	0.44	14.36	100.00	64.13
Japan	1.21	1.17	0.01	82.98	72.49	9.00	0.75	80.62	57.86	90.57	75.00	191.33	72.70	22.19	7.25	13.02	96.50	52.49
Netherlands	3.48	1.05	2.03	84.95	88.50	7.83	1.12	79.96	90.00	84.08	90.00	54.05	84.44	22.42	5.28	11.99	90.69	42.57
New Zealand	5.22	2.17	2.43	94.53	94.50	6.59	2.65	94.31	81.07	85.34	92.14	26.39	32.88	10.81	11.59	19.60	14.50	70.00
Norway	3.64	1.66	1.88	94.47	87.22	9.34	1.61	82.76	57.86	80.06	90.00	38.49	53.27	24.22	12.95	7.45	74.36	96.73
Poland	5.94	3.45	2.62	71.57	43.34	7.42	3.62	63.49	59.64	77.79	57.50	47.86	29.89	24.71	9.35	7.29	36.98	45.90
Portugal	5.37	1.63	2.21	79.34	63.08	6.94	0.10	76.77	70.00	81.86	70.00	84.16	35.59	16.75	0.83	10.59	64.17	28.12
Spain	4.35	1.91	2.49	44.94	66.69	7.21	1.30	75.24	74.29	81.17	70.00	58.46	82.58	23.61	6.76	19.09	97.06	63.43
Sweden	3.49	1.34	1.33	92.49	92.52	7.80	1.98	85.80	85.71	84.34	90.36	43.23	84.29	24.23	10.60	10.31	74.59	48.91
Switzerland	2.14	0.84	0.57	95.29	88.44	9.07	1.82	76.89	73.93	86.25	90.00	48.94	209.04	18.63	7.03	10.95	60.79	99.60
UK	3.93	1.53	2.21	60.61	82.60	7.73	1.75	89.90	84.29	80.39	89.29	56.49	114.69	18.03	3.22	8.93	72.30	70.57
USA	3.66	3.51	2.30	59.65	74.21	6.70	1.83	89.09	72.86	81.81	87.86	78.38	122.08	19.26	5.09	26.86	100.00	68.50

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index; *CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6.2: Summary statistics of other control variables …… contd.

Panel - B: Emerging countries																		
country	IntRst	NtIntMrg	Infltn	PolStb	GovIntgrt	FinRsk	GDPgro	BusnsFrdm	InvstFrdm	MoneFrdm	PropRight	GovDbt	MrktCpGDP	StkPVol	EqIndx	Zscore	FmEff	FmAcc
Argentina	12.50	4.47	10.84	41.95	29.32	6.74	2.97	65.51	49.29	70.11	27.86	69.12	15.91	33.13	19.28	5.62	8.17	68.02
Brazil	13.86	6.33	6.53	42.39	37.71	7.24	3.32	59.67	50.00	75.91	50.00	66.24	51.61	28.92	18.66	15.96	56.01	44.88
Chile	8.56	4.22	3.15	66.06	72.09	7.74	4.27	70.77	76.07	81.76	89.29	9.90	107.30	16.00	13.06	7.25	15.12	51.12
China	5.84	2.84	2.45	29.57	34.36	9.37	9.87	50.75	28.21	78.43	24.29	30.23	50.12	24.47	16.32	15.97	94.46	22.78
Egypt	12.47	2.24	8.62	21.90	31.40	8.01	4.12	57.14	51.79	69.81	42.14	81.47	46.61	28.09	28.32	16.14	39.81	35.38
Hong Kong	5.64	2.06	1.61	84.85	81.24	8.47	6.57	96.73	90.00	85.69	90.00	1.24	810.04	23.31	9.85	14.62	54.97	74.76
India	11.18	3.21	7.05	13.36	30.54	8.52	5.37	47.46	40.36	70.84	50.00	75.04	76.29	24.28	21.55	16.03	79.68	25.97
Israel	7.03	2.36	2.07	12.25	64.24	7.93	4.04	68.71	78.21	82.58	70.36	77.64	72.83	19.68	6.04	26.84	40.52	45.30
Korea, Rep.	6.19	2.70	2.90	58.13	.	6.31	4.85	.	70.00	81.06	.	27.91	75.07	24.96	16.97	8.88	100.00	80.69
Malaysia	5.71	2.73	2.29	53.23	48.52	8.49	1.89	72.11	37.14	80.53	51.07	46.24	138.58	12.94	11.22	14.69	31.41	57.74
Mexico	8.05	6.45	4.44	28.80	33.91	7.95	5.48	75.49	55.71	76.95	50.00	41.99	30.64	21.00	15.17	20.94	28.27	52.39
Peru	21.37	6.47	2.63	19.25	37.29	8.12	5.10	64.59	65.71	84.53	37.14	32.64	41.20	21.57	26.43	15.40	7.15	51.22
Qatar	6.32	.	4.50	86.04	65.96	7.65	4.27	63.25	41.79	76.89	56.79	29.31	88.28	19.26	9.55	28.02	26.76	72.55
Russian Fed.	9.40	5.10	10.99	17.09	23.72	8.69	5.61	57.97	33.93	61.79	29.29	17.42	42.08	33.87	21.85	8.40	41.35	56.62
Singapore	5.37	1.77	2.11	90.61	92.56	9.01	3.19	98.37	83.21	87.39	90.00	95.58	210.48	18.44	9.76	21.36	55.90	79.20
South Africa	8.92	3.81	6.78	42.92	46.54	7.64	4.14	72.04	54.64	76.99	50.00	35.79	214.24	19.49	14.78	15.99	27.71	27.77
Turkey	13.06	5.48	15.22	19.34	38.50	6.46	4.32	64.49	57.86	61.19	51.43	46.91	27.36	34.75	19.51	8.10	100.00	40.18

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index

Table 6. 3: Descriptive statistics of dependent, independent and control variables

	Standard deviation	Maximum	Mean	Median	Minimum
HRRtn	7.85	30.35	8.19	6.41	- 5.67
CERP	2.26	16.40	6.41	6.01	4.78
DivYld	0.87	5.05	3.00	3.10	1.43
CRRsk	4.12	16.50	4.96	4.21	1.00
CBI	18.79	90.91	64.92	66.38	29.50
CBT	3.00	14.79	8.66	9.35	2.75
IntRst	3.93	21.37	6.46	5.37	1.21
NtIntMargn	1.62	6.47	2.66	2.17	0.80
Infltn	3.14	15.22	3.54	2.30	0.01
PolStb	26.88	98.91	63.20	68.81	12.25
GovIntgrt	22.74	95.17	64.07	69.35	23.72
FinRsk	0.82	9.37	7.76	7.77	6.31
GDPgro	2.05	9.87	2.88	2.35	- 0.04
BusnsFrdm	12.91	98.37	76.37	75.49	47.46
InvstFrdm	16.60	90.36	66.53	71.43	28.21
MoneFrdm	6.23	90.57	80.01	81.79	61.19
PropRight	21.51	92.14	69.92	73.57	24.29
GovDbt	34.89	191.33	59.45	55.27	1.24
MrktCpGDP	126.23	810.04	94.35	68.19	15.91
StkPVol	5.21	34.75	22.31	22.31	10.81
EqIndx	6.77	28.32	28.32	10.22	0.39
Zscore	6.01	28.02	13.98	14.65	4.37
FmEff	29.41	100.00	59.38	58.40	7.15
FmAcc	20.87	99.60	56.75	55.57	22.78

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index; *CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 4: Pearson's pairwise correlation coefficient of dependent, independent and control variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
HRRtn	1																						
CERP	0.57*	1																					
DivYld	- 0.00	0.09*	1																				
CRRsk	0.52*	0.78*	0.09*	1																			
CBI	-0.21*	-0.14*	- 0.02	-0.22*	1																		
CBT	-0.28*	-0.42*	- 0.07	-0.51*	0.39*	1																	
IntRst	0.42*	0.6256*	0.21*	0.72*	-0.17*	-0.41*	1																
NtIntMargn	0.50*	0.534*	- 0.01	0.61*	-0.16*	-0.37*	0.66*	1															
Infltn	0.32*	0.56*	0.06	0.50*	-0.10*	-0.33*	0.52*	0.40*	1														
PolStb	-0.27*	-0.52*	-0.09*	-0.69*	0.17*	0.48*	-0.61*	-0.57*	-0.42*	1													
GovIntgrt	-0.35*	-0.63*	- 0.08	-0.81*	0.07	0.57*	-0.62*	-0.64*	-0.46*	0.80*	1												
FinRsk	- 0.08	-0.17*	-0.10*	-0.25*	-0.14*	-0.27*	-0.15*	-0.14*	-0.21*	0.04	0.08*	1											
GDPgro	0.14*	0.17*	-0.13*	0.20*	-0.27*	-0.35*	0.22*	0.30*	0.15*	-0.29*	-0.28*	0.23*	1										
BusnsFrdm	-0.18*	-0.47*	- 0.05	-0.59*	0.10*	0.55*	-0.51*	-0.45*	-0.39*	0.62*	0.75*	- 0.06	-0.33*	1									
InvstFrdm	-0.18*	-0.43*	- 0.01	-0.50*	0.32*	0.63*	-0.37*	-0.42*	-0.34*	0.49*	0.67*	-0.18*	-0.28*	0.66*	1								
MoneFrdm	-0.28*	-0.57*	- 0.05	-0.57*	0.06	0.35*	-0.43*	-0.44*	-0.65*	0.52*	0.60*	0.11*	-0.16*	0.45*	0.44*	1							
PropRight	-0.29*	-0.64*	-0.13*	-0.77*	0.15*	0.62*	-0.60*	-0.58*	-0.41*	0.76*	0.92*	0.01	-0.32*	0.74*	0.75*	0.55*	1						
GovDbt	- 0.04	- 0.01	- 0.07	0.09*	0.14*	0.10*	-0.16*	-0.24*	-0.10*	0.01	- 0.05	- 0.08	-0.37*	0.05	0.04	0.10*	0.01	1					
MrktCpGDP	0.06	-0.15*	- 0.00	-0.19*	-0.30*	- 0.09	-0.11*	-0.15*	-0.10*	0.19*	0.25*	0.20*	0.20*	0.30*	0.22*	0.20*	0.24*	-0.25*	1				
StkPVol	0.17*	0.33*	0.01	0.34*	0.07	-0.22*	0.25*	0.18*	0.37*	-0.24*	-0.31*	-0.18*	-0.23*	-0.25*	-0.19*	-0.36*	-0.29*	0.09*	- 0.08	1			
EqIndx	0.14*	0.10*	-0.24*	0.12*	-0.10*	-0.11*	0.12*	0.17*	- 0.03	-0.13*	-0.10*	0.03	0.09*	-0.13*	-0.12*	- 0.07	-0.11*	- 0.04	0.07	0.12*	1		
Zscore	- 0.08	-0.17*	0.07	-0.18*	-0.31*	-0.10*	- 0.03	0.06	-0.14*	-0.10*	0.12*	0.11*	0.13*	0.02	-0.05	0.16*	0.04	- 0.00	0.08	-0.20*	0.06	1	
FmEff	-0.17*	-0.22*	- 0.05	-0.29*	0.03	0.24*	-0.34*	-0.30*	- 0.06	0.09*	0.19*	- 0.00	-0.12*	0.10*	0.07	0.09*	0.19*	0.20*	- 0.00	0.17*	-0.18*	- 0.00	1
FmAcc	0.02	-0.20*	-0.11*	-0.26*	- 0.04	0.19*	-0.24*	-0.17*	-0.17*	0.39*	0.36*	0.03	- 0.07	0.34*	0.28*	0.18*	0.37*	-0.11*	0.15*	-0.10*	0.01	- 0.04	- 0.08

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index.

Table 6. 5: The relation between central bank independence (*CBI*) and cost of capital (*CoC*) measures.

This table shows the panel ***OLS regression*** results for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta CBI + \beta Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country l at the time t, error terms- between country (ε_{lt})

	Model (1) HRRtn	**Model (2) CERP**	**Model (3) DivYld**	**Model (4) CRRsk**
CBI	-0.093***	-0.013***	-1.192***	-3.880***
	(-4.32)	(-2.98)	(-2.92)	(-7.04)
IntRst	0.003**	0.001***	0.073***	0.276***
	(2.40)	(4.45)	(3.40)	(9.37)
NetIntMrgn	0.020***	0.002***	-0.180***	0.142**
	(7.14)	(2.75)	(-3.46)	(2.00)
Infltn	0.004***	0.001***	-0.010	0.128***
	(3.00)	(4.78)	(-0.37)	(3.43)
PolStb	0.001**	0.000**	-0.006	-0.005
	(2.44)	(2.53)	(-1.25)	(-0.84)
FinRsk	0.010**	0.000	-0.264***	-0.214*
	(2.30)	(0.27)	(-3.12)	(-1.84)
GDPgrowth	-0.002	-0.000	-0.042**	-0.088***
	(-1.59)	(-1.21)	(-1.97)	(-2.95)
MoneFrdm	0.000	-0.000***	-0.013	-0.031*
	(0.67)	(-2.88)	(-1.03)	(-1.80)
InvstFrdm	0.001***	0.000	0.017***	0.013
	(2.93)	(1.64)	(2.79)	(1.57)
GovIntrgty	-0.001***	-0.000	0.017*	-0.067***
	(-2.81)	(-0.79)	(1.94)	(-5.72)
PropRight	0.001	-0.000***	-0.033***	-0.032***
	(1.64)	(-3.69)	(-3.61)	(-2.64)
EqIndx	0.000**	0.000	-0.011***	0.000
	(2.35)	(0.67)	(-6.19)	(0.14)
Zscore	-0.001*	-0.000*	-0.002	-0.071***
	(-1.68)	(-1.86)	(-0.18)	(-4.40)
FmEff	0.021*	0.001	-0.101	-0.875***
	(1.80)	(0.34)	(-0.48)	(-2.97)
Constant	-0.136*	0.104***	7.797***	16.554***
	(-1.78)	(6.61)	(5.51)	(8.48)
Number of Observations	438	438	414	438
Adj. R-Square	0.318	0.575	0.227	0.823
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 6: The relation between central bank transparency (*CBT*) and cost of capital (CoC)measures

This table shows the panel ***OLS regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta CBT + \beta Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country l at the time t, error terms- between country (ε_{lt})

	Model (1) HRRtn	**Model (2) CERP**	**Model (3) DivYld**	**Model (4) CRRsk**
CBT	-0.007***	-0.002***	-0.107***	-0.382***
	(-3.86)	(-3.42)	(-2.95)	(-6.24)
Infltn	0.003***	0.001***	0.010	0.025
	(3.07)	(5.24)	(0.51)	(0.69)
NetIntMrgn	0.025***	0.003***	-0.055	0.598***
	(11.08)	(4.96)	(-1.24)	(7.32)
FinRsk	0.002	-0.003**	-0.195**	-1.182***
	(0.36)	(-2.16)	(-2.29)	(-7.39)
GDPgrowth	0.000	0.000	-0.103***	0.068
	(0.12)	(0.65)	(-4.11)	(1.46)
MrktCpGDP	0.000***	0.000	-0.000	0.002**
	(3.27)	(0.50)	(-0.60)	(2.21)
StkPVol	0.000	0.000**	-0.016*	0.040***
	(0.83)	(2.15)	(-1.90)	(2.64)
BusnsFrdm	0.000	-0.000	0.003	-0.065***
	(0.37)	(-1.63)	(0.43)	(-5.26)
GovDbt	0.000***	0.000***	-0.009***	0.030***
	(4.18)	(3.23)	(-4.69)	(8.67)
InvstFrdm	0.001**	-0.000	0.008	-0.013
	(2.16)	(-1.14)	(1.54)	(-1.30)
MoneFrdm	-0.001	-0.001***	-0.010	-0.141***
	(-1.50)	(-4.85)	(-0.81)	(-6.41)
FmAcc	0.056***	0.003	-0.799**	-0.324
	(3.38)	(0.75)	(-2.52)	(-0.54)
FmEff	-0.005	-0.012***	0.165	-3.061***
	(-0.48)	(-4.13)	(0.77)	(-7.74)
Constant	0.005	0.157***	7.138***	31.853***
	(0.07)	(8.61)	(5.06)	(12.62)
Number of Observations	465	465	442	465
Adj. R-Square	0.408	0.556	0.085	0.714
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 7: The relation between central bank independence (*CBI*) and cost of capital (CoC) measures

This table shows the ***Newey -west regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta_1\, CBI + \beta_k\, Controls + Country\ and\ year\ effects + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country l at the time t, error terms (ε_{lt}) or autocorrelation/heteroskedasticity.

	Model (1) HRRtn	**Model (2) CERP**	**Model (3) DivYld**	**Model (4) CRRsk**
CBI	-0.093***	-0.013**	-1.192***	-3.880***
	(-2.87)	(-2.36)	(-2.85)	(-4.24)
IntRst	0.003	0.001**	0.073***	0.276***
	(1.58)	(2.56)	(2.65)	(4.95)
NetIntMrgn	0.020***	0.002*	-0.180***	0.142
	(4.54)	(1.81)	(-2.75)	(1.30)
Infltn	0.004	0.001***	-0.010	0.128
	(1.64)	(2.93)	(-0.28)	(1.51)
PolStb	0.001*	0.000	-0.006	-0.005
	(1.75)	(1.33)	(-1.22)	(-0.53)
FinRsk	0.010	0.000	-0.264**	-0.214
	(1.50)	(0.20)	(-2.54)	(-1.09)
GDPgro	-0.002	-0.000	-0.042	-0.088**
	(-1.10)	(-0.96)	(-1.54)	(-2.10)
MoneFrdm	0.000	-0.000	-0.013	-0.031
	(0.33)	(-1.31)	(-0.75)	(-0.79)
InvstFrdm	0.001**	0.000	0.017**	0.013
	(2.28)	(1.40)	(2.50)	(1.18)
GovIntrgt	-0.001	-0.000	0.017	-0.067***
	(-1.41)	(-0.37)	(1.64)	(-3.58)
PropRight	0.001	-0.000	-0.033***	-0.032
	(0.73)	(-1.26)	(-2.83)	(-1.39)
EqIndx	0.000**	0.000	-0.011***	0.000
	(2.36)	(0.52)	(-5.65)	(0.15)
Zscore	-0.001	-0.000**	-0.002	-0.071***
	(-1.28)	(-1.98)	(-0.16)	(-3.36)
FmEff	0.021	0.001	-0.101	-0.875*
	(1.13)	(0.19)	(-0.36)	(-1.70)
Constant	-0.136	0.104***	7.797***	16.554***
	(-1.27)	(4.20)	(4.06)	(4.52)
Number of Observations	438	438	414	438
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 8: The relation between central bank transparency (*CBT*) and cost of capital (CoC) measures

This table shows the panel ***Newey-west regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta\ CBT + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, error terms (ε_{lt}) or autocorrelation/heteroskedasticity.

	Model (1) HRRtn	**Model (2) CERP**	**Model (3) DivYld**	**Model (4) CRRsk**
CBT	-0.007**	-0.002**	-0.107**	-0.382***
	(-2.01)	(-2.37)	(-1.99)	(-3.77)
Infltn	0.003	0.001*	0.010	0.025
	(1.44)	(1.85)	(0.26)	(0.33)
NetIntMrgn	0.025***	0.003***	-0.055	0.598***
	(6.08)	(2.87)	(-0.98)	(4.57)
FinRsk	0.002	-0.003	-0.195*	-1.182***
	(0.20)	(-1.12)	(-1.92)	(-3.59)
GDPgrowth	0.000	0.000	-0.103***	0.068
	(0.06)	(0.29)	(-3.67)	(1.17)
MrktCpGDP	0.000***	0.000	-0.000	0.002**
	(3.69)	(0.59)	(-0.56)	(2.56)
StkPVol	0.000	0.000*	-0.016**	0.040*
	(0.56)	(1.68)	(-2.01)	(1.91)
BusnsFrdm	0.000	-0.000	0.003	-0.065***
	(0.27)	(-1.50)	(0.39)	(-4.16)
GovDbt	0.000***	0.000**	-0.009***	0.030***
	(3.23)	(2.23)	(-4.72)	(4.75)
InvstFrdm	0.001	-0.000	0.008	-0.013
	(1.50)	(-1.02)	(1.25)	(-1.01)
MoneFrdm	-0.001	-0.001***	-0.010	-0.141***
	(-0.97)	(-2.64)	(-0.50)	(-3.89)
FmAcc	0.056**	0.003	-0.799**	-0.324
	(2.22)	(0.58)	(-2.07)	(-0.33)
FmEff	-0.005	-0.012**	0.165	-3.061***
	(-0.26)	(-2.32)	(0.59)	(-4.68)
Constant	0.005	0.157***	7.138***	31.853***
	(0.05)	(4.38)	(3.52)	(6.74)
Number of Observations	465	465	442	465
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 6. 9: Variance inflator factor (VIF) of other control variables

Variable	VIF	1/VIF
GovIntgrt	11.76	0.08506
PropRight	9.57	0.10446
PolStb	4.13	0.24185
InvstFrdm	2.92	0.34266
BusnsFrdm	2.87	0.34823
NetIntMrgn	2.85	0.35077
IntRst	2.73	0.36579
MoneFrdm	2.25	0.44415
Infltn	2.06	0.48539
GDPgrow	1.89	0.52827
FinRsk	1.62	0.61909
GovDbt	1.58	0.63155
FmEFF	1.54	0.65144
StkPVol	1.51	0.66398
FmAcc	1.49	0.67122
Zscore	1.45	0.68924
MrktCpGDP	1.43	0.69780
EqIndx	1.20	0.83016
Mean VIF	3.05	

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Table 7. 1: Summary statistics of dependant, and key independent variables

Panel - A: Developed countries

Country	EHB (Log relative to benchmark)	EHB (% country specific)	EFB (Log relative to benchmark)	EFB (% country specific)	CBI (%)	CBT (0-15 scale)
Australia	0.01	78.93	-0.04	21.07	35.36	9.93
Austria	-0.38	35.73	0.44	64.27	85.65	10.86
Belgium	-0.53	26.05	0.50	73.95	85.65	10.86
Canada	-0.05	68.54	0.13	31.46	47.24	10.89
Denmark	-0.46	33.04	0.46	66.96	59.21	7.18
Finland	-0.14	57.4	0.14	42.60	85.65	9.31
France	-0.04	70.01	0.11	29.99	85.65	10.86
Germany	-0.18	51.58	0.33	48.42	85.65	10.86
Greece	0.06	88.49	-0.42	11.51	79.56	6.04
Hungary	0.00	79.26	-0.30	20.74	88.15	11.54
Ireland	0.09	94.76	-0.82	5.24	85.65	10.86
Italy	-0.50	34.52	0.45	65.48	79.56	10.86
Japan	0.04	85.43	-0.22	14.57	54.60	9.75
Netherlands	-0.49	29.73	0.48	70.27	85.65	10.86
New Zealand	-0.30	40.57	0.41	59.43	47.95	13.96
Norway	-0.32	38.11	0.48	61.89	40.97	9.75
Poland	0.10	96.31	-0.93	3.69	83.31	8.75
Portugal	-0.10	62.84	0.19	37.16	79.56	10.31
Spain	0.06	87.75	-0.28	12.25	85.65	10.31
Sweden	-0.33	37.06	0.42	62.94	77.67	14.79
Switzerland	-0.10	61.44	0.23	38.56	73.20	9.68
United Kingdom	-0.09	63.63	0.20	36.37	90.91	12.29
United States	0.00	77.92	-0.03	22.08	62.58	10.86

Panel - B: Emerging countries

Country	EHB (Log relative to benchmark)	EHB (% country specific)	EFB (Log relative to benchmark)	EFB (% country specific)	CBI (%)	CBT (0-15 scale)
Argentina	-0.01	75.80	0.02	24.20	75.16	4.50
Brazil	0.11	98.85	-1.35	1.15	43.53	8.25
Chile	-0.01	75.67	-0.03	24.33	73.31	7.93
China	0.12	100.00	.	0.00	56.16	2.89
Egypt, Arab Rep.	0.11	99.18	-1.55	0.82	48.88	3.11
Hong Kong	0.12	60.96	-2.52	39.04	29.50	2.75
India	-0.10	99.82	0.23	0.18	38.20	7.25
Israel	0.05	86.53	-0.34	13.47	51.51	9.39
Korea, Rep.	0.09	94.01	-0.75	5.99	41.06	8.86
Malaysia	0.09	95.72	-0.91	4.28	50.78	6.00
Mexico	0.10	90.31	-1.06	9.69	63.83	5.71
Peru	0.08	90.18	-0.42	9.82	79.78	7.86
Qatar	0.13	100.00	.	0.00	46.62	3.29
Russian Federation	0.11	99.81	-2.51	0.19	68.25	3.86
Singapore	-0.13	57.50	0.26	42.5	45.60	5.07
South Africa	0.05	88.46	-0.28	11.54	35.28	9.00
Turkey	0.11	99.89	-2.37	0.11	64.50	9.25

Panel – C: Average of both and country group

Country	EHB (Log relative to benchmark)	EHB (% country specific)	EFB (Log relative to benchmark)	EHB (% country specific)	CBI (%)	CBT (0-15 scale)
Average of both	-0.066	72.80	-0.292	27.21	64.92	8.66
Developed countries	-0.159	60.83	0.083	39.17	73.26	10.49
Emerging countries	0.060	88.98	-0.799	11.02	53.64	6.17

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 2: Summary statistics of other control variables

Panel - A: Developed countries

country	IntRst	ExcgRt	PolStb (%)	RegQlt (%)	VocAct (%)	FinRsk	GovIntgrt (%)	BusinsFrdm (%)	MoneFrdm (%)	InvstFrdm (%)	Trade to GDP	GDP gro	Zscore	MrktLiq (%)	FmAcc (%)
Australia	5.08	-0.03	80.86	95.80	94.49	6.88	86.76	88.09	83.94	75.36	41.79	3.00	14.93	84.82	81.56
Austria	3.61	-0.03	90.22	92.94	93.54	7.88	79.96	74.27	83.71	74.29	96.47	1.42	20.92	11.94	92.13
Belgium	3.80	-0.03	75.53	87.63	93.09	7.82	70.30	84.25	81.89	85.36	148.87	1.42	10.63	24.39	30.03
Canada	4.09	-0.02	84.69	94.74	95.48	8.05	87.76	91.60	81.36	62.86	66.72	2.05	16.27	80.18	61.15
Denmark	3.45	-0.03	86.55	97.93	98.59	8.62	94.91	96.60	84.93	80.36	94.07	0.86	16.2	26.38	36.57
Finland	3.50	-0.03	98.91	97.56	97.75	7.24	95.17	90.31	84.79	75.36	76.23	1.24	12.29	105.02	34.03
France	3.59	-0.03	63.86	84.85	89.58	7.60	69.35	80.01	82.11	57.50	55.62	1.19	16.93	61.77	26.76
Germany	3.27	-0.03	77.24	92.74	93.33	8.18	78.58	82.85	84.24	87.14	74.85	1.16	15.9	53.69	60.08
Greece	7.53	-0.03	54.41	74.43	76.56	6.55	42.01	73.20	77.61	55.36	55.43	-0.04	4.62	18.31	60.59
Hungary	7.24	-0.01	74.72	82.06	78.23	6.78	50.04	73.88	74.90	72.86	146.27	1.94	5.48	15.79	54.52
Ireland	4.79	-0.03	88.89	95.52	93.31	7.45	75.20	88.66	82.36	90.36	170.81	3.09	4.37	5.91	95.01
Italy	4.43	-0.03	63.39	77.70	79.65	7.55	47.11	74.72	82.54	72.86	51.84	-0.04	14.36	58.74	64.13
Japan	1.21	0.00	82.98	82.38	79.91	9.00	72.49	80.62	90.57	57.86	28.30	0.75	13.02	84.16	52.49
Netherlands	3.48	-0.03	84.95	97.41	97.39	7.83	88.50	79.96	84.08	90.00	132.20	1.12	11.99	88.82	42.57
New Zealand	5.22	-0.04	94.53	97.56	97.78	6.59	94.50	94.31	85.34	81.07	59.11	2.65	19.6	4.55	70.00
Norway	3.64	-0.02	94.47	90.28	98.88	9.34	87.22	82.76	80.06	57.86	69.77	1.61	7.45	42.57	96.73
Poland	5.94	-0.02	71.57	76.46	79.19	7.42	43.34	63.49	77.79	59.64	77.66	3.62	7.29	10.71	45.90
Portugal	5.37	-0.03	79.34	80.37	88.01	6.94	63.08	76.77	81.86	70.00	68.42	0.10	10.59	22.47	28.12
Spain	4.35	-0.03	44.94	84.54	85.41	7.21	66.69	75.24	81.17	74.29	56.04	1.30	19.09	98.59	63.43
Sweden	3.49	-0.02	92.49	95.21	98.48	7.80	92.52	85.80	84.34	85.71	84.72	1.98	10.31	83.76	48.91
Switzerland	2.14	-0.04	95.29	95.15	97.50	9.07	88.44	76.89	86.25	73.93	108.63	1.82	10.95	126.14	99.60
United Kingdom	3.93	-0.01	60.61	96.80	92.18	7.73	82.60	89.90	80.39	84.29	55.35	1.75	8.93	86.6	70.57
United States	3.66	0.00	59.65	92.00	87.23	6.70	74.21	89.09	81.81	72.86	26.92	1.83	26.86	217.76	68.50

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7.2: Summary statistics of other control variables …… (contd.)

Panel - B: Emerging countries

country	IntRst	ExcgRt	PolStb (%)	RegQlt (%)	VocAct (%)	FinRsk	GovIntgrt (%)	BusinsFrdm (%)	MoneFrdm (%)	InvstFrdm (%)	Trade to GDP	GDPgro	Zscore	MrktLiq (%)	FmAcc (%)
Argentina	12.50	0.16	41.95	25.85	58.46	6.74	29.32	65.51	70.11	49.29	35.70	2.97	5.62	1.31	68.02
Brazil	13.86	0.02	42.39	56.45	62.42	7.24	37.71	59.67	75.91	50.00	25.81	3.32	15.96	27.01	44.88
Chile	8.56	0.00	66.06	91.23	82.80	7.74	72.09	70.77	81.76	76.07	69.33	4.27	7.25	15.74	51.12
China	5.84	-0.02	29.57	44.73	6.18	9.37	34.36	50.75	78.43	28.21	51.61	9.87	15.97	75.74	22.78
Egypt,	12.47	0.05	21.90	37.56	17.31	8.01	31.40	57.14	69.81	51.79	50.98	4.12	16.14	25.92	35.38
India	11.18	0.02	13.36	40.42	60.65	8.52	30.54	47.46	70.84	40.36	44.61	5.37	16.03	56.41	25.97
Hong Kong	5.64	0.00	84.85	98.98	62.44	8.47	81.24	96.73	85.69	90.00	359.40	6.57	14.62	443.05	74.76
Israel	7.03	-0.01	12.25	82.12	68.26	7.93	64.24	68.71	82.58	78.21	72.00	4.04	26.84	28.28	45.30
Korea, Rep.	6.19	-0.01	58.13	76.17	69.41	6.31	.	.	81.06	70.00	84.73	4.85	8.88	119.70	80.69
Malaysia	5.71	-0.01	53.23	68.62	34.89	8.49	48.52	72.11	80.53	37.14	177.70	1.89	14.69	41.18	57.74
Mexico	8.05	0.02	28.80	63.18	54.89	7.95	33.91	75.49	76.95	55.71	57.87	5.48	20.94	8.05	52.39
Peru	21.37	-0.01	19.25	62.60	50.84	8.12	37.29	64.59	84.53	65.71	47.72	5.10	15.40	2.74	51.22
Qatar	6.32	.	86.04	66.26	23.58	7.65	65.96	63.25	76.89	41.79	.	4.27	28.02	23.89	72.55
Russian Fed.	9.40	0.02	17.09	41.69	25.86	8.69	23.72	57.97	61.79	33.93	52.91	5.61	8.40	31.64	56.62
Singapore	5.37	-0.02	90.61	98.79	45.68	9.01	92.56	98.37	87.39	83.21	385.70	3.19	21.36	106.95	79.20
South Africa	8.92	0.03	42.92	67.10	67.65	7.64	46.54	72.04	76.99	54.64	59.15	4.14	15.99	56.51	27.77
Turkey	13.06	0.09	19.34	61.10	44.29	6.46	38.50	64.49	61.19	57.86	48.56	4.32	8.10	39.35	40.18

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 3: Descriptive statistics of dependant, independent and control variables

	Standard deviation	Maximum	Mean	Median	Minimum
EHB	0.20	0.13	-0.07	0.00	-0.53
EFB	0.84	0.50	-0.31	-0.03	-2.52
CBI	18.79	90.91	64.92	66.38	29.50
CBT	3.00	14.79	8.66	9.35	2.75
Intrst	3.93	21.37	6.46	5.37	1.21
Excgrt	0.04	0.16	-0.01	-0.02	-0.04
PolStb	26.88	98.91	63.20	68.81	12.25
RegQlt	19.75	98.98	78.62	83.46	25.85
VocAct	25.43	98.88	73.03	79.78	6.18
FinRsk	0.82	9.37	7.76	7.77	6.31
GovIntgrt	22.74	95.17	64.07	69.35	23.72
BusinsFrdm	12.91	98.37	76.37	75.49	47.46
MoneFrdm	6.23	90.57	80.01	81.79	61.19
InvstFrdm	16.60	90.36	66.53	71.43	28.21
Trade to GDP	76.43	385.67	88.97	66.72	25.81
GDPgro	2.05	9.87	2.88	2.35	-0.04
Zscore	6.01	28.02	13.98	14.65	4.37
MrktLiq	75.96	443.05	62.91	41.88	1.31
FmAcc	0.21	1.00	0.57	0.56	0.23

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 4: Pearson pairwise correlation coefficient between dependant, independent and control variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
EHB	1																	
EFB	-0.59*	1																
CBI	-0.23*	0.29*	1															
CBT	-0.40*	0.59*	0.39*	1														
Intrst	0.34*	-0.53*	-0.17*	-0.41*	1													
excgrt	0.06	-0.14*	-0.04	-0.18*	0.17*	1												
PolStb	-0.46*	0.67*	0.17*	0.48*	-0.61*	-0.21*	1											
RegQlt	-0.42*	0.68*	0.234*	0.68*	-0.61*	-0.29*	0.75*	1										
VocAct	-0.46*	0.69*	0.36*	0.76*	-0.49*	-0.20*	0.62*	0.75*	1									
FinRsk	-0.03	0.02	-0.14*	-0.27*	-0.15*	-0.27*	0.04	0.01	-0.19*	1								
GovIntgrt	-0.46*	0.70*	0.07	0.57*	-0.62*	-0.21*	0.80*	0.89*	0.69*	0.08*	1							
BusinsFrdm	-0.41*	0.63*	0.10*	0.54*	-0.51*	-0.09*	0.61*	0.76*	0.57*	-0.11	0.75*	1						
MoneFrdm	-0.28*	0.62*	0.06	0.35*	-0.43*	-0.21*	0.52*	0.61*	0.44*	0.11*	0.60*	0.45*	1					
InvstFrdm	-0.46*	0.60*	0.32*	0.63*	-0.37*	-0.10*	0.49*	0.76*	0.65*	-0.18*	0.67*	0.66*	0.44*	1				
Trade to GDP	-0.15*	0.20*	-0.10	-0.10	-0.17*	-0.06	0.36*	0.36*	-0.10	0.23*	0.33*	0.40*	0.24*	0.36*	1			
GDPgro	0.30*	-0.35*	-0.27*	-0.35*	0.22*	-0.25*	-0.29*	-0.30*	-0.41*	0.23*	-0.28*	-0.33*	-0.16*	-0.28*	0.07	1		
Zscore	-0.00	0.12*	-0.31*	-0.10*	-0.04	-0.10*	-0.09*	0.06	-0.17*	0.11*	0.12*	0.02	0.16*	-0.05	0.02	0.13*	1	
MrktLiq	0.17*	-0.23*	0.02	-0.21*	-0.02	0.19*	0.28*	0.03	0.12*	0.30*	0.31*	0.21*	0.23*	0.46*	0.12*	0.12*	1	
FmAcc	0.23*	-0.03	0.19*	-0.24*	-0.09*	0.39*	0.35*	0.22*	0.03	0.36*	0.34*	0.18*	0.28*	0.25*	-0.07	-0.03	0.16*	1

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom,*InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 5: The relation between central bank independence (*CBI*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the panel ***OLS regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta\ CBI + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt})

	Model (1) **EHB**	**Model (2)** **EFB**
CBI	-0.182***	0.708***
	(-2.85)	(4.24)
Intrst	0.001	0.007
	(0.29)	(0.83)
PolStb	-0.002**	0.006***
	(-2.26)	(2.96)
RegQlt	0.004***	-0.011***
	(2.86)	(-2.89)
VocAct	-0.003***	0.014***
	(-3.39)	(4.97)
FinRsk	-0.040***	0.030
	(-3.04)	(0.87)
GovIntgrt	-0.003**	0.006**
	(-2.43)	(2.05)
BusinsFrdm	-0.003**	0.012***
	(-2.25)	(4.16)
MoneFrdm	0.003*	0.030***
	(1.68)	(6.26)
Zscore	-0.004**	0.017***
	(-2.12)	(3.64)
Trade to GDP	-0.001***	0.002***
	(-2.69)	(2.75)
GDPgro	0.009***	-0.038***
	(2.74)	(-4.28)
FmAcc	0.147***	0.094
	(3.10)	(0.75)
Constant	0.487**	-5.691***
	(2.45)	(-11.06)
Number of Observations	408	398
Adj. R-Square	0.326	0.687
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom,*InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 6: The relation between central bank transparency (*CBT*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the panel ***OLS regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta\ CBT + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt})

	Model (1) **EHB**	**Model (2)** **EFB**
CBT	-0.013***	0.057***
	(-3.06)	(3.53)
ExcgRt	-0.111	0.541*
	(-1.39)	(1.83)
PolStb	-0.002***	0.011***
	(-3.34)	(5.02)
RegQlt	0.005***	-0.013***
	(5.26)	(-3.38)
VocAct	-0.002***	0.012***
	(-3.02)	(4.24)
FinRsk	-0.035***	0.054
	(-3.43)	(1.43)
GovIntgrt	-0.003***	0.008**
	(-3.29)	(2.38)
Zscore	-0.003**	0.017***
	(-2.32)	(3.74)
Trade to GDP	-0.001***	0.002**
	(-3.78)	(2.49)
MrktLiq	0.000***	-0.000
	(3.75)	(-0.57)
InvstFrdm	-0.003***	0.009***
	(-3.66)	(2.97)
FmAcc	0.107***	0.059
	(2.80)	(0.41)
Constant	0.574***	-3.324***
	(5.82)	(-9.04)
Number of Observations	415	404
Adj. R-Square	0.406	0.610
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP*represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects..

Table 7. 7: The relation between central bank independence (*CBI*) and equity home bias (*EHB)* and equity foreign bias (*EFB*) measures.

This table shows the panel ***Newey-west regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta\ CBI + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms (ε_{lt}) or autocorrelation/heteroskedasticity.

	Model (1) **EHB**	**Model (2)** **EFB**
CBI	-0.182**	0.708**
	(-2.35)	(2.31)
Intrst	0.001	0.007
	(0.35)	(0.63)
PolStb	-0.002**	0.006**
	(-1.98)	(2.21)
RegQlt	0.004***	-0.011
	(2.99)	(-1.06)
VocAct	-0.003***	0.014**
	(-3.21)	(2.10)
FinRsk	-0.040**	0.030
	(-2.38)	(0.64)
GovIntgrt	-0.003	0.006
	(-1.35)	(1.20)
BusinsFrdm	-0.003	0.012***
	(-1.56)	(2.98)
MoneFrdm	0.003*	0.030***
	(1.69)	(3.78)
Zscore	-0.004*	0.017***
	(-1.72)	(2.69)
Trade to GDP	-0.001**	0.002
	(-2.00)	(1.62)
GDPgro	0.009**	-0.038***
	(2.37)	(-2.96)
FmAcc	0.147*	0.094
	(1.80)	(0.38)
Constant	0.487***	-5.691***
	(2.86)	(-7.07)
Number of Observations	408	398
Adj. R-Square		
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 7. 8: The relation between central bank transparency (*CBT*) and equity home bias (*EHB)* and equity foreign bias (*EFB*) measures.

This table shows the panel ***Newey-west regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta\ CBT + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms (ε_{lt}) or autocorrelation/heteroskedasticity.

	Model (1) EHB	**Model (1) EFB**
CBT	-0.013***	0.057*
	(-2.89)	(1.88)
ExcgRt	-0.111	0.541
	(-1.54)	(1.51)
PolStb	-0.002**	0.011***
	(-2.45)	(3.37)
RegQlt	0.005***	-0.013
	(5.27)	(-1.39)
VocAct	-0.002**	0.012**
	(-2.54)	(1.99)
FinRsk	-0.035**	0.054
	(-2.40)	(0.74)
GovIntgrt	-0.003**	0.008
	(-2.33)	(1.52)
Zscore	-0.003	0.017**
	(-1.45)	(2.38)
Trade to GDP	-0.001***	0.002*
	(-2.72)	(1.83)
MrktLiq	0.000***	-0.000
	(2.89)	(-0.58)
InvstFrdm	-0.003***	0.009*
	(-2.95)	(1.92)
FmAcc	0.107	0.059
	(1.33)	(0.23)
Constant	0.574***	-3.324***
	(4.37)	(-4.23)
Number of Observations	415	404
Adj. R-Square		
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP*represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects..

Table 7. 9: Variance inflator factor (VIF) of other control variables

Variable	VIF	1/VIF
RegQlt	10.29	0.09718
GovIntgrt	7.81	0.128049
VocAct	5.80	0.172316
PolStb	4.76	0.210045
InvstFrdm	3.26	0.306664
Trade to GDP	3.05	0.327636
BusinsFrdm	3.01	0.332253
MoneFrdm	2.04	0.489398
FinRsk	1.98	0.504874
Intrst	1.90	0.527196
GDPgro	1.58	0.634628
excgrt	1.52	0.658613
FmAcc	1.40	0.714414
Zscore	1.40	0.71643
MrktLiq	1.33	0.753272
Mean VIF	3.41	

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Table 8. 1: Summary statistics of dependant and key independent variables

Panel - A: Developed countries

Country	DHB (Log relative to benchmark)	DHB (% country specific)	DFB (Log relative to benchmark)	DFB (% country specific)	CBI (%)	CBT (0-15 scale)
Australia	0.04	91.51	-0.33	8.49	35.36	9.93
Austria	-0.16	57.03	0.40	42.97	85.65	10.86
Belgium	-0.45	32.54	0.59	67.46	85.65	10.86
Canada	0.05	92.75	-0.41	7.25	47.24	10.89
Denmark	-0.01	81.56	0.03	18.44	59.21	7.18
Finland	-0.29	42.89	0.52	57.11	85.65	9.31
France	-0.17	56.41	0.40	43.59	85.65	10.86
Germany	-0.11	65.49	0.29	34.51	85.65	10.86
Greece	-0.09	70.87	0.15	29.13	79.56	6.04
Hungary	0.08	98.61	-1.11	1.39	88.15	11.54
Ireland	-0.82	15.26	0.67	84.74	85.65	10.86
Italy	-0.01	80.93	0.04	19.07	79.56	10.86
Japan	-0.01	81.92	0.02	18.08	54.60	9.75
Netherlands	-0.13	60.88	0.36	39.12	85.65	10.86
New Zealand	-0.02	79.63	0.07	20.37	47.95	13.96
Norway	-0.54	29.10	0.61	70.90	40.97	9.75
Poland	0.07	97.68	-0.93	2.32	83.31	8.75
Portugal	-0.17	57.04	0.38	42.96	79.56	10.31
Spain	-0.06	73.12	0.15	26.88	85.65	10.31
Sweden	-0.02	79.08	0.09	20.92	77.67	14.79
Switzerland	0.05	93.22	-0.43	6.78	73.20	9.68
United Kingdom	-0.12	62.67	0.34	37.33	90.91	12.29
United States	0.06	94.59	-0.51	5.41	62.58	10.86

Panel - B: Emerging countries

Country	DHB (Log relative to benchmark)	DHB (% country specific)	DFB (Log relative to benchmark)	DFB (% country specific)	CBI (%)	CBT (0-15 scale)
Argentina	0.05	93.64	-0.44	6.36	75.16	4.50
Brazil	0.08	99.75	-1.86	0.25	43.53	8.25
Chile	0.03	88.32	-0.28	11.68	73.31	7.93
China	0.07	98.34	-1.09	1.66	56.16	2.89
Egypt	-0.15	60.96	0.34	39.04	48.88	3.11
Hong Kong	-0.19	54.09	0.43	45.91	38.20	7.25
India	0.08	100	-3.75	0.00	29.50	2.75
Israel	0.01	84.85	-0.06	15.15	51.51	9.39
Korea, Rep.	0.07	96.59	-0.73	3.41	41.06	8.86
Malaysia	0.07	96.66	-0.78	3.34	50.78	6.00
Mexico	0.06	93.43	-0.57	6.57	63.83	5.71
Peru	-0.47	31.44	0.57	68.56	79.78	7.86
Qatar	.	-	.	-	46.62	3.29
Russian Fed.	0.03	89.5	-0.25	10.5	68.25	3.86
Singapore	-0.07	70.88	0.23	29.12	45.60	5.07
South Africa	0.07	96.88	-0.77	3.12	35.28	9.00
Turkey	0.08	99.42	-1.54	0.58	64.50	9.25

Panel – C: Average of both and country group

Country	DHB (Log relative to benchmark)	DHB (% country specific)	DFB (Log relative to benchmark)	DFB (% country specific)	CBI (%)	CBT (0-15 scale)
Average of both	-0.08	73.74	-0.23	23.76	64.92	8.66
Developed countries	-0.12	69.34	0.06	30.66	73.26	10.49
Emerging countries	-0.01	79.69	-0.62	14.43	53.64	6.17

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 2: Summary statistics of control variables

Panel - A: Developed countries

country	Int Rst	NtInt Mrgn	Excg Rt	Rul Law	Corup tn	Voc Act	Gov Efc	Dem oc	Poli ty	Trd to GDP	MktCp GDP	GDP pr Cap	Gov Dbt	Fin Rsk	Pol Rsk	StkP Vol	Mk tLiq	EqIn dx	Busns Frdm	Fin Frdm	Trd Frdm	Prop Right	Fm Eff
Australia	5.08	2.00	-0.03	95.34	95.12	94.49	94.31	10	10	41.79	110.04	4.60	18.14	6.88	7.16	14.79	84.82	11.38	88.09	90.00	81.85	90.00	79.00
Austria	3.61	2.04	-0.03	97.36	93.08	93.54	94.45	10	10	96.47	29.34	4.62	73.01	7.88	7.24	22.02	11.94	12.72	74.27	70.00	84.05	90.00	40.00
Belgium	3.80	1.32	-0.03	89.04	90.72	93.09	92.8	8.8	8.7	148.87	63.68	4.59	99.56	7.82	6.90	17.99	24.39	8.68	84.25	72.14	84.04	84.29	42.00
Canada	4.09	2.23	-0.02	95.3	94.96	95.48	95.85	10	10	66.72	114.12	4.6	77.36	8.05	7.24	17.18	80.18	9.77	91.60	75.00	85.21	90.00	73.00
Denmark	3.45	1.26	-0.03	99.04	99.75	98.59	99.13	10	10	94.07	52.65	4.71	41.40	8.62	7.07	20.26	26.38	14.31	96.60	88.57	84.04	90.36	52.00
Finland	3.50	0.88	-0.03	99.49	99.18	97.75	99.41	10	10	76.23	109.79	4.62	44.21	7.24	7.66	27.74	105.02	1.62	90.31	74.29	84.04	90.36	90.00
France	3.59	0.92	-0.03	89.92	89.35	89.58	90.1	10	10	55.62	75.51	4.56	74.94	7.60	6.37	23.23	61.77	2.96	80.01	60.71	81.19	73.57	81.00
Germany	3.27	0.98	-0.03	93.43	93.57	93.33	91.8	10	10	74.85	43.78	4.58	69.39	8.18	7.05	23.09	53.69	9.73	82.85	56.43	84.04	90.00	95.00
Greece	7.53	2.94	-0.03	72.35	63.10	76.56	71.62	10	10	55.43	42.55	4.35	129.36	6.55	6.09	27.46	18.31	0.39	73.20	51.43	81.19	50.71	49.00
Hungary	7.24	3.94	-0.01	76.29	71.08	78.23	75.44	10	10	146.27	21.12	4.05	68.11	6.78	6.44	24.85	15.79	11.55	73.88	69.29	82.67	68.21	72.00
Ireland	4.79	0.80	-0.03	93.71	91.34	93.31	89.87	10	10	170.80	49.72	4.68	60.02	7.45	7.15	21.30	5.91	7.91	88.66	83.57	84.04	90.00	14.00
Italy	4.43	1.90	-0.03	66.47	66.09	79.65	69.18	10	10	51.84	41.44	4.51	110.18	7.55	6.44	23.47	58.74	0.44	74.72	62.86	82.97	57.50	100.00
Japan	1.21	1.17	0.00	87.85	88.20	79.91	89.04	10	10	28.30	72.70	4.59	191.33	9.00	6.84	22.19	84.16	7.25	80.62	47.14	81.20	75.00	96.00
Netherlands	3.48	1.05	-0.03	96.08	96.53	97.39	96.36	10	10	132.2	84.44	4.65	54.05	7.83	7.21	22.42	88.82	5.28	79.96	85.71	84.04	90.00	91.00
New Zealand	5.22	2.17	-0.04	97.45	99.09	97.78	94.76	10	10	59.11	32.88	4.46	26.39	6.59	7.35	10.81	4.55	11.59	94.31	84.29	82.71	92.14	14.00
Norway	3.64	1.66	-0.02	98.89	96.76	98.88	96.83	10	10	69.77	53.27	4.87	38.49	9.34	7.39	24.22	42.57	12.95	82.76	54.29	86.22	90.00	74.00
Poland	5.94	3.45	-0.02	68.83	69.41	79.19	70.28	9.9	9.9	77.66	29.89	3.98	47.86	7.42	6.42	24.71	10.71	9.35	63.49	63.57	82.41	57.50	37.00
Portugal	5.37	1.63	-0.03	84.37	82.77	88.01	81.77	10	10	68.42	35.59	4.29	84.16	6.94	6.73	16.75	22.47	0.83	76.77	54.29	84.04	70.00	64.00
Spain	4.35	1.91	-0.03	85.57	84.28	85.41	84.48	10	10	56.04	82.58	4.43	58.46	7.21	6.37	23.61	98.59	6.76	75.24	74.29	84.04	70.00	97.00
Sweden	3.49	1.34	-0.02	98.24	98.33	98.48	97.83	10	10	84.72	84.29	4.67	43.23	7.80	7.42	24.23	83.76	10.60	85.80	80.71	83.67	90.36	75.00
Switzerland	2.14	0.84	-0.04	97.18	96.69	97.50	97.76	10	10	108.63	209.04	4.80	48.94	9.07	7.4	18.63	126.14	7.03	76.89	82.14	86.36	90.00	61.00
United Kingdom	3.93	1.53	-0.01	93.80	93.53	92.18	92.66	10	10	55.35	114.69	4.60	56.49	7.73	6.84	18.03	86.60	3.22	89.90	86.43	84.04	89.29	72.00
United States	3.66	3.51	0.00	91.86	89.94	87.23	91.12	10	10	26.92	122.08	4.66	78.38	6.70	6.79	19.26	217.76	5.09	89.09	80.71	84.11	87.86	100.00

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP); *MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8.2: Summary statistics of control variables …… contd.

Panel - B: Emerging countries

country	IntRst	NtInt Mrgn	ExcgRt	Rul Law	Coruptn	VocAct	GovEfc	Democ	Polity	Trd to GDP	MktCp GDP	GDPpr Cap	Gov Dbt	Fin Rsk	Pol Rsk	StkP Vol	Mkt Liq	EqIn dx	Busns Frdm	Fin Frdm	Trd Frdm	Prop Right	FmEff
Argentina	12.50	4.47	0.16	31.02	41.48	58.46	50.91	8	8	35.70	15.91	3.86	69.12	6.74	5.47	33.13	1.31	19.28	65.51	37.86	64.38	27.86	8.00
Brazil	13.86	6.33	0.02	48.18	57.07	62.42	53.14	8	8	25.81	51.61	3.83	66.24	7.24	5.55	28.92	27.01	18.66	59.67	50.71	66.49	50.00	56.00
Chile	8.56	4.22	0.00	88.31	90.38	82.80	85.32	9.7	9.7	69.33	107.3	3.97	9.90	7.74	6.49	16.00	15.74	13.06	70.77	68.57	79.59	89.29	15.00
China	5.84	2.84	-0.02	37.01	38.78	6.18	57.11	0	-7	51.61	50.12	3.46	30.23	9.37	5.45	24.47	75.74	16.32	50.75	30.00	63.41	24.29	94.00
Egypt, AR	12.47	2.24	0.05	47.07	31.02	17.31	38.12	-5.9	-3.9	50.98	46.61	3.27	81.47	8.01	2.66	28.09	25.92	28.32	57.14	37.14	63.34	42.14	40.00
India	5.64	2.06	0.00	89.99	92.92	62.44	93.97	.	.	359.36	810.04	4.48	1.24	8.47	6.63	23.31	443.05	9.85	96.73	90.00	91.07	90.00	55.00
Hong Kong	11.18	3.21	0.02	55.84	40.48	60.65	52.94	9	9	44.61	76.29	2.96	75.04	8.52	5.03	24.28	56.41	21.55	47.46	34.29	45.33	50.00	80.00
Israel	7.03	2.36	-0.01	78.85	79.34	68.26	85.86	7	6	72.00	72.83	4.41	77.64	7.93	5.34	19.68	28.28	6.04	68.71	59.29	82.92	70.36	41.00
Korea	6.19	2.70	-0.01	80.01	70.44	69.41	82.29	8	8	84.73	75.07	4.29	27.91	6.31	4.27	24.96	119.70	16.97	.	.	69.93	.	100.00
Malaysia	5.71	2.73	-0.01	64.51	62.78	34.89	82.16	5	4.5	177.66	138.58	3.85	46.24	8.49	6.11	12.94	41.18	11.22	72.11	40.00	75.16	51.07	31.00
Mexico	8.05	6.45	0.02	38.31	45.23	54.89	61.48	8	8	57.87	30.64	3.94	41.99	7.95	5.89	21.00	8.05	15.17	75.49	62.86	78.46	50.00	28.00
Peru	21.37	6.47	-0.01	32.62	47.35	50.84	42.99	9	9	47.72	41.20	3.57	32.64	8.12	5.29	21.57	2.74	26.43	64.59	64.29	73.36	37.14	7.00
Qatar	6.32	.	.	71.09	79.01	23.58	73.03	0	-10	.	88.28	.	29.31	7.65	6.10	19.26	23.89	9.55	63.25	47.14	77.93	56.79	27.00
Russian Fed	9.40	5.10	0.02	21.99	17.38	25.86	40.96	5.5	4.9	52.91	42.08	3.86	17.42	8.69	5.26	33.87	31.64	21.85	57.97	34.29	62.89	29.29	41.00
Singapore	5.37	1.77	-0.02	92.13	97.75	45.68	98.79	1.5	-2.6	385.67	210.48	4.56	95.58	9.01	7.06	18.44	106.95	9.76	98.37	63.57	87.57	90.00	56.00
South Africa	8.92	3.81	0.03	58.54	64.42	67.65	69.47	9	9	59.15	214.24	3.72	35.79	7.64	5.60	19.49	56.51	14.78	72.04	58.57	72.32	50.00	28.00
Turkey	13.06	5.48	0.09	56.44	55.47	44.29	62.27	7.9	7.2	48.56	27.36	3.90	46.91	6.46	5.00	34.75	39.35	19.51	64.49	50.71	81.34	51.43	100.00

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change;*NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP); *MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 3: Descriptive statistics of dependent, independent and control variables

	Standard deviation	Maximum	Mean	Median	Minimum
DHB	0.20	0.08	- 0.08	- 0.01	- 0.82
DFB	0.85	0.67	- 0.24	0.03	- 3.75
CBI	23.05	90.91	61.83	64.17	29.50
CBT	3.00	14.79	8.66	9.35	2.75
IntRst	3.93	21.37	6.46	5.37	1.21
NetIntMargn	1.62	6.47	2.66	2.17	0.80
ExcgRt	0.04	0.16	- 0.01	- 0.02	- 0.04
RulLaw	22.57	99.49	76.49	86.71	21.99
Coruptn	22.44	99.75	76.35	86.24	17.38
VocAct	25.43	98.88	73.03	79.78	6.18
GovEfc	18.19	99.41	79.69	85.59	38.12
Democ	3.53	10.00	8.16	10.00	- 5.86
Polity	4.92	10.00	7.60	10.00	- 10.00
TrdGDP	76.43	385.67	88.97	66.72	25.81
MktCpGDP	126.23	810.04	94.35	68.19	15.91
GDPprCap	0.46	4.87	4.27	4.46	2.96
GovDbt	34.89	191.33	59.45	55.27	1.24
FinRsk	0.82	9.37	7.76	7.77	6.31
PolRsk	1.02	7.66	6.32	6.46	2.66
StkPVol	5.21	34.75	22.31	22.31	10.81
MktLiq	75.96	443.05	62.91	41.88	1.31
EqIndx	6.77	28.32	11.24	10.22	0.39
BusnsFrdm	12.91	98.37	76.37	75.49	47.46
FinFrdm	17.31	90.00	63.52	63.57	30.00
TrdFrdm	9.05	91.07	78.94	82.69	45.33
PropRight	21.51	92.14	69.92	73.57	24.29
FmEff	0.29	1.00	0.59	0.58	0.07

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP*represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 4: Pearson's pairwise correlation coefficient between the dependent, independent and control variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
DHB	1																										
DFB	-0.62*	1																									
CBI	-0.26*	0.33*	1																								
CBT	-0.16*	0.24*	0.39*	1																							
IntRst	0.09	-0.32*	-0.17*	-0.41*	1																						
NtIntMargn	0.30*	-0.51*	-0.16*	-0.37*	0.67*	1																					
ExcgRt	0.07	-0.12*	- 0.04	-0.18*	0.17*	0.09*	1																				
RulLaw	-0.26*	0.45*	0.15*	0.63*	-0.68*	-0.68*	-0.24*	1																			
Coruptn	-0.25*	0.44*	0.17*	0.64*	-0.62*	-0.60*	-0.24*	0.95*	1																		
VocAct	-0.25*	0.36*	0.36*	0.76*	-0.48*	-0.46*	-0.20*	0.77*	0.77*	1																	
GovEfc	-0.22*	0.44*	0.13*	0.60*	-0.71*	-0.65*	-0.24*	0.94*	0.94*	0.72*	1																
Democ	-0.04	0.05	0.25*	0.45*	-0.17*	-0.10*	-0.07	0.32*	0.33*	0.56*	0.34*	1															
Polity	-0.12*	0.13*	0.36*	0.65*	-0.18*	-0.09*	-0.09*	0.38*	0.37*	0.81*	0.35*	0.64*	1														
TrdGDP	-0.20*	0.22*	-0.09	-0.06	-0.17*	-0.25*	-0.07	0.28*	0.30*	-0.07	0.36*	-0.15*	-0.30*	1													
MktCpGDP	-0.02	0.12*	-0.30*	-0.09	-0.11*	-0.15*	-0.03	0.20*	0.23*	-0.05	0.26*	-0.01	-0.13*	0.64*	1												
GDPprCap	-0.29*	0.52*	0.30*	0.68*	-0.69*	-0.57*	-0.21*	0.78*	0.80*	0.72*	0.81*	0.31*	0.45*	0.23*	0.14*	1											
GovDbt	-0.07	0.13*	0.14*	0.10*	-0.16*	-0.24*	0.09*	0.09*	0.03	0.12*	0.03	0.06	0.12*	-0.09*	-0.25*	0.13*	1										
FinRsk	-0.10*	0.13*	-0.14*	-0.27*	-0.15*	-0.14*	-0.27*	-0.00	-0.00	-0.19*	0.05	-0.19*	-0.25*	0.23*	0.20*	0.03	-0.1	1									
PolRsk	-0.20*	0.34*	0.31*	0.54*	-0.58*	-0.42*	-0.26*	0.72*	0.80*	0.71*	0.78*	0.41*	0.43*	0.23*	0.12*	0.70*	-0.01	0.12*	1								
StkPVol	0.03	-0.06	0.07	-0.22*	0.25*	0.18*	0.33*	-0.30*	-0.32*	-0.21*	-0.32*	-0.07	-0.07	-0.13*	-0.08	-0.21*	0.09*	-0.18*	-0.25*	1							
MktLiq	0.03	0.09	-0.23*	0.02	-0.21*	-0.19*	-0.05	0.26*	0.25*	0.03	0.30*	0.04	-0.01	0.46*	0.83*	0.24*	-0.15*	0.12*	0.14*	0.01	1						
EqIndx	0.04	-0.08	-0.10*	-0.11*	0.12*	0.17*	- 0.06	-0.13*	-0.11*	-0.10*	-0.13*	-0.08	-0.07	-0.03	0.07	-0.18*	-0.01	0.03	-0.11*	0.11*	-0.02	1					
BusnsFrdm	-0.25*	0.50*	0.10*	0.54*	-0.51*	-0.45*	-0.09*	0.69*	0.73*	0.57*	0.74*	0.24*	0.34*	0.40*	0.30*	0.74*	0.05	-0.05	0.62*	-0.25*	0.31*	-0.13*	1				
FinFrdm	-0.12*	0.29*	0.25*	0.62*	-0.37*	-0.32*	-0.14*	0.67*	0.71*	0.67*	0.66*	0.35*	0.49*	0.25*	0.29*	0.64*	-0.20*	-0.17*	0.61*	-0.24*	0.29*	-0.11*	0.68*	1			
TrdFrdm	-0.28*	0.40*	0.31*	0.60*	-0.52*	-0.38*	-0.16*	0.62*	0.66*	0.50*	0.65*	0.21*	0.29*	0.33*	0.23*	0.81*	0.06	-0.01	0.56*	-0.18*	0.23*	-0.17*	0.64*	0.59*	1		
PropRight	-0.27*	0.45*	0.14*	0.62*	-0.60*	-0.58*	-0.19*	0.94*	0.92*	0.77*	0.91*	0.33*	0.42*	0.33*	0.24*	0.75*	0.01	0.00	0.76*	-0.29*	0.27*	-0.11*	0.74*	0.75*	0.60*	1	
FmEff	0.10*	-0.01	0.03	0.24*	-0.34*	-0.30*	-0.11*	0.27*	0.18*	0.18*	0.23*	0.12*	0.13*	-0.11*	-0.01	0.25*	0.20*	-0.00	0.12*	0.17*	0.38*	-0.18*	0.10*	0.05	0.10*	0.19*	1

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change;*NetIntMrgn*is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 5: The relation between central bank independence (*CBI*) and debt home bias (*DHB*) end debt foreign bias (*DFB*) measures.

This table shows the panel ***OLS regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\ CBI + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt})

	Model (1) **DHB**	**Model (2)** **DFB**
CBI	-0.297***	1.557***
	(-5.71)	(10.38)
IntRst	-0.016***	0.037***
	(-4.59)	(3.79)
NtIntMargn	0.025***	-0.129***
	(3.64)	(-6.44)
VocAct	-0.005***	0.004
	(-4.05)	(1.20)
GovEfc	0.003**	-0.003
	(1.99)	(-0.71)
Democ	0.001	-0.007
	(0.32)	(-1.27)
Polity	0.014***	-0.047***
	(2.73)	(-3.10)
Trade to GDP	-0.000	-0.002***
	(-0.93)	(-3.16)
GDPprCap	-0.128***	0.803***
	(-2.61)	(5.71)
GovDbt	0.000*	-0.001
	(1.88)	(-0.81)
FinRsk	-0.036***	0.094***
	(-3.31)	(3.02)
PolRsk	0.026	-0.091*
	(1.42)	(-1.73)
StkPVol	-0.000	0.001
	(-0.48)	(0.24)
PropRight	-0.002*	0.008***
	(-1.76)	(2.67)
BusinsFrdm	-0.002**	0.015***
	(-2.15)	(5.19)
FinFrdm	0.004***	-0.009***
	(4.64)	(-4.07)
TrdFrdm	-0.000	-0.010**
	(-0.00)	(-2.01)
FmEff	0.077**	-0.522***
	(2.58)	(-6.07)
Constant	0.858***	-4.235***
	(4.90)	(-8.39)
Number of Observations	397	397
Adj. R-Square	0.334	0.580
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 6: The relation between central bank transparency (*CBT*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures

This table shows the panel ***OLS regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\ CBT + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt})

	Model (1) **DHB**	**Model (2)** **DFB**
CBT	-0.017***	0.048**
	(-3.08)	(2.42)
IntRst	-0.011***	-0.007
	(-3.10)	(-0.57)
ExcgRt	-0.138	-0.141
	(-1.38)	(-0.40)
Rullaw	-0.004**	0.009
	(-2.17)	(1.42)
Coruptn	0.003	0.011*
	(1.61)	(1.70)
VocAct	-0.007***	0.010**
	(-4.64)	(2.01)
Democ	0.000	-0.008
	(0.03)	(-1.13)
Polity	0.013**	-0.048**
	(2.11)	(-2.26)
Trade to GDP	-0.001***	0.001
	(-4.77)	(0.85)
MktCp to gdp	0.001***	-0.003***
	(5.12)	(-3.36)
GovDbt	0.000	0.002
	(0.21)	(1.62)
FinRsk	-0.098***	0.200***
	(-7.98)	(4.56)
PolRsk	0.055**	-0.101
	(2.56)	(-1.33)
StkPVol	-0.002	0.016***
	(-1.63)	(3.80)
MrktLiq	-0.000	0.002
	(-1.44)	(1.51)
EqIndx	-0.000	-0.002**
	(-0.51)	(-2.29)
PropRight	0.001	-0.006
	(0.96)	(-1.27)
FmEff	0.115**	-0.745***
	(2.57)	(-4.66)
Constant	0.943***	-2.871***
	(5.86)	(-5.03)
Number of Observations	391	391
Adj. R-Square	0.300	0.340
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP*represents market capitalization, total value (% of GDP); *GDPprCap*represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 7: The relation between central bank independence (*CBI*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures

This table shows the panel ***Newey-west regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\ CBI + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms (ε_{lt}) or autocorrelation/heteroskedasticity

	Model (1) **DHB**	**Model (2)** **DFB**
CBI	-0.297***	1.557***
	(-3.74)	(5.07)
IntRst	-0.016***	0.037*
	(-3.22)	(1.75)
NtIntMargn	0.025***	-0.129***
	(2.90)	(-3.58)
VocAct	-0.005***	0.004
	(-2.90)	(0.89)
GovEfc	0.003	-0.003
	(1.59)	(-0.39)
Democ	0.001	-0.007*
	(0.70)	(-1.84)
Polity	0.014***	-0.047*
	(3.13)	(-1.92)
Trade to GDP	-0.000	-0.002*
	(-0.71)	(-1.67)
GDPprCap	-0.128**	0.803***
	(-2.00)	(3.24)
GovDbt	0.000	-0.001
	(1.33)	(-0.68)
FinRsk	-0.036*	0.094
	(-1.90)	(1.52)
PolRsk	0.026	-0.091
	(1.24)	(-1.05)
StkPVol	-0.000	0.001
	(-0.37)	(0.22)
PropRight	-0.002	0.008*
	(-1.22)	(1.74)
BusinsFrdm	-0.002	0.015***
	(-1.51)	(2.98)
FinFrdm	0.004**	-0.009**
	(2.46)	(-2.42)
TrdFrdm	-0.000	-0.010
	(-0.00)	(-1.10)
FmEff	0.077*	-0.522***
	(1.68)	(-3.59)
Constant	0.858***	-4.235***
	(2.90)	(-3.39)
Number of Observations	397	397
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 8: The relation between central bank trasparency (*CBT*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures

This table shows the panel ***Newey-west regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\ CBT + \ \beta\ Controls + Country\ and\ Year\ effects + \varepsilon_{lt}$$

The dependent variable debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms (ε_{lt}) or autocorrelation/heteroskedasticity.

	Model (1) **DHB**	**Model (2)** **DFB**
CBT	-0.017*	0.048
	(-1.96)	(1.09)
IntRst	-0.011**	-0.007
	(-2.05)	(-0.29)
ExcgRt	-0.138	-0.141
	(-1.09)	(-0.30)
Rullaw	-0.004**	0.009
	(-2.09)	(0.74)
Coruptn	0.003	0.011
	(1.23)	(0.67)
VocAct	-0.007***	0.010
	(-3.41)	(1.44)
Democ	0.000	-0.008
	(0.08)	(-1.50)
Polity	0.013**	-0.048
	(2.00)	(-1.57)
Trade to GDP	-0.001***	0.001
	(-2.92)	(0.52)
MktCp to gdp	0.001***	-0.003***
	(4.10)	(-2.85)
GovDbt	0.000	0.002
	(0.17)	(1.23)
FinRsk	-0.098***	0.200***
	(-3.74)	(2.63)
PolRsk	0.055**	-0.101
	(2.41)	(-0.78)
StkPVol	-0.002	0.016**
	(-1.26)	(2.03)
MrktLiq	-0.000	0.002
	(-1.37)	(1.34)
EqIndx	-0.000	-0.002**
	(-0.46)	(-1.97)
PropRight	0.001	-0.006
	(0.80)	(-0.77)
FmEff	0.115*	-0.745***
	(1.66)	(-2.97)
Constant	0.943***	-2.871***
	(3.50)	(-3.31)
Number of Observations	391	391
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Table 8. 9: Variance inflator factor (VIF) of other control variables

Variable	VIF	1/VIF
RulLaw	30.57	0.03272
Coruptn	24.54	0.04075
GovEfc	20.01	0.04998
VocAct	19.65	0.05088
PropRight	15.80	0.06328
Polity	8.10	0.12343
GDPprCap	7.75	0.12904
PolRsk	6.81	0.14686
TrdFrdm	3.70	0.27060
MrktLiq	3.58	0.27928
Intrst	3.57	0.28047
BusinsFrdm	3.52	0.28388
FinFrdm	3.25	0.30730
NtIntMargn	3.25	0.30794
FmEff	2.98	0.33595
MktCp to gdp	2.82	0.35418
trd_gdp	2.73	0.36614
FinRsk	2.11	0.47500
Democ	1.74	0.57440
GovDbt	1.58	0.63426
ExcgRt	1.55	0.64510
StkPVol	1.50	0.66700
Eqindx	1.23	0.80999
Mean VIF	7.49	

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn*is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom, *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP*represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

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Appendix

Appendix - 1: The relation between central bank independence (*CBI*) and cost of capital (CoC)measures

This table shows the ***Fixed effects regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta_1 CBI + \beta_k\ Controls + Country\ and\ year\ effects\ + \alpha l + u_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}), and unknown intercept for each country is (αl)

	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**
	HRRtn	**CERP**	**DivYld**	**CRRsk**
CBI	-0.019	-0.002	1.588	-0.354
	(-0.34)	(-0.13)	(0.77)	(-0.19)
IntRst	-0.001	0.001***	-0.036	0.295***
	(-0.96)	(5.35)	(-1.12)	(10.10)
NetIntMrgn	0.003	0.001**	0.030	0.009
	(1.24)	(2.28)	(0.42)	(0.12)
Infltn	0.000	0.000*	-0.016	0.001
	(0.46)	(1.94)	(-0.53)	(0.02)
PolStb	0.000	0.000***	-0.006	-0.028***
	(0.52)	(3.00)	(-0.79)	(-3.58)
FinRsk	0.008*	0.004***	-0.282*	-0.575***
	(1.77)	(2.86)	(-1.82)	(-3.70)
GDPgrowth	0.001	-0.000	-0.041*	-0.053**
	(1.07)	(-0.99)	(-1.72)	(-2.29)
MoneFrdm	0.001**	-0.000***	-0.020	-0.020
	(2.12)	(-2.72)	(-1.39)	(-1.45)
InvstFrdm	0.000	0.000	0.008	0.023***
	(0.60)	(0.78)	(0.88)	(2.60)
GovIntrgty	-0.001***	0.000	0.002	-0.005
	(-2.74)	(1.12)	(0.09)	(-0.28)
PropRight	-0.001**	-0.000	-0.009	-0.017
	(-2.27)	(-0.98)	(-0.56)	(-1.10)
EqIndx	0.000***	0.000	-0.012***	-0.002
	(4.22)	(0.48)	(-6.82)	(-1.45)
Zscore	0.001*	-0.000	0.013	0.018
	(1.91)	(-1.06)	(0.81)	(1.11)
FmEff	0.042***	-0.003	0.927**	-1.249***
	(3.57)	(-0.94)	(2.36)	(-3.22)
Constant	0.058	0.032	5.911*	11.531***
	(0.61)	(1.20)	(1.87)	(3.72)
Number of Observations	438	438	414	438
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix - 2: The relation between central bank independence (*CBI*) and cost of capital (CoC)measures

This table shows the ***Random effects regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta_1\, CBI + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- within country (u_{lt}), and error terms- between country (ε_{lt}).

	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**
	HRRtn	**CERP**	**DivYld**	**CRRsk**
CBI	-0.035	-0.007	-0.935	-2.352**
	(-0.85)	(-0.75)	(-1.45)	(-2.02)
IntRst	-0.001	0.001***	0.018	0.284***
	(-0.59)	(5.24)	(0.69)	(10.05)
NetIntMrgn	0.004*	0.002***	-0.053	0.036
	(1.89)	(2.80)	(-0.87)	(0.52)
Infltn	0.001	0.001***	-0.006	0.029
	(0.61)	(2.78)	(-0.21)	(1.01)
PolStb	0.000	0.000**	-0.006	-0.029***
	(1.06)	(2.36)	(-1.08)	(-4.10)
FinRsk	0.008*	0.002*	-0.212*	-0.616***
	(1.76)	(1.87)	(-1.92)	(-4.30)
GDPgrowth	0.001	-0.000	-0.043**	-0.055**
	(1.08)	(-0.65)	(-1.96)	(-2.38)
MoneFrdm	0.001*	-0.000***	-0.013	-0.023*
	(1.92)	(-3.09)	(-0.99)	(-1.71)
InvstFrdm	0.000	0.000	0.016**	0.015*
	(1.12)	(0.19)	(2.21)	(1.76)
GovIntrgty	-0.001***	-0.000	0.012	-0.040***
	(-2.72)	(-0.74)	(1.13)	(-2.91)
PropRight	-0.001*	-0.000***	-0.028**	-0.040***
	(-1.84)	(-2.59)	(-2.51)	(-2.93)
EqIndx	0.000***	0.000	-0.012***	-0.002
	(4.20)	(0.47)	(-6.94)	(-1.25)
Zscore	0.001	-0.000	0.005	0.002
	(1.44)	(-1.37)	(0.36)	(0.14)
FmEff	0.038***	-0.003	0.145	-1.361***
	(3.29)	(-1.13)	(0.51)	(-3.74)
Constant	0.026	0.085***	6.982***	18.160***
	(0.35)	(4.58)	(4.09)	(8.05)
Number of Observations	438	438	414	438
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix - 3: The relation between central bank transparency (*CBT*) and cost of capital (CoC)measures

This table shows the ***Fixed effects regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta_1 CBT + \beta_k\ Controls + Country\ and\ year\ effects\ + \alpha l + u_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}), and unknown intercept for each country is (αl)

	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**
	HRRtn	**CERP**	**DivYld**	**CRRsk**
CBT	0.003	0.000	0.059	-0.167*
	(1.22)	(0.24)	(0.82)	(-1.76)
Infltn	-0.001	0.000	0.007	-0.072***
	(-1.05)	(1.49)	(0.41)	(-2.88)
NetIntMrgn	0.006***	0.001*	0.070	0.045
	(3.19)	(1.96)	(1.12)	(0.53)
FinRsk	0.015***	0.001	-0.230	-0.420**
	(3.39)	(0.57)	(-1.58)	(-2.14)
GDPgrowth	0.001	-0.000	-0.083***	-0.004
	(0.98)	(-0.40)	(-3.41)	(-0.13)
MrktCpGDP	0.000***	-0.000	-0.001	-0.004***
	(2.86)	(-1.27)	(-1.04)	(-3.09)
StkPVol	0.000	0.000	-0.017**	-0.006
	(0.07)	(0.11)	(-2.05)	(-0.52)
BusnsFrdm	0.000	0.000	0.026***	0.010
	(1.32)	(1.28)	(3.04)	(0.89)
GovDbt	0.000	-0.000	-0.011***	0.067***
	(1.53)	(-1.37)	(-2.70)	(11.80)
InvstFrdm	0.000	-0.000	0.015*	-0.014
	(1.09)	(-1.48)	(1.83)	(-1.23)
MoneFrdm	0.001***	-0.001***	-0.015	-0.036**
	(2.97)	(-4.56)	(-1.17)	(-2.05)
FmAcc	0.031	-0.029***	-1.029	-0.700
	(1.28)	(-3.54)	(-1.30)	(-0.66)
FmEff	0.032***	-0.005	2.005***	-0.722
	(2.89)	(-1.41)	(5.47)	(-1.48)
Constant	-0.270***	0.126***	3.022	10.111***
	(-3.98)	(5.49)	(1.33)	(3.39)
Number of Observations	465	465	442	465
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix - 4: The relation between central bank transparency (*CBT*) and cost of capital (CoC)measures

This table shows the ***Random effects regression*** result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta_1\, CBT + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- within country (u_{lt}), and error terms- between country (ε_{lt}).

	Model (1)	**Model (2)**	**Model (3)**	**Model (4)**
	HRRtn	**CERP**	**DivYld**	**CRRsk**
CBT	-0.000	-0.001	-0.060	-0.386***
	(-0.06)	(-1.37)	(-1.17)	(-4.69)
Infltn	-0.001	0.000**	0.004	-0.074**
	(-0.96)	(2.01)	(0.25)	(-2.55)
NetIntMrgn	0.009***	0.002***	0.048	0.260***
	(4.38)	(3.42)	(0.86)	(2.85)
FinRsk	0.010**	-0.001	-0.203*	-1.108***
	(2.35)	(-0.40)	(-1.77)	(-5.78)
GDPgrowth	0.001	-0.000	-0.083***	0.040
	(1.20)	(-0.11)	(-3.50)	(1.06)
MrktCpGDP	0.000***	-0.000	-0.001	-0.002**
	(2.67)	(-1.13)	(-1.02)	(-2.03)
StkPVol	0.000	0.000	-0.016**	0.007
	(0.08)	(0.31)	(-2.06)	(0.55)
BusnsFrdm	0.000	0.000	0.020**	-0.012
	(0.84)	(0.37)	(2.57)	(-0.92)
GovDbt	0.000	-0.000	-0.009***	0.044***
	(1.43)	(-0.52)	(-3.14)	(8.73)
InvstFrdm	0.000	-0.000**	0.011	-0.023**
	(0.55)	(-2.13)	(1.59)	(-2.02)
MoneFrdm	0.001*	-0.001***	-0.018	-0.096***
	(1.78)	(-5.47)	(-1.53)	(-5.01)
FmAcc	0.029	-0.016**	-0.823	-0.913
	(1.31)	(-2.46)	(-1.50)	(-0.98)
FmEff	0.026**	-0.007**	1.277***	-1.779***
	(2.31)	(-2.13)	(4.18)	(-3.56)
Constant	-0.155**	0.150***	5.110***	25.531***
	(-2.34)	(7.51)	(2.85)	(8.81)
Number of Observations	465	465	442	465
Adj. R-Square				
Country_effects	Yes	Yes	Yes	Yes
Year_effects	Yes	Yes	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix – 5 : The relation between central bank independence (*CBI*) and cost of capital (CoC) measures

This table shows the ***generalised method of moments (GMM)*** regression result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta\, CBI \; + \beta\, Controls \; + \text{Country and year effects} + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) , unknow intercept for each country is (αl) and $\rho_{y_{lt}}$ = is the lag for dependent variable Y.

	Model (1) HRRtn	Model (2) CERP	Model (3) DivYld	Model (4) CRRsk
L.HRRtn	0.859**			
	(19.82)			
L.CERP		0.892**		
		(5.60)		
L.DivYld			0.257*	
			(2.55)	
L.CRRsk				0.923**
				(24.01)
CBI	-0.002	0.002	-0.735	-0.045
	(-0.19)	(0.39)	(-0.87)	(-0.11)
IntRst	0.000	0.000	0.030	0.062
	(0.39)	(0.88)	(0.78)	(1.18)
NetIntMrgn	0.004*	-0.000	-0.113	-0.098
	(2.02)	(-0.02)	(-1.41)	(-1.37)
Infltn	0.000	0.000	-0.005	0.062*
	(0.03)	(0.43)	(-0.10)	(1.75)
PolStb	0.000	0.000	-0.002	-0.002
	(0.56)	(1.56)	(-0.28)	(-0.58)
FinRsk	0.001	0.001	-0.239	-0.046
	(0.30)	(1.19)	(-1.10)	(-0.41)
GDPgrowth	-0.000	0.000	-0.019	-0.097**
	(-0.87)	(1.16)	(-0.31)	(-3.21)
MoneFrdm	-0.000	0.000	-0.018	0.026*
	(-1.15)	(0.28)	(-0.87)	(1.87)
InvstFrdm	0.000	0.000	0.013	0.001
	(0.57)	(0.02)	(1.20)	(0.18)
GovIntrgty	0.000	-0.000	0.012	-0.013
	(0.98)	(-0.31)	(0.78)	(-1.47)
PropRight	-0.000	-0.000	-0.023	-0.000
	(-0.78)	(-0.19)	(-1.27)	(-0.03)
EqIndx	0.000**	0.000	-0.008	0.001
	(3.24)	(1.18)	(-1.57)	(0.25)
Zscore	-0.000	0.000	0.005	-0.007
	(-0.91)	(0.44)	(0.25)	(-0.59)
FmEff	0.003	-0.000	-0.203	0.069
	(0.77)	(-0.23)	(-0.39)	(0.41)
Constant	0.003	-0.002	6.549*	-0.755
	(0.08)	(-0.09)	(2.44)	(-0.42)
No of observation	403	403	376	403
No of instrument	50	50	50	50
AR1 (P-value)	0.090	0.001	0.000	0.001
AR2 (P-value)	0.211	0.929	0.024	0.423
Hansen J (P-value)	0.755	0.875	0.216	0.763
Hansen J Statistics	19	16	29	19
Sargan (P-value)	0.000	0.000	0.000	0.000
Sargan Statistics	390	433	421	404
Year_effects	403	403	376	403

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change,*MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix -6 : The relation between central bank transparency (*CBT*) and cost of capital (CoC)measures

This table shows the ***generalised method of moments (GMM)*** regression result for the period from 2001 to 2014.

$$CoC_{lt} = a + \beta\, CBT\ + \beta\, Controls + \text{Country and year effects} + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable cost of capital (CoC_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) , unknow intercept for each country is (αl) and $\rho_{y_{lt}}$ = is the lag for dependent variable Y.

	Model (1) HRRtn	Model (2) CERP	Model (3) DivYld	Model (4) CRRsk
L.HRRtn	0.877**			
	(17.83)			
L.CERP		0.745**		
		(3.35)		
L.DivYld			0.244	
			(1.53)	
L.CRRsk				0.911**
				(26.08)
CBT	-0.000	-0.000	-0.030	-0.032
	(-0.36)	(-0.51)	(-0.45)	(-0.88)
Infltn	0.000	0.001**	0.001	-0.001
	(0.51)	(3.24)	(0.02)	(-0.04)
NetIntMrgn	0.003*	0.000	-0.106	-0.076
	(1.84)	(0.57)	(-1.01)	(-1.20)
FinRsk	0.002	0.001	-0.078	-0.076
	(0.83)	(0.78)	(-0.35)	(-0.58)
GDPgrowth	0.000	0.000	-0.074	-0.072*
	(0.36)	(1.43)	(-1.48)	(-2.17)
MrktCpGDP	0.000*	-0.000	0.000	0.000
	(2.00)	(-1.17)	(0.40)	(0.57)
StkPVol	-0.000	0.000	-0.008	0.046**
	(-0.42)	(1.13)	(-0.35)	(3.12)
BusnsFrdm	-0.000	0.000	0.004	0.009
	(-0.47)	(1.25)	(0.15)	(0.98)
GovDbt	0.000	0.000	-0.007*	0.003
	(1.14)	(0.93)	(-1.75)	(0.95)
InvstFrdm	0.000	0.000	0.012	0.002
	(0.47)	(0.08)	(0.65)	(0.33)
MoneFrdm	-0.000*	-0.000	-0.026	-0.010
	(-1.72)	(-0.87)	(-0.95)	(-0.61)
FmAcc	0.003	-0.002	-2.933	-3.151
	(0.47)	(-0.68)	(-0.49)	(-1.45)
FmEff	-0.000	-0.005*	-0.299	-1.326
	(-0.03)	(-2.31)	(-0.39)	(-1.65)
Constant	0.027	0.016	6.961**	3.072
	(1.05)	(0.48)	(2.95)	(1.62)
No of observation	433	433	406	433
No of instrument	55	55	55	55
AR1 (P-value)	0.081	0.017	0.001	0.000
AR2 (P-value)	0.700	0.189	0.333	0.034
Hansen J (P-value)	0.996	0.870	0.690	0.966
Hansen J Statistics	12	20	24	16
Sargan (P-value)	0.000	0.000	0.000	0.000
Sargan Statistics	414	437	442	421
Year_effects	433	433	406	433

* p<0.10, ** p<0.05, *** p<0.01

Note: *HRRtn* is the historical rate of return is the growth rate of annual average stock market index;*CERP* is the country equity risk premium based on adding the sovereign risk default premium to the equity risk premium of a base country (The united states); *DivYld* is the dividend yield measured at the total amount of stock dividend of a country as a percentage of the market capitalization of the country ; *CRRsk* is the Sovereign Credit rating-based risk converted to numbers (is a scaled 1-22 , higher score is more risk); *CBI* is the central bank independent index (higher of % is higher degree of independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRst* is interest rate, an yearly percentage change;*NetIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *Infltn* is inflation , an yearly percentage change ; *PolStb* represent political stability, data from world bank's WGI; *FinRsk* represents financial risk, index developed by PRS(ICRG); *BusnsFrdm* represents business freedom , *InvstFrdm* represents investment freedom , *MoneFrdm* represents monetary freedom,*GovIntgrty* represents government integrity, and *PropRight* represents property right, index data developed by Heritage foundation; *FmEff* is the financial market efficiency; and *FmAcc* is the financial market access index, developed by IMF ; *GDPgro* represents GDP growth an yearly percentage change, *MrktCpGDP* represents market capitalization to GDP (% of GDP), *GovDbt* represents government debt to GDP (% of GDP);*StkPVol* represents stock price volatility, and *Zscore* represents Altman's banking z score, data from Bankscope and world bank database ; *EqIndx* represents S & P equity index .

Appendix-7 : The relation between central bank independence (*CBI*) and equity home bias (*EHB)* and equity foreign bias (*EFB*) measures.

This table shows the ***fixed effect regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1 CBI + \beta_k \, Controls + Country \, and \, year \, effects + \alpha l + u_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}), and unknown intercept for each country is (αl).

	Model (1) **EHB**	**Model (2)** **EFB**
CBI	0.163	0.252
	(0.69)	(0.59)
Intrst	0.007**	-0.008
	(1.98)	(-1.30)
PolStb	-0.000	-0.004**
	(-0.06)	(-2.20)
RegQlt	0.001	0.002
	(0.31)	(0.37)
VocAct	0.004	-0.030***
	(1.61)	(-7.16)
FinRsk	0.040**	-0.055
	(2.11)	(-1.64)
GovIntgrt	0.006**	-0.004
	(2.54)	(-0.99)
BusinsFrdm	-0.003***	-0.000
	(-2.68)	(-0.10)
MoneFrdm	0.005***	-0.001
	(2.85)	(-0.37)
Zscore	0.003	0.001
	(1.44)	(0.20)
Trade to GDP	-0.000	0.001
	(-0.79)	(0.89)
GDPgro	0.001	-0.006
	(0.38)	(-1.19)
FmAcc	-0.161*	0.196
	(-1.67)	(1.13)
Constant	-1.329***	2.650***
	(-3.23)	(3.55)
Number of Observations	408	398
Adj. R-Square		
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Appendix-8 : The relation between central bank independence (*CBI*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the ***random effect regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1\, CBI + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- within country (u_{lt}), and error terms- between country (ε_{lt}).

	Model (1) **EHB**	**Model (2)** **EFB**
CBI	-0.024	0.698**
	(-0.19)	(2.06)
Intrst	0.005	-0.003
	(1.53)	(-0.45)
PolStb	-0.001	-0.000
	(-0.87)	(-0.20)
RegQlt	-0.001	0.010**
	(-0.27)	(2.22)
VocAct	-0.001	-0.008**
	(-0.75)	(-1.98)
FinRsk	0.010	-0.016
	(0.59)	(-0.46)
GovIntgrt	0.001	0.008**
	(0.39)	(1.99)
BusinsFrdm	-0.003***	0.003
	(-3.25)	(1.37)
MoneFrdm	0.004**	0.004
	(2.23)	(1.07)
Zscore	0.002	0.002
	(1.05)	(0.40)
Trade to GDP	-0.000	0.001
	(-0.94)	(0.74)
GDPgro	0.005*	-0.018***
	(1.75)	(-3.24)
FmAcc	-0.068	0.275
	(-0.86)	(1.56)
Constant	-0.041	-2.025***
	(-0.16)	(-3.39)
Number of Observations	408	398
Adj. R-Square		
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Appendix – 9 : The relation between central bank transparency (*CBT*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the panel ***fixed effects regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1\, CBT + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}) , and unknown intercept for each country is (αl).

	Model (1) **EHB**	**Model (2)** **EFB**
CBT	-0.005	0.119***
	(-0.91)	(9.07)
ExcgRt	-0.104*	0.405***
	(-1.80)	(3.21)
PolStb	0.000	-0.002
	(0.19)	(-1.55)
RegQlt	0.001	-0.001
	(0.76)	(-0.24)
VocAct	0.001	-0.017***
	(0.50)	(-4.75)
FinRsk	0.002	-0.020
	(0.16)	(-0.73)
GovIntgrt	0.001	-0.002
	(0.58)	(-0.72)
Zscore	0.001	-0.004
	(0.89)	(-1.18)
Trade to GDP	-0.000	-0.001
	(-0.41)	(-1.26)
MrktLiq	0.000*	-0.000
	(1.96)	(-1.16)
InvstFrdm	-0.001	-0.001
	(-1.44)	(-0.37)
FmAcc	-0.056	-0.036
	(-0.77)	(-0.23)
Constant	-0.147	0.648
	(-0.71)	(1.40)
Number of Observations	415	404
Adj. R-Square		
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom,*InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Appendix – 10 : The relation between central bank transparency (*CBT*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the ***random effect regression*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1\, CBT + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- within country (u_{lt}), and error terms- between country (ε_{lt}).

	Model (1) **EHB**	**Model (2)** **EFB**
CBT	-0.009*	0.130***
	(-1.86)	(10.43)
ExcgRt	-0.126**	0.479***
	(-2.22)	(3.60)
PolStb	-0.000	-0.000
	(-0.72)	(-0.11)
RegQlt	0.001	0.003
	(0.71)	(0.81)
VocAct	-0.001	-0.009***
	(-1.09)	(-2.80)
FinRsk	-0.009	0.000
	(-0.75)	(0.01)
GovIntgrt	-0.001	0.006*
	(-0.99)	(1.69)
Zscore	0.001	-0.003
	(0.62)	(-0.99)
Trade to GDP	-0.000	-0.001
	(-1.20)	(-0.68)
MrktLiq	0.000**	-0.000
	(2.44)	(-1.56)
InvstFrdm	-0.001**	0.000
	(-1.97)	(0.13)
FmAcc	-0.040	0.059
	(-0.65)	(0.37)
Constant	0.331**	-1.283***
	(2.52)	(-3.26)
Number of Observations	415	404
Adj. R-Square	0.406	0.610
Country effects	Yes	Yes
Year effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom,*InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Appendix - 11: The relation between central bank independence (*CBI*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the ***generalised method of moments (GMM)*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1 CBI + \beta_k\, Controls + Country\ and\ year\ effects + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}) , and unknown intercept for each country is (αl), and ($\rho_{y_{lt}} - 1$) is the lag for dependent variable *EHB*

	Model (1) **EHB**	**Model (2)** **EFB**
L.EHB	0.848*	
	(2.35)	
L.EFB		0.718**
		(6.32)
CBI	-0.635	0.744
	(-0.97)	(1.52)
Intrst	0.013	-0.029
	(0.56)	(-0.40)
PolStb	0.000	0.002
	(0.17)	(0.50)
RegQlt	0.004	-0.017
	(0.95)	(-0.81)
VocAct	-0.000	-0.003
	(-0.07)	(-0.71)
FinRsk	0.020	-0.063
	(0.57)	(-0.52)
GovIntgrt	-0.003	0.002
	(-0.63)	(0.53)
BusinsFrdm	0.001	0.009
	(0.21)	(0.46)
MoneFrdm	0.002	0.047
	(0.36)	(1.58)
Zscore	-0.008	0.000
	(-1.40)	(0.07)
Trade to GDP	-0.000	0.000
	(-0.25)	(0.05)
GDPgro	-0.003	-0.007
	(-0.13)	(-0.24)
FmAcc	-0.021	0.039
	(-0.11)	(0.22)
Constant	-9.951	-3.074
	(-0.51)	(-1.54)
No of observation	322	313
No of instrument	48	48
AR1 (P-value)	0.106	0.017
AR2 (P-value)	0.340	0.150
Hansen J (P-value)	0.996	0.732
Hansen J Statistics	9	18
Sargan (P-value)	0.000	0.000
Sargan Statistics	192	131

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom, *InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects.

Appendix- 12: The relation between central bank transparency (*CBT*) and equity home bias (*EHB*) and equity foreign bias (*EFB*) measures.

This table shows the ***generalised method of moments (GMM)*** result for the period from 2001 to 2014.

$$EHB_{lt} = a + \beta_1 CBT + \beta_k\ Controls + Country\ and\ year\ effects + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable Equity home bias (EHB_{lt}) measure of country *l* at the time *t*, error terms- between country (ε_{lt}), and unknown intercept for each country is (αl), and ($\rho_{y_{lt}} - 1$) is the lag for dependent variable *EHB*

	Model (1) **EHB**	**Model (2)** **EFB**
L.EHB	0.976**	
	(6.37)	
L.EFB		0.985**
		(38.17)
CBT	-0.001	0.000
	(-0.63)	(0.01)
ExcgRt	-0.075	0.483
	(-1.05)	(1.15)
PolStb	-0.000	0.000
	(-0.38)	(0.12)
RegQlt	0.000	0.003*
	(0.46)	(1.94)
VocAct	0.000	-0.001
	(0.73)	(-0.52)
FinRsk	0.000	0.020
	(0.04)	(0.84)
GovIntgrt	-0.000	-0.001
	(-0.68)	(-0.78)
Zscore	-0.000	-0.001
	(-0.07)	(-0.68)
Trade to GDP	0.000	-0.000
	(0.10)	(-0.08)
MrktLiq	0.000	-0.000*
	(0.89)	(-1.90)
InvstFrdm	-0.000	-0.000
	(-1.00)	(-0.45)
FmAcc	0.003	-0.012
	(0.10)	(-0.25)
Constant	0.020	-0.143
	(0.24)	(-0.58)
No of observation	378	368
No of instrument	54	54
AR1 (P-value)	0.280	0.007
AR2 (P-value)	0.391	0.131
Hansen J (P-value)	0.999	0.980
Hansen J Statistics	10	15
Sargan (P-value)	0.000	0.000
Sargan Statistics	406	84

* p<0.10, ** p<0.05, *** p<0.01

Note: *EHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *EFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change ; *ExcgRt* is the currency exchange rate ; *PolStb* represent political stability, *RegQlt* represents regulatory quality and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk index developed by PRS(ICRG); *GovIntgrt* represents government integrity , *BusinsFrdm* represents business freedom,*InvstFrdm* represents investment freedom and *MoneFrdm* represents monetary freedom index data developed by Heritage foundation; *Zscore* represents banking sector strength, which is built out of the five weighted financial ratios; *FmAcc* is the financial market access index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *GDPgro* represents yearly growth (%);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Polity* represents level of democracy in a country, data index of CSP, polity projects

Appendix-13 : The relation between central bank independence (*CBI*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures.

This table shows the ***fixed effects regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta_1 CBI + \beta_k\ Controls + Country\ and\ year\ effects\ + \alpha l + u_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) and unknow intercept for each country is (αl)

	Model (1) **DHB**	**Model (2)** **DFB**
CBI	-0.260*	0.497*
	(-1.71)	(1.81)
IntRst	-0.002	0.002
	(-1.00)	(0.46)
NtIntMargn	0.005	-0.013
	(0.92)	(-1.25)
VocAct	-0.002	-0.006**
	(-1.00)	(-2.03)
GovEfc	-0.002	0.001
	(-1.13)	(0.32)
Democ	0.001	-0.003
	(1.10)	(-1.42)
Polity	-0.001	0.016
	(-0.07)	(0.93)
Trade to GDP	-0.000	-0.001
	(-0.27)	(-0.73)
GDPprCap	0.015	0.012
	(0.28)	(0.12)
GovDbt	0.000	-0.001
	(0.53)	(-1.63)
FinRsk	-0.010	0.044*
	(-0.80)	(1.88)
PolRsk	-0.012	-0.008
	(-0.53)	(-0.19)
StkPVol	0.002**	0.000
	(2.54)	(0.12)
PropRight	-0.001	0.004
	(-0.79)	(1.61)
BusinsFrdm	-0.001	0.003*
	(-1.37)	(1.96)
FinFrdm	-0.001	-0.001
	(-1.00)	(-0.58)
TrdFrdm	-0.001	-0.005*
	(-0.62)	(-1.92)
FmEff	-0.052*	0.063
	(-1.65)	(1.11)
Constant	0.733**	-0.483
	(1.97)	(-0.72)
Number of Observations	397	397
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Appendix- 14 : The relation between central bank independence (*CBI*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures.

This table shows the ***random effects regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta_1\, CBI + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- between country (u_{lt}) and error terms- within country (ε_{lt})

	Model (1) **DHB**	**Model (2)** **DFB**
CBI	-0.296***	0.923***
	(-2.73)	(3.76)
IntRst	-0.003	0.006
	(-1.32)	(1.26)
NtIntMargn	0.006	-0.019*
	(1.07)	(-1.73)
VocAct	-0.001	-0.003
	(-1.02)	(-1.08)
GovEfc	-0.000	0.003
	(-0.25)	(1.00)
Democ	0.001	-0.003
	(0.98)	(-1.59)
Polity	0.004	0.007
	(0.53)	(0.50)
Trade to GDP	-0.000	0.000
	(-0.69)	(0.19)
GDPprCap	0.023	0.146
	(0.47)	(1.51)
GovDbt	0.000	-0.001
	(0.72)	(-1.04)
FinRsk	-0.018	0.049**
	(-1.51)	(2.02)
PolRsk	0.001	0.045
	(0.06)	(1.09)
StkPVol	0.001**	0.001
	(2.19)	(0.43)
PropRight	-0.001	0.007***
	(-0.63)	(2.73)
BusinsFrdm	-0.001	0.003**
	(-1.36)	(2.12)
FinFrdm	-0.000	-0.000
	(-0.63)	(-0.26)
TrdFrdm	-0.001	-0.006**
	(-0.43)	(-2.02)
FmEff	-0.035	0.028
	(-1.18)	(0.48)
Constant	0.454**	-2.398***
	(2.22)	(-5.16)
Number of Observations	397	397
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom, *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Appendix- 15 : The relation between central bank transparency (*CBT*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures.

This table shows the ***fixed effects regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta_1 CBT + \beta_k \, Controls + Country \; and \; year \; effects + \alpha l + u_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) and unknow intercept for each country is (αl)

	Model (1) **DHB**	**Model (2)** **DFB**
CBT	-0.022***	0.020*
	(-3.20)	(1.77)
IntRst	-0.001	0.005
	(-0.33)	(1.17)
ExcgRt	-0.118*	0.307***
	(-1.77)	(2.80)
Rullaw	-0.000	-0.006*
	(-0.01)	(-1.90)
Coruptn	0.004**	0.000
	(2.48)	(0.01)
VocAct	-0.003	-0.002
	(-1.36)	(-0.58)
Democ	0.001	-0.002
	(0.85)	(-1.00)
Polity	-0.001	0.069***
	(-0.07)	(3.52)
Trade to GDP	0.000	-0.000
	(0.60)	(-0.10)
MktCp to gdp	-0.000	-0.000
	(-0.04)	(-0.28)
GovDbt	0.000	-0.000
	(0.55)	(-0.27)
FinRsk	-0.016	0.076***
	(-1.02)	(2.88)
PolRsk	-0.029	0.062
	(-1.15)	(1.50)
StkPVol	0.002**	-0.001
	(2.54)	(-0.56)
MrktLiq	-0.000	-0.000
	(-0.64)	(-0.57)
EqIndx	-0.000	-0.000
	(-0.98)	(-0.09)
PropRight	-0.001	0.001
	(-0.63)	(0.27)
FmEff	-0.026	0.103
	(-0.59)	(1.40)
Constant	0.331	-1.401***
	(1.04)	(-2.68)
Number of Observations	391	391
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the debt home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the debt foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn* is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Appendix- 16 : The relation between central bank transparency (*CBT*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures.

This table shows the ***random effects regression*** result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta_1\, CBT + \beta_k\, Controls + Country\ and\ year\ effects + \alpha l + u_{lt} + \varepsilon_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, unknown intercept for each country is (αl), error terms- between country (u_{lt}) and error terms- within country (ε_{lt})

	Model (1) **DHB**	**Model (2)** **DFB**
CBT	-0.019***	0.024**
	(-3.11)	(2.16)
IntRst	-0.002	0.006
	(-0.68)	(1.34)
ExcgRt	-0.117*	0.294***
	(-1.76)	(2.62)
rullaw	-0.000	-0.004
	(-0.16)	(-1.28)
Coruptn	0.004**	0.002
	(2.46)	(0.65)
VocAct	-0.003*	-0.001
	(-1.89)	(-0.42)
Democ	0.001	-0.002
	(0.85)	(-1.07)
Polity	0.004	0.055***
	(0.52)	(3.17)
Trade to GDP	-0.000	0.001
	(-1.04)	(0.67)
MktCp to gdp	0.000	-0.000
	(0.31)	(-0.23)
GovDbt	0.000	0.000
	(0.49)	(0.03)
FinRsk	-0.026*	0.080***
	(-1.77)	(3.03)
PolRsk	-0.022	0.077*
	(-0.97)	(1.85)
StkPVol	0.002**	-0.000
	(2.01)	(-0.25)
MrktLiq	-0.000	-0.000
	(-0.61)	(-0.44)
EqIndx	-0.000	-0.000
	(-0.92)	(-0.22)
PropRight	-0.001	0.002
	(-0.75)	(0.71)
FmEff	0.001	0.080
	(0.02)	(1.07)
Constant	0.427**	-1.958***
	(2.13)	(-4.35)
Number of Observations	391	391
Adj. R-Square		
Country_effects	Yes	Yes
Year_effects	Yes	Yes

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn*is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom, *FinFrdm* represents financial freedom , and*TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP* represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap*represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Appendix-17 : The relation between central bank independence (*CBI*) and Debt home bias (*DHB*) and Debt foreign bias (*DFB*) measures.

This table shows the ***generalised method of moments (GMM)*** regression result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\, CBI\ + \beta\, Controls\ + \text{Country and year effects} + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) ,unknow intercept for each country is (αl) and $\rho_{y_{lt}}$ = is the lag for dependent variable Y.

	Model (1) **DHB**	**Model (2)** **DFB**
L.DHB	0.882**	
	(9.79)	
L.DFB		0.992**
		(10.70)
CBI	-0.048*	0.007
	(-1.86)	(0.04)
IntRst	-0.005*	0.012
	(-1.88)	(1.45)
NetIntMargn	0.002	-0.010
	(0.73)	(-0.52)
VocAct	0.000	-0.002
	(0.36)	(-1.14)
GovEfc	-0.001	0.001
	(-0.92)	(0.55)
Democ	0.001**	-0.002
	(3.24)	(-1.39)
Polity	-0.000	0.009
	(-0.06)	(1.30)
Trade to GDP	0.000	-0.000
	(1.55)	(-0.69)
GDPprCap	0.002	0.048
	(0.08)	(0.38)
GovDbt	-0.000	-0.000
	(-0.10)	(-0.67)
FinRsk	-0.004	-0.000
	(-0.56)	(-0.00)
PolRsk	-0.002	0.001
	(-0.23)	(0.04)
StkPVol	-0.001	-0.000
	(-1.11)	(-0.37)
PropRight	-0.000	0.000
	(-0.26)	(0.14)
BusinsFrdm	-0.000	0.001
	(-0.79)	(1.05)
FinFrdm	0.000	-0.002*
	(0.84)	(-1.84)
TrdFrdm	-0.001	0.001
	(-0.47)	(0.16)
FmEff	0.013	-0.010
	(0.73)	(-0.22)
Constant	0.570	5.195
	(0.19)	(0.52)
No of observation	362	362
No of instrument	54	54
AR1 (P-value)	0.281	0.024
AR2 (P-value)	0.332	0.312
Hansen J (P-value)	0.999	0.919
Hansen J Statistics	8	15
Sargan (P-value)	0.000	0.000
Sargan Statistics	357	362

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn*is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP*represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.

Appendix- 18 : The relation between central bank transparency (*CBT*) and debt home bias (*DHB*) and debt foreign bias (*DFB*) measures.

This table shows ***the generalised method of moments (GMM)*** regression result for the period from 2001 to 2014.

$$DHB_{lt} = a + \beta\, CBT\ + \beta\, Controls\ + \text{Country and year effects} + \rho_{y_{lt}} - 1 + \alpha_l + u_{lt}$$

The dependent variable Debt home bias (DHB_{lt}) measure of country *l* at the time *t*, error terms- between country (u_{lt}) , unknow intercept for each country is (αl) and $\rho_{y_{lt}}$ = is the lag for dependent variable Y.

	Model (1) **DHB**	**Model (2)** **DFB**
L.DHB	0.861**	
	(6.25)	
L.DFB		0.950**
		(12.17)
CBT	-0.005	0.037
	(-0.75)	(0.52)
IntRst	-0.001	0.004
	(-0.38)	(0.45)
ExcgRt	0.017	0.886
	(0.14)	(0.40)
rullaw	-0.002	0.011
	(-1.14)	(0.56)
Coruptn	0.001	-0.001
	(0.96)	(-0.19)
VocAct	0.000	-0.004
	(0.53)	(-1.10)
Democ	0.001*	-0.002*
	(2.60)	(-2.01)
Polity	-0.001	-0.002
	(-0.31)	(-0.11)
Trade to GDP	-0.000	-0.000
	(-0.01)	(-0.98)
MktCp to gdp	0.000	-0.001
	(1.29)	(-0.56)
GovDbt	-0.000	0.000
	(-0.80)	(0.29)
FinRsk	-0.014	0.082
	(-1.10)	(0.52)
PolRsk	-0.001	0.027
	(-0.04)	(0.61)
StkPVol	-0.002	0.006
	(-1.15)	(0.94)
MrktLiq	-0.001	0.003
	(-1.11)	(0.60)
EqIndx	0.000	-0.001
	(0.38)	(-0.86)
PropRight"	0.000	-0.006
	(0.17)	(-0.49)
FmEff	0.169	-0.715
	(1.06)	(-0.65)
Constant	0.138	-0.886
	(1.14)	(-0.57)
No of observation	359	359
No of instrument	60	60
AR1 (P-value)	0.297	0.090
AR2 (P-value)	0.368	0.942
Hansen J (P-value)	1.000	0.981
Hansen J Statistics	5	15
Sargan (P-value)	0.000	0.000
Sargan Statistics	352	349
Year_effects	359	359

* p<0.10, ** p<0.05, *** p<0.01

Note: *DHB* is the equity home bias relative to the ICAPM benchmark weight (details in chapter 4, data construction) ; *DFB* is the equity foreign bias relative to the ICAPM benchmark weight(details in chapter 4, data construction) ;*CBI* is the central bank independent index (higher of % is enjoying high independence) ; *CBT* is the central bank transparency index (is a scaled 1-15 , higher score is more transparent) ; *IntRt* is the following year rate of interest percentage change; *NtIntMrgn*is represents net interest margin (lending rate less deposit rate), WB data ; *ExcgRt* is the currency exchange rate ;*GovEfc* represent government efficiency, *RulLaw* represents rule of law, *Coruptn* represents level of corruption and *VocAct* represents voice and accountability, of world bank's WGI; *FinRsk* represents financial risk, and *PolRsk* represents political risk index developed by PRS(ICRG); *PropRight* represents property right , *BusinsFrdm* represents business freedom , *FinFrdm* represents financial freedom , and *TrdFrdm* represents trade freedom, index data developed by Heritage foundation; *FmEff* is the financial market efficiency index, developed by IMF ; *Trade to GDP*represents value of international trade (% of GDP); *MrktCpGDP* represents market capitalization, total value (% of GDP); *GDPprCap* represents GDP per capita (% of GDP);*MrktLiq* represents stock market liquidity traded, total value (% of GDP); *Democ* represents level of democracy in a country *Polity* represents level of political stability in a country, data index of CSP, polity projects. *EqIndx* represents S & P equity index; *StkPVol* represents stock price volatility.