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Li, Hongyu (2022) *The impact of political institutions on the risk of foreign banks in Europe.* MPhil(R) thesis.

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The impact of political institutions on the risk of foreign banks in Europe

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Word Count: 27320 words

Abstract

This thesis uses data on 899 commercial banks and macroeconomic variables for a total of 28 countries in the EU for the period 2000-2017, prior to Brexit, in order to avoid Covid-19 effects on trade that would bias the results in this thesis. The Z-score is used as the main indicator of bank risk-taking, and Henisz's (2000) political constraint index is used as the main proxy for political institutions to examine how political institutions affect foreign bank risk-taking. In the literature review section, this thesis collates the current state of research and relevant literature in the field of finance in relation to political institutions, commercial banking risks and on EU finance. A brief analysis of the various areas that may be covered by finance in the future is provided. In addition to this, compared to previous studies, this thesis includes a correlation coefficient matrix, a multiple co-integration test, and the reasons for choosing a fixed effects model to further ensure the robustness of the thesis's findings. The main conclusion drawn from the study is that bank risk-taking is significantly higher in countries with well established political systems.

Acknowledgement

My career at the university is coming to an end and from this year onwards I will be starting a new life in society. Looking back on the years I have spent at university, I feel that I have had so much fun and I fear that I will never have so much time to myself again. When I look back now, I am still grateful for the decision I made to take the plunge and start university in the UK. Throughout the almost seven years of study, I always hoped I would really enjoy finance and there was a time when I seriously thought I could continue on an academic path. But as I went through one painful night only to reap the joy of my internship, I decided to finish my academic career as soon as possible and move on to the next stage.

Once upon a time when I graduated from high school, I thought about studying computer science and astronomy, and then chose finance because of my parents' advice. Looking back, I wondered if I regretted it, but life cannot be repeated, and I think the fact that I have the opportunity to choose again now is the best chance God has given me. I would also like to thank my parents for giving me understanding and support rather than any negativity when I decided to convert my PhD to MPhil and not return to the UK.

During these past two years, I have stayed in China due to the epidemic and have not been able to have more contact with my supervisors and fellow students, and the process of completing my thesis has seemed more arduous. During this time, I am very grateful to my supervisors, Serafeim Tsoukas and Martin Strieborny, who have never been harsh with me, have been generous with their time, and have continued to give me advice during the completion stage of my thesis. I would also like to thank Betty Wu, who told me at a confusing time that a PhD was not the only option in life. When I heard this, I felt that the question that was bothering me for a long time had been answered. Even if the path I choose is not the best, it must at least be the one I like best.

I am very grateful for all the encounters I have had in my life, good or bad, and they have made me a better person.

I hereby thank them.

Declaration

I declare that, except where explicit reference is made to the contribution of others, that this dissertation is the result of my own work and has not been submitted for any other degree at the University of Glasgow or any other institution.

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1. Introduction

1.1 Research Background

The global banking sector has changed dramatically following the global financial crisis (GFC). The financial crisis has led to a significant impairment in the balance sheets of the global banking sector. The subprime mortgage crisis has resulted in an explosion of new laws, tightened monitoring, and increased control. They are changing the global banking industry's structure and organisation, as well as the benefits and risks that international banking provides to the financial sector and economy.

Since the 1980s, economic globalisation and regional economic integration have become irresistible trends. Almost all countries in the world have opted for open economic policies to promote rapid growth in their economies, and economic activities such as production, trade, investment and finance are increasingly linked between countries.

Finance is at the heart of the modern economy. Many studies have shown that financial development is beneficial to local economic development. However, financial development is also often accompanied by risks and can even lead to serious financial crises. Minsky (1992) argues that as the economy booms, firms' expectations of future earnings increase and so does their borrowing, leading to an increase in the number of speculative and Ponzi firms in the market, and that in the event of a recession, the ability of these firms to repay their loans is limited, leading to massive defaults Kregel (1997) further introduces the concept of Margins of Safety, arguing that bankers decide whether to lend based on a firm's past creditworthiness. Bernanke et al. (1994) proposed the theory of the Financial Accelerator to explain why small shocks in the economic process cause large business. The deterioration of corporate balance sheets during recessions further increases the cost of financing for firms, which in turn reduces economic activity such as investment and production, thus exacerbating the extent of financial crises.

Since the 1970s and 1980s, there has been a trend towards liberalisation and deregulation of the banking sector and a gradual strengthening of commercial banking risks, which is why in recent years the Basel Committee on Banking Supervision has continued to work on structuring regulations to prevent risks in the banking system. However, in the study of banking system crises and even financial and economic crises, the above theories have only focused on the channels through which risks develop due to changes in corporate credit behaviour. Since the US sub-prime crisis in 2007, many studies have argued that the prolonged low interest rate easing monetary policy in the US was a major cause of the relaxation of bank lending standards, the excessive risk build-up in the banking system and the financial crisis (Adrian and Shin, 2010).

The model to which central banks were adapted began to falter, as before the crisis, central banks were only required to focus on the level of inflation when setting monetary policy, and other economic indicators were naturally balanced. After the crisis, price stability proved insufficient to achieve both financial and macroeconomic stability, and central banks had to take more factors into account when deciding on monetary policy (Borio, 2011). Some scholars have even argued that the low interest rate monetary policies adopted by central banks since the financial crisis to bail out the market are laying the groundwork for the next financial crisis (Diamond and Rajan, 2012).

Reflecting on the monetary policy of central banks in the US financial crisis, Borio and Zhu (2012) suggest that monetary policy can influence the risk level of banks' asset portfolios by affecting the risk perception and risk tolerance of commercial banks. In other words, monetary policy needs to be formulated with a focus on financial stability. The previous price-level-only approach to monetary policy is not only no longer appropriate, but can also breed greater macro-financial risks. Regulators must

consider and combine more factors and conditions in order to make monetary policy decisions in such a situation, and the political institutions under consideration in this thesis are one of those factors that can have an impact on the stability of the financial system.
Against this background, a large number of studies on the risk of foreign banks have emerged, in which the core variables used are more likely to take into account the profitability, asset size, management efficiency and even geographic structure of foreign banks (Iwanicz-Drozdowska, et.al, 2020). Although there are many studies on the riskiness of foreign banks, few studies have focused on the relationship between foreign banks and national politics. The findings developed in this thesis can make a contribution to this field by providing more support for the concepts presented in Ashraf (2017). This research will refer to the model used in the thesis by Wang and Sui (2019) for analysis in a follow-up study to examine the impact of a more robust political system in trade on the entry of foreign banks in the host country.

1.2 Research Meaning

There are several factors that influence foreign banks' lending behaviour in host countries, including the integration and interaction of multinational bank subsidiaries with their host countries' political systems, as well as the international capital flows that affect foreign banks' lending behaviour in host countries. Even while domestic political systems have a critical role in international economic cooperation, their value has received less attention in recent academic studies. Consequently, it is critical to investigate how the political structure of the host nation influences the level of risk that foreign banks are willing to take on.
This thesis focuses on the impact of the political system of the host country on the risk-taking of foreign banks and hypothesises that those countries with a well-developed political system will have higher financial stability. Regulatory officials typically consider bankruptcies to be the most visible symptom of a financial crisis. The economic and financial environment can suffer tremendously as a result of the harm caused by banking crises. As a result of the study conducted for this thesis, regulators will have a valuable reference on the link between political institutions and financial stability when it comes to regulating banking risk in the European Union. For monetary policy makers, the traditional view is that central banks focus only on the price level when setting monetary policy. However, a large body of research has shown that monetary and financial policy today needs to take into account as many factors as possible and be tailored to local conditions.
In practical terms, the entry of foreign banks is important for a country's economic development, and the selection of the European Union countries as sample countries in this thesis is of particular significance. Because EU countries have undergone the transition from planned to market economies, are more open to the outside world and have been more affected during the financial crisis, the relevant results have profound implications for all emerging market economies that are also in economic transition.
This thesis uses data on 899 commercial banks and macroeconomic variables from a total of 28 countries in the EU prior to Brexit to analyse how political institutions affect the risk-taking of foreign banks in the region with an adequate sample. Existing research has only analysed over 500 commercial banks in emerging markets, and the overall study is still inadequate, thus the findings of this thesis are not only further evidence of previous research, but also, relatively speaking, more generalisable. In addition, the core explanatory variables of political institutions, ICRG and POLCONV, are regressed separately in this thesis, which provides a more intuitive picture of the changes in banks' risk-taking behaviour in response to the different variables.
However, due to the large sample size taken in this study, although it provides more adequate data for

testing, there is a possibility that the sample is more complex and the results may be inconsistent with each other due to the differences in each country's situation. The larger data sample also makes it impossible to guarantee the accuracy of the data source, and outliers are often relatively numerous and need to be more carefully screened out. In addition, the complexity of the data increases the difficulty of model design and empirical testing.

Therefore, compared with previous studies, this thesis includes a correlation coefficient matrix, a multiple co-integration tests, and the reasons for selecting a fixed effects model to further ensure the robustness of the thesis's findings.

2. Literature Review

2.1 Global Banking

2.1.1 Global finance after the GFC

The GFC is often chosen as the subject of study when studying foreign banks, as it represents the most visible shock to the international banking system in recent decades. As indicated in the thesis of Claessens (2017) on global banking regulation and the influence of banks' rising engagement in emerging markets and developing nations, as well as the banking industry's increased regionalization, global banking presents both possibilities and challenges. As global banking becomes increasingly regionalized, coordination in all this regulation, supervision and resolution may become easier.

Since the global financial crisis, the business of international banks has undergone significant transformation (Claessens & Van Horen, 2015). While the number of foreign banks that have left the market has remained consistent, the number of new foreign banks that have entered the market has declined dramatically since the beginning of the financial crisis.

Although foreign banks have the potential to serve as accelerators for financial and economic growth, their position continues to be debated since they may replace local lending and, as a result, restrict the general availability of credit for businesses. Foreign bank studies have discovered that when foreign banks reach a higher level of development, they are more likely to have a stronger favourable influence on the financial system and the economy and to erect less obstacles to capital flows and entrance. After conducting a thorough examination of how foreign banks lend to domestic lending, Bruno and Hauswald (2014) conclude that their findings provide strong evidence that foreign banks engaged in domestic lending activities can be sustained, significantly reducing financial dependence and improving the growth prospects of their respective countries.

Particularly in this regard, Giannetti and Ongena (2009) examine the differential impact of foreign bank loans on business growth and financing over a 60,000 firm-year period in Eastern European nations, using data from both publicly traded and privately held enterprises. It is used to investigate if and to what degree foreign bank financing may be beneficial to businesses. Foreign lending encourages the expansion of a company's sales, assets and the use of debt to finance these expansions. If firms borrow from foreign banks in the credit market, they appear to have the same access to financial loans and investment capacity as if they did not borrow from foreign banks. Foreign banks benefit all firms by indirectly increasing access to credit (Giannetti & Ongena, 2012), and these pairs of benefiting firms have an impact on the country's overall trade.

2.1.2 Macro features

In view of the impact of the banking crisis on the financial system, governments in various countries or regions have adopted certain regulatory measures for banks, and it is clear that the regulatory environment in which banks operate has an impact on their risk-taking. Williams (2014) uses data from two dimensions of the World Bank's Global Governance Index, namely government effectiveness and regulatory quality, to measure the intensity of bank regulation in the Asian region. He then examines the relationship between regulatory intensity and bank risk in the region. Results suggest that both improvements in the regulatory environment and increases in regulatory intensity can lower the amount of risk-taking by banks, and the study also reveals that the capital sufficiency of banks is a factor in this reduction in risk-taking. Also discovered is that bank risk and capital adequacy regulation have an inverse connection and that when capital adequacy standards are set too high, it is not beneficial to curb bank

risk-taking behaviour. When the capital adequacy ratio is below a certain threshold, increasing the capital constraint can reduce bank risk-taking, but if the capital adequacy ratio is above that threshold, increasing the capital constraint does not reduce bank risk-taking very well.

In addition to the influence of legislation, the competitive environment in which banks operate is a significant factor influencing bank risk-taking. The literature has not yet reached a uniform conclusion on the relationship between the competitive environment and bank risk. According to De Nicolo et al. (2003), who studied data on banks in over 100 countries around the world, higher concentration in the banking system was associated with higher bank risk-taking, whereas Beck et al. (2006) found a different result, arguing that higher bank concentration makes it easier for governments to regulate and therefore makes banks relatively less risky. The empirical results for countries also suggest that countries with higher bank concentration are relatively less prone to economic crises. The study finds that rising financial liberalization can, to some extent, enhance bank competition, which further weakens banks' risk-taking.

In addition to the examination of internal competition in the banking industry, some other literature analyses the impact of external competition on banks' risk-taking, such as the emergence of internet finance. Yue & Pin (2015) construct an internet finance index based on the number of searches for some keywords through a text mining approach and analyse the relationship between this index and banks' risk-taking. The study finds that the emergence of internet finance can have an impact on banks. Such shocks can intensify banks' risk-taking behaviour, systemically important banks behave more prudently compared to non-systemically important banks, and the regulatory part needs to pay attention to the risk spillovers brought by Internet finance to traditional finance.

In addition, some scholars have also explored banks' risk-taking behaviour in terms of factors such as the political or religious environment. As shown by Adhikari and Agrawal (2016), who looked into the impact of regional religiosity on bank risk-taking, they discovered that banks headquartered in more religious regions had lower stock return volatility, lower heterogeneity risk, and lower insolvency risk, indicating that like real firms in non-financial sectors, different religious beliefs can have different outcomes. According to Ashraf (2017), stronger restrictions on the government indicate a "better" political system, and the empirical results suggest that a good political system is associated with lower risk-taking behaviour by banks. He constructs a political restriction index based on the strength of the government's veto power and argues that stronger restrictions on the government indicate a "better" political system. The study claims that a 'good' political system improves competitiveness in the credit market and may result in more substantial moral hazard concerns, which are the primary cause for higher risk-taking by banks if the political system is favourable.

In general, different macroeconomic environments have an effect on banks' risk-taking behaviour, the most discussed of which are capital adequacy regulation and market competition. While increased capital adequacy reduces bank risk-taking, there is a threshold effect. The relationship between increased market competition and bank risk-taking is not fully established. The link between increasing market competitiveness and bank risk-taking is not entirely established, and this thesis will focus on the thesis's ideas and their further study in the context of Ashraf's (2017) research on political systems.

2.1.3 Micro features

The influence of a bank's micro features on its risk-taking is mostly represented in its corporate governance, with excellent corporate governance having a tendency to lower risk-taking and even the likelihood of a bank going bankrupt.

According to Spong and Sullivan (2012), the impact of shortcomings in the degree of corporate governance of banks that were at the root of the present US financial crisis was examined. In the study,

the researchers discovered that bank managers' shareholdings and compensation structures, as well as directors' and major shareholders' ability to monitor, as well as the characteristics and composition of the board of directors, all had an impact on the risk-taking behaviour of banks. According to the findings of the study, corporate governance in banks works best when directors, managers, and shareholders all have a major personal interest in the choices that are made by the organisation.

During their investigation of the influence of a bank's degree of governance on its liquidity creation, Diaz and Huang (2017) discovered that banks have two primary responsibilities, the first of which is to manage risk and the second of which is to generate liquidity. Consider taking, for example, the riskless deposit that is turned into a dangerous loan, which is referred to as risk shifting. This article, in contrast to prior research that centred on the influence of corporate governance on bank risk (the first core duty), focuses instead only on the impact of corporate governance on the production of liquidity (the second core task). The findings show that banks with better corporate governance are able to generate more liquidity, and that the level of education of the CEO, the structure of remuneration, and the ownership of the bank all have a significant impact on bank liquidity, but that these positive effects are most noticeable during times of financial stress.

As shown in the literature reviewed above, the quality of corporate governance has a considerable influence on the level of risk-taking by banks. To be more specific, a number of researchers have looked at how the ownership structure of banks affects the risk-taking behaviour of financial institutions. Chou and Lin (2011) investigate the impact of ownership structure on the risk-taking behaviour of commercial banks in Taiwan. They discover that banks with internal management or government ownership had higher levels of delinquent loans and worse capital adequacy ratios. When it comes to corporate governance, banks with a higher proportion of foreign institutional ownership tend to have higher levels of corporate governance while also exhibiting lower levels of past-due loans and higher capital adequacy ratios, i.e., foreign institutional participation will assist banks in reducing their risk-taking levels.

ELBannan (2015) investigates the impact of ownership structure on risk-taking in the Egyptian banking sector and shows that the more concentrated the banking sector is, the lower the risk of bankruptcy and credit default, which supports the competitive stability hypothesis to a certain extent.

Overall, the existing literature suggests that a good corporate governance structure can reduce the risk-taking behaviour of commercial banks, and a large number of studies in developing countries also show that the entry of foreign capital can provide local banks with better management techniques and improve corporate governance, and as a result, banks in developing countries generally exhibit relatively lower levels of risk-taking among foreign-owned banks. A synthesis of the literature on bank nature and bank risk suggests that differences in bank nature can lead to significant differences in risk-taking behaviour, so that different banks may exhibit different levels of risk and willingness to take risk, even when faced with the same conditions.

2.2 Current Research Literature on Foreign Banks

2.2.1 Organizational forms of foreign banks

In terms of the choice of what form of organisation of financial institutions to set up, Wengel (1995) argues that economies of scale are a major factor in the choice made by international banks in the host country. Large international banks tend to pursue a subsidiary-oriented strategy in host countries with well-developed banking systems, while the implementation of a product diversification strategy depends on the market regulation of the host country.

Cerutti et al. (2007) examine the factors influencing the organisational form of multinational banks using

data on the top 100 banks in Latin America and Eastern Europe. In countries with high tax rates and low regulation of bank exit and bank branching, foreign banks generally take the form of branch offices. The legal differences between the parent bank of a foreign bank and its branches and subsidiaries are also important influencing factors in determining the organisational form of a bank.

2.2.2 Cross-border operations of foreign banks

A foreign bank is a bank whose ultimate control is held by a resident or institution outside the host country and which operates and conducts its business in the host country. After World War II, multinational operations, led by the US banking industry, promoted the study of the theory of cross-border banking operations. Western theories of cross-border banking operations can be divided into the monopoly advantage theory, the industrial organisation theory, the internalisation theory, the comparative advantage theory and the compromise theory.

Among them, the monopoly advantage theory believes that the necessary condition for profitable foreign direct investment by multinational enterprises is that these enterprises should have monopoly advantages that are not available to the enterprises in the host country, and the monopoly advantages of multinational enterprises are derived from the incompleteness of the market. The theory of industrial organisation, proposed by Mason in the 1930s, is a study of the characteristics of the industrial organisation of an industrial sector and its impact on the efficiency of resource use.

International trade and international investment cannot develop without the support of the necessary trade financing conditions and adequate financial capital. Theoretically, multinational banks are more likely to follow the investments of non-financial enterprises in their home countries and join the markets of other nations with these firms as their primary customers, according to Kindleberger (1983) and others. Economists have used different economic variables to capture the degree of economic linkages between two countries. The main variables considered include the geographical location between the two countries, the volume of bilateral trade between the two countries and the volume of bilateral direct investment. A considerable positive association between banking and direct investment has been found in empirical research on the degree of economic links between the two nations as well as the relationship between banking and foreign direct investment. According to Goldberg and Saunders (1981) and others, the volume of bilateral trade and non-financial sector direct investment are both used as indicators of economic linkages, whereas the geographical location of the two countries is considered in the analysis of variables when considering economic linkages by Ball and Tschoegl (1982) and Grosse and Goldberg (1991). Several studies, including Claessens et al. (2001), demonstrate that many international banks are drawn to the host market primarily because of the substantial profit prospects and increased capacity for expansion provided by the host country's domestic economic development. These researches have demonstrated that there is a statistically significant relationship between the admission of foreign banks and the level of inter-country trade and capital flows.

2.2.3 Impact of foreign banks on the banking sector in host countries

Barajas et al. (2000) argue that financial liberalisation usually has a positive impact in terms of increased competition, lower intermediation costs and better loan quality. However, more intense competition may also lead to increased risk and lower quality of lending by local banks. Foreign banks have lower overhead costs and higher loan quality, which allows them to offer lower-cost intermediary services.

Some studies have also highlighted the significant role played by foreign banks in increasing competition and improving the competitive function of the market, particularly through their impact on the degree of

contestability of the market, as well as the positive effect that the entry of foreign banks will have on improving the efficiency of the banking system in the host country, as well as the positive effect that the entry of foreign banks will have on improving the efficiency of the banking system in the host country (Claessens and Klingebiel, 2001). Among others, Claessens et al. (2001) conducted a study of a combined sample of developed and developing nations and found that the introduction of foreign banks increased the level of competition in the banking industry in developing countries.

Furthermore, Dopico and Wilcox (2002) discovered that foreign banks are more prevalent in countries that are more open to foreign investment, have fewer restrictions on the operations of foreign financial institutions, and are more open to international trade than countries that are not. A country that is more open to foreign trade has a higher proportion of foreign banks.

The entry of foreign banks has a positive impact on aggregate credit stability during crises, particularly when foreign bank branches are supported by international capital market head offices. When foreign bank branches are supported by international capital market head offices, they can often maintain or even expand their lending when local economic conditions deteriorate (De Haas & van Lelyveld, 2006). Because foreign banks have larger equity and liquid assets during the crisis, it is plausible to argue that foreign banks will be less likely to fail if economic and financial market conditions deteriorate further in the future. Furthermore, foreign banks contribute to the overall stability of the financial system by lending to domestic institutions.

2.3.4 Operational efficiency of foreign banks

Foreign banks have become increasingly essential in the growth of the world economy and international commerce as a result of the advancement of global economic integration. Foreign banks also have a significant impact on the stability of the global financial system as well as the stability of the banking system of the host nation, prompting new research on foreign banks to concentrate on the study of foreign banks' effectiveness.

Sabi (1996) examines the performance of international banks in Hungary in comparison to the performance of local banks in the context of market-oriented reforms and concludes that foreign banks are more lucrative in comparison to local banks. When foreign banks do not have access to credit facilities or are unsure about the risks associated with giving long-term loans, they are not exposed to increased liquidity risk or credit risk.

Hondroyiannis and Papapetrou (1996) study the growth in the number of assets and branches of foreign banks in Greece and argue that factors such as international trade with Greece, the country's reputation, the relative size of the banking sector to that of foreign banks' home countries, and geographical location all directly influence the growth of foreign banks. Buch and Golder (2001) analyse the growth of foreign banks in the US (2001) analyse the share of foreign banks in the banking markets of the US and Germany and find that Germany is well integrated into international capital flows and has the lowest market share of foreign banks among industrialised countries. According to De Haas and van Lelyveld (2006), differences in response to business cycles between foreign banks and domestic banks in Central and Eastern Europe have been discovered. They also discovered that the state of the foreign bank's home economy has an impact on the development of foreign banks. A negative relationship exists between loans provided by recently formed multinational corporations (MNCs) in their host nations and the economic growth of their respective home countries.

In the UK foreign bank assets account for 55% of overall UK bank assets. Using a multi-factor approach, Kosmidou et al. (2006) find that local banks have better performance compared to foreign banks. In particular, domestic banks have higher returns on assets, net interest margin and short-term funding. This

is because local banks usually have a local advantage over foreign banks. Foreign banks are at a competitive disadvantage because of language, culture, cash, regulatory structure and other national market characteristics.

The above studies in the literature show that the efficiency of foreign banks has been relatively well researched. Some methods, such as stochastic frontier analysis, data envelopment analysis and multi-factor models, have been more widely used in the analysis of foreign banks' efficiency. It can also be found that foreign banks, often from the same country, tend to show significant differences in performance in different host countries. However, the current research has not examined the reasons for the performance differences of foreign banks across countries.

2.3.5 Foreign Banks and Financial Development

Financial development theory assumes that there is an interaction between financial development and trade openness, i.e. financial inhibition leads to distortions in trade, and distortions in trade cause financial inhibition. In the last two decades, economists and sociologists have gradually realised the huge role of the financial system in influencing a country's trade. From a theoretical perspective, scholars have proposed that a country's financial development can facilitate the development of its trade. On this basis, some scholars have combined this view with the traditional trade advantage theory and put forward the theory of comparative advantage in financial development (Rajan and Zingales, 1998). If a country has a higher degree of financial development, the greater the access of trading firms to external finance and the higher the likelihood of increased trade production and improved trade structure.

From the beginning of the reforms in the early 1990s to the completion of the privatisation reforms in the early 21st century, European countries are generally considered to be transitional countries with relatively successful reforms and relatively well-developed economies. Prior to the transition, the financial sector in the EU was highly distorted and there was significant financial repression. As a result of the economic transition, the EU countries have established a market economy and the degree of financial development has increased significantly. Through trade liberalisation reforms, the EU countries have broken the trade monopolies of the old system, reduced and eliminated various trade restrictions and trade barriers, and have seen sustained annual growth in trade imports and exports.

Svaleryd and Vlachos (2005) argue that trade patterns can be affected by financial development because of differences in the demand for exogenous finance by industries across countries, differences in financial systems and financial sector facilities, and the fact that financial systems and financial sector facilities are not easily mobile between countries. The differences in financial development in these countries have a greater impact on the pattern of trade specialisation and division of labour than differences in human capital. At the same time, well-developed financial intermediation and financial markets facilitate the formation of trade surpluses in industries that rely on exogenous financing.

According to the World Bank, the economic growth of the EU countries will be greatly enhanced after the transition from financial repression to financial development. Combining new directions in the study of modern financial development and trade relations, adding the influence of political institutions, examining the reform and development of the financial and trade sectors in the EU countries and using empirical evidence to test new developments at the theoretical level is of great importance for both theoretical research and economic reality.

According to the general theory, the admission of foreign banks would result in an increase in the degree of financial development of the receiving country. In four ways, this is manifested: first, it increases the efficiency of the banking sector in the host country; second, it encourages the accumulation of financial capital; third, it improves the allocation of credit resources in the private sector; and fourth, it raises the

level of regulatory oversight in the host country.

The introduction of foreign banks typically results in an increase in the efficiency of the host country's banking sector, which helps to propel the development of the host country's banking sector. As a starting point, foreign bank entrance can spur the banking industry in the host nation to lower costs, enhance efficiency, and broaden the scope and diversity of financial services available to customers. A high degree of foreign bank entrance, according to Claessens et.al (2014), can make the banking industry in the host nation more competitive by reducing banks' daily expenditures and spreading revenues, which in turn leads to an improvement in banks' efficiency. A second benefit of the introduction of foreign banks is that it encourages a rise in the technology level of the host country's banking industry, which leads to an improvement in service quality and operational efficiency. This is corroborated by the findings of the research conducted by Barth et.al (2004). Finally, the admission of foreign banks will result in an increase in the human capital of the banking industry in the host nation, whether directly or indirectly. This, in turn, helps the efficiency of the financial system in the nation where the transaction takes place.

With other things being equal, a high level of entry of foreign banks means that the host country attracts more foreign capital and thus increases capital accumulation. The entry of foreign banks greatly facilitates the presence of multinational companies in the host country, which in turn has a positive effect on capital accumulation in the host country.

Clarke et al. (2003) analysed banking data from four South American countries, Argentina, Chile, Colombia and Peru, in the mid-1990s. In all four countries, the growth rate of SME lending from large foreign banks was significantly higher than the growth rate of lending from large domestic banks. This implies that the entry of large foreign banks has not had an impact on the access and volume of loans to SMEs in the host countries.

In addition, a number of studies have shown that the entry of foreign banks strengthens the supervisory cooperation between the financial supervisory authorities of the host country and those of the home country of the foreign bank. In the process of cooperation, the regulatory authorities of the host country will directly or indirectly learn advanced regulatory concepts, regulatory techniques and methods and on this basis, establish and improve the relevant laws and regulatory systems, and realise the financial regulatory system in line with international standards.

Of course, there are also many studies which believe that the entry of foreign banks will have several negative effects on the financial development of the host country. With the entry of foreign banks, domestic banks may engage in high-risk activities if the value of their concessions is reduced. Foreign banks are able to attract the most lucrative segment of the domestic market, so that the potential risk in that segment of the market served by the domestic bank can be high. Foreign banks have different business priorities and operational focus in their lending sequence and their lending patterns may not be in line with the host country's economic development strategy.

Foreign banks are able to allocate their assets and liabilities on a global scale and are less affected by the economic and political situation of the host country. As a result, foreign banks can help the host economy recover and sustain stable development when the host economy is stagnant or even in a crisis. In addition, foreign banks' extensive ties with foreign countries can make the host economy vulnerable to external shocks. In particular, economic turmoil or currency crises in the home country or other countries where foreign banks have branches may be transmitted to the host country through foreign banks, which may become a major channel for capital flight from the host country, thus exacerbating the crisis in the host country. Barth et al. (2004) studied in emerging market countries and developing countries show that the entry of foreign banks is generally beneficial to the stability of the banking system.

The entry of foreign banks will break the banking sector in the host country and put varying degrees of pressure on the survival of local banks, with some poorly run and weak banks likely to go bankrupt and

exit. However, in the long run, banks will be more competitive and have more loyal customers. As a result, banks will enjoy a more stable business environment.

2.3 The impact of political relations on finance

2.3.1 Political relations

Recent studies have increasingly shown that the private sector's access to external finance is important for its long-term development. At the same time, the private sector has better access to external finance in the context of a developed financial system, a well-developed and efficient judicial system and a lax and clean government. This further suggests that political relations are a worldwide problem (Faccio, 2002), and are prevalent in both developed and developing countries. To date, however, there is no clear and uniform definition of political relations in academic circles, and it is generally accepted that political relations are an invisible relationship concluded between a company and individuals with political power. Political relationships can be established as either business-initiated or government-initiated, both of which can have a positive effect on business, and unlike corruption (Faccio, 2006), they are a legitimate, available and effective resource. There is a large body of literature on political relations, mainly in relation to business management, and much has been achieved in recent years.

However, due to the different institutional environments and legal policies in different countries, the forms of political relations are also different, and there is no unanimous definition of political relations:

In the more economically developed countries with an electoral system, political relations are manifested in the form of mutual support from enterprises in the process of election campaigning, and in the mutual benefits that result from a successful election campaign. In less developed economies, particularly those in transition, political relations are mainly between business executives and personal relatives or friends of government officials, as in Fisman's (2001) study of Indonesian and Malaysian companies. The latter, however, encompasses a wider range of relationships, and so a number of subsequent studies have continued the latter manifestation of political relations, such as Faccio (2007), which also uses the latter to extend the study of political relations to a number of countries, concluding that it is universal.

The study of political relations has existed for a long time, but only a few studies have introduced it to the stability of foreign banks. Faccio (2006) finds that executive experience in government is the main form of political relations, and that such relations are more prevalent in countries with corrupt governments and a lack of foreign investment.

Bertrand, et.al (2004) chose a French sample to study the issue of corporate political relations and found that political relations mainly stemmed from the company's executives' classmates or former colleagues, and they also examined the impact of political relations on both parties, which was found to be significant. 2005) take a unique perspective on the impact of political connections on firms from the perspective of their ability to raise capital by using a sample of politically connected firms in Pakistan and conclude that these firms have easier access to bank loans and that these bank loans are mostly from state-owned banks, but they have higher default rates. Claessens, Feijen and Laeven (2008) examine political campaigns and the firms that provide support in Brazil and find that firms' stock returns are significantly affected during this period. (2008) found that firms' stock recovery rates increased during this period, but that the cost of the financial support they provided was also higher.

2.3.2 Political relations and Bank

The power of the government in a transition economy has absolute influence to break the rules of law

(Shleifer & Vishny, 1994), and when the government provides a better environment for foreign banks to develop within its own authority, the government is helping, while if the government does not provide any help but jeopardises the interests of foreign banks, the result will be the opposite.
Previous research on political relations has focused on the performance of firms and the value of firms, but less on the impact on banks, because in developed countries, where markets are more developed, there are fewer financing difficulties due to information asymmetries, so the impact of political relations on the riskiness of banks has not been analysed in detail in academic studies, but more in terms of bank lending rates and bank loan amounts.
Based on a study of 450 politically connected firms in 35 countries over the period 1997-2002, Faccio, Masulis, and McConnell (2006) discovered that businesses that have strong political connections in high positions are more likely to be able to borrow more money from banks and are more likely to receive financial assistance from the government during times of economic difficulty. Faccio (2006) also suggests that politically connected firms have access to more debt financing, but his assertion that political connections affect bank lending across social systems and levels of economic development sets the stage for further research.

2.3.3 The current state of research on anti-corruption

A well-functioning banking system aids in the channelling and monitoring of savings into the most profitable investment projects, hence boosting the overall performance of the economic system. The existence of a well-functioning banking system in developing and emerging countries, where bank lending is the primary source of external funding for commercial enterprises, contributes to the reduction of income disparity and poverty.
Unfortunately, banking systems do not always perform as expected in all nations, especially in developing ones. Most notably, they are subject to corruption, which jeopardises their fundamental role of effectively distributing limited capital resources (Barth et al., 2009). In emerging and transition nations, when there are insufficient laws and objective courts, as well as prudential rules and other relevant institutions to combat corruption, corruption is a particularly problematic problem.
For the study of political relations, corruption is also frequently mentioned as part of the research. High-intensity anti-corruption campaigns inevitably affect the behaviour of officials and firms.Fan, et.al (2014) suggest that after anti-corruption enforcement exposes scandals of official corruption, the quality of financial information of firms associated with it increases.Chen et al . (2015) found that firms associated with anti-corruption significantly increased the level of information disclosure compared to benchmark firms, with increased disclosure in response to the increased risks and potential costs of government regulation and public scrutiny following anti-corruption events. Anti-corruption affects firms' investment decisions, with heavily corrupt firms spending significantly less on investment compared to non-corrupt firms. Firms that rely strongly on political connections to grow have a stronger incentive to innovate when anti-corruption inspires them to do so. However, it is now generally accepted that corruption is more severe in Asia, and the scope of this thesis is limited to the EU region, leaving the endogeneity of corruption out of consideration for the time being.

2.3.4 Metrics of political connections

Fisman (2001) first introduced the concept of political affiliation, and Johnson and Mitton (2003) gave the then widely accepted academic measure that a firm is politically affiliated if its executives or controlling shareholders have served in government or parliament.

A summary of empirical research related to political affiliation reveals that there are two main ways of measuring political affiliation variables:
(1) the dummy variable approach to measuring political affiliation. Although different scholars have different criteria for identifying politically connected enterprises, most researchers have used the existence of close relationships with government officials and government legislators or whether they make political donations as a measure.
criteria.
(2) Some scholars use the proportion of executives or board members with government experience in a company as a measure of political affiliation, which can determine whether a company is politically affiliated and also quantify the company's political affiliation with a corresponding numerical value.
There are still no specific and detailed definitions of political affiliation or methods of quantifying it, but the measurement of this variable is gradually moving from qualitative to quantitative research. Qualitative research is difficult to distinguish the degree of political affiliation, while quantitative research is difficult to interpret.
Most scholars have studied bank loan covenants from several perspectives, including corporate governance, corporate financial status and institutional environment. The academic community has achieved rich results in related research, but scholars hold different views on the effectiveness of political connections on bank loan contracts. Most scholars believe that political connections are conducive to the signing of bank loan contracts, but some scholars point out that there are problems with the internal corporate governance of politically connected enterprises and the accounting information provided is of low quality, which does not bring financing convenience to the enterprises.
In summary, in order to enrich the current academic research related to the impact of political affiliation on bank riskiness, this thesis uses the Z-score as the main proxy for bank risk-taking and examines the impact of political institutions on bank risk-taking in the EU.
The variables used to measure political institutions are mainly Henisz's (2000) political constraints index. Political constraint is computed using data on the number of independent government departments with veto power, as well as the distribution of political preferences across and within these departments, with the goal of determining the extent to which policy change options are constrained. With a range of 0 to 1, the political constraint index indicates greater degrees of political restraint and, as a result, stronger political systems than lower values. Higher values indicate greater degrees of political restraint and, therefore, stronger political systems than lower values. Over the course of the study period, annual data on the political constraint index were available for nearly all of the main nations. Another concern is that if governments are subjected to more stringent regulations, it would be exceedingly difficult to undo the disastrous policies that have already been implemented. I employ a number of alternative proxy measures for political regimes, namely democratic accountability, in order to alleviate the concern that higher values of the political constraint index do not adequately capture the impact that existing predatory policies have on the banking sector, as well as to further test the results' robustness. In the course of the data analysis, these proxies will be given in order to answer the criticism that higher values of the political constraint index do not effectively depict the impact of existing predatory policies on the banking industry.

2.4 Banking Risk and Financial Stability

2.4.1 Definition of Bank Risk

Bank risk is the possibility of incurring financial losses, or the loss of a bank's assets and income, as a

result of various factors in its operations. Depending on the causes of formation, bank risks can be classified as credit risk, market risk, liquidity risk and operational risk. Of the many risks, credit risk is the most significant risk for commercial banks. Credit risk refers to the possibility that, for various reasons, a debtor or counterparty will fail to fulfil its responsibilities and obligations under a contract as scheduled, thereby causing the bank certain losses. Credit risk of banks mainly arises from credit business, but is also widely present in other on- and off-balance sheet businesses such as investment of banks' own funds and investment in wealth management products.

The famous D-D model of bank runs proposed by Diamond and Dybvig (1983) suggests that commercial banks, as financial intermediaries, provide a maturity transformation mechanism to borrow short and lend long, and that banks' maturity mismatch risk arises primarily from a low level of depositor confidence in the bank. The starting point for reducing such risk is a high level of depositor confidence in the bank. It is clear that liquidity risk is inherent in the short term nature of banks' borrowing and lending, and is caused by a mismatch between the maturity of banks' assets and liabilities. Liquidity risk cannot be completely eliminated and can only be controlled through scientific management tools, but not eliminated completely.

DeBandt and Hartmann (2000) argue that systemic risk can be classified as broad or narrow. Systemic risk in the broad sense refers to the possibility that a particular shock will cause losses to most financial institutions and financial markets at the same time; in the narrow sense, it refers to the failure of other financial institutions or financial markets brought about by a particular shock, emphasising the contagion of risk. Dijkman (2010) argues that systemic risk usually has a knock-on effect on the real economy and that the contagion process whereby individual financial institutions affect the overall financial system and thus the real economy is central to the study.

Claessens (2017) conducts a thorough review of a wide body of research pertaining to the advantages and hazards connected with global banking. In his research, he discovers that the returns and risks of these institutions are very variable in response to a variety of variables. Bank risk has the following characteristics:The first is uncertainty. Banks are often faced with complex and changing policy and market environments in the course of their business management, and their returns or losses cannot be accurately anticipated. Although banks can make expected judgments based on historical data and statistical analysis models with capital coverage, bank risks cannot be accurately anticipated before they occur due to model errors and uncertainties such as unforeseen events. The second is contagion. With the development of the financial market, banks are increasingly close to each other, and business transactions with other financial institutions are growing in both scale and variety, and debt-creditor relationships are occurring between financial institutions at any time. Once a bank has a credit crisis or a payment crisis, a domino effect can easily occur, leading to the spread of risk to other banks or non-bank financial institutions. The third is destructiveness. Banks are a special service sector that has a bearing on the country's livelihood, and the stability of their industry is of great importance to the allocation of social capital. Once a bank risk occurs, it is extremely easy to affect the flow of funds in the real economy, causing devastating consequences for economic development and possibly even social stability.

There are several elements that can influence the indicator, including the company structure, the market, and the functioning of commercial banks. Many external factors can also have an impact on the indicator, including interest rates, inflation, and other issues. To demonstrate this point, the authors of this study include the GDP year-on-year growth rate, the money supply growth rate, the financial correlation ratio, and the one-year benchmark lending rate indicators in the relevant model when developing the relevant one-year forecast. While empirical study is carried out, it is discovered that external variables have a significant impact on commercial banks' liquidity risk, and as a result, commercial banks must take external factors into consideration when performing liquidity risk management.

Commercial banks can improve their liquidity risk management system by including external factors such as GDP, monetary policy, financial market sophistication, and market interest rate movements, and by increasing the monitoring of these factors. By doing so, they can monitor bank liquidity levels more quickly, improve the efficiency and accuracy of monitoring, and then make adjustments to bank liquidity based on the monitoring results, allowing commercial banks' liquidity to remain stable. The risk associated with commercial banks' liquidity will be decreased, and the liquidity of commercial banks will return to a more normal and consistent level.

2.4.2 Contagion of financial risk

Scholars are still debating how to accurately determine whether financial risk contagion has occurred. For this reason, researchers usually use sub-market data with a clear date of the crisis and measure the cross-market correlation coefficient before and after the crisis. If the correlation coefficient grows dramatically during a crisis, this indicates that there is a high cross-market correlation, or in other words, contagion across markets. According to Calvo and Reinhart (1996), this sort of technique was employed in their research of the 1994 Mexican peso crisis, and it was used by Baig and Goldfajn (1999) in their study of the 1997 Asian financial crisis. In a number of comparable papers, researchers discovered significant variations in correlation coefficients throughout the crisis time and concluded that contagion occurred during the crises under investigation. However, such approaches, which use simple linear correlation coefficients, do not take into account the complex and variable non-linear relationships in financial markets. In recent years, some scholars have used the dynamic conditional correlation coefficient model (DCC-GARCH), first adopted by Engle (2002), to some effect to study the existence of contagion, which does not require an exact date of crisis onset and therefore does not rely on sub-market data.

2.4.3 Factors influencing financial stability

Finance serves as the lifeblood of an economy, and financial stability is essential to the healthy and orderly growth of an economy as a whole. Financial markets and institutions in the financial industry can operate normally in a stable financial environment, which is conducive to the state's economic regulation and control through fiscal and monetary means, as well as the prevention and control of various risks. It is also more conducive to the financial system's resource allocation function being given full play in a stable financial environment.

The Swiss Central Bank published its first report on financial stability in 1988, and since then, many countries have begun to consider financial stability as an important operational objective of the financial system, and many academics have embraced it as an important topic for research.

With regard to the risks to financial stability stemming from the factors that influence it, current research suggests that, based on the definition of continuity in the state of the financial system and the framework for financial stability analysis given above, identifying and examining potential risks and vulnerabilities that threaten the smooth functioning of the financial system and macroeconomic activity is an important part of financial system stability analysis.

This type of risk can occur inside the financial system itself, but it can also exist in the real economy and be conveyed to the financial system as well. It is possible to be at danger in two ways. For example, endogenous risk refers to scenarios in which the monetary authorities limit the extent and likelihood of endogenous imbalances via the use of instruments such as financial regulatory frameworks and traditional crisis management. Internalized imbalances are created by a lack of financial institution regulation, a high

level of intrinsic volatility in financial markets, and a lack of suitable financial infrastructure, among other factors (Nieto and Schinasi, 2007).
In addition, because of the long-term nature, diversity, and uncertainty of delays associated with the second kind of external shocks, it is difficult for macroeconomic policy to directly impact the incidence of external shocks to the financial system.
Since the 1990s, financial crises have occurred in the Nordic countries, Japan and South East Asia. The 21st century saw the outbreak of the severe sub-prime mortgage crisis in the United States, and the European debt crisis followed. These financial crises have severely affected the level of economic development of countries around the world, and the financial systems of various countries have simultaneously suffered unprecedented challenges. As a result, the world's financial institutions and countries began to reflect on the composition of their own financial systems, their risk resilience and their regulatory mechanisms, and to invest more resources in building financial stability assessment systems that meet their own characteristics in order to ensure the normal functioning of their financial systems. Since the beginning of the 21st century, research on financial stability assessment systems has developed rapidly (Borio and Drehmann, 2009).
Specifically, the more mature financial stability assessment systems that have been used internationally include: IMF Financial Soundness Indicators
The IMF Financial Soundness Indicators (FSIs), the European Central Bank (ECB) Macroprudential Indicators (Macro), and the European Financial Stability Indicators (EFSI).
The more mature financial stability assessment systems include the IMF's Financial Soundness Indicators, the ECB's Macro-Prudential Indicators (MPIs) and other more commonly used financial macro-monitoring systems.

2.4.4 Factors influencing banking crises

Since the 1980s, a number of countries have introduced financial liberalisation reforms and used them as a means of achieving economic growth. However, most of the countries that have advanced financial liberalisation have experienced banking crises or other types of financial crises, and crises are considered to be one of the characteristics of developing countries' involvement in financial integration.
Diaz-Alejandro (1985) was the first to note the link between financial liberalisation and banking crises. Hellmann et al. (2000) developed a theoretical model of the impact of financial liberalisation on banking crises, which argues that financial liberalisation increases bank competition and compresses bank profit margins, that falling bank profits also reduce the value of bank franchises, that banks have less incentive to make prudent Bhagwati (1998) argues that the Asian financial crisis was triggered by excessive borrowing of short-term foreign capital as banks and firms were able to borrow from abroad due to capital account deregulation in Asian countries.) argue that capital account liberalisation is directly related to whether financial crises can occur and the extent to which countries will be affected by them. However, macroeconomic foundations, structural features, contagion phenomena, and past experiences with financial crises all have a significant influence in determining the outcome of a banking crisis.
In addition to financial openness, other factors such as exchange rate regimes, deposit insurance systems, bank regulation, and institutional quality can also have an impact on banking crises. Theoretically, Chang and Velasco (2000) investigate the impact of different exchange rate regimes on bank crises by developing an open economy model with a small number of banks. They find that the central bank's lender of last resort function is more likely to prevent "self-fulfilling" bank runs under a floating exchange rate regime than under a fixed exchange rate regime. Hausmann et al. (1999) show that a fixed exchange rate system limits the risk coping capacity of banks in the face of adverse shocks, leading to

increased vulnerability of the banking system.
Krugman (1998) argues that bank moral hazard resulting from deposit insurance systems was a major cause of the East Asian financial crisis. Krugman (1998) argues that bank moral hazard is the main cause of the East Asian financial crisis, and that banks' risk supervisory consciousness is diluted by government guarantees to depositors, which in turn leads to excessive risk-taking by banks and ultimately to the outbreak of a banking crisis. In addition, most studies have concluded that institutional quality can reduce the probability of a banking crisis.
Bank concentration can also have an impact on banking crises. One view is that some theoretical and cross-country comparisons suggest that a more concentrated banking system is less prone to banking crises than a less concentrated one (Allen and Gale, 2004). The reason for this is that highly concentrated banking systems generally have higher market power and bank profits, which not only mitigate various shocks but also increase the value of banks' franchises and reduce the likelihood of systemic banking crises (Hellmann et al., 2000). It is also easier to regulate a few banks in a centralised banking system than to regulate many banks in a decentralised banking system. Another opposing view is that banking system fragility is instead reinforced by a highly concentrated banking market structure.
Existing studies mainly suggest that financial liberalisation facilitates the occurrence of banking crises and reduces their probability or has no significant impact on them. The incidence of banking crises may be influenced by a variety of other factors such as exchange rate regimes, deposit insurance schemes, bank regulation, institutional quality, and bank concentration, among others.

2.4.5 Bank risk-taking

Commercial bank risk-taking is influenced by a range of factors. Existing research has examined the factors influencing commercial bank risk-taking from the perspectives of bank business attributes, corporate governance, market competition and external macroeconomic conditions.
Previous literature suggests that factors such as a bank's past risk profile, profitability, size and other characteristics of itself have an impact on commercial bank risk-taking. laeven and levine (2009) empirically show that the level of risk-taking in a lagged period is significantly related to the current level of risk. tabak et al. (2013) demonstrate that a bank's profitability is a result of risk-taking and Hakenes and Schnabel (2011) show that smaller banks take higher risks under the Basel II framework. Some variation in the samples selected by the studies has led to different empirical results.
An additional body of research has investigated, from a variety of viewpoints, the relationship between corporate governance of commercial banks and their risk-taking. According to a research by Laeven and Levine (2009), corporate governance has a major influence on the risk-taking of commercial banks, and that risk-taking by commercial banks is higher when there are big shareholders in the business. Fortin (2010) and others argue that there is a wide variation in the impact of different incentives on risk-taking in commercial banks, with higher compensation reducing risk-taking by bank management, and commercial bank management being willing to take higher risks when there are higher bonuses or options. research by Mnasri and Abaoub (2010) suggests that capital adequacy is not the most Some corporate governance variables such as management shareholding and employment of former government officials have a significant effect on commercial bank risk-taking, where employment of former government officials reduces bank risk-taking, while management shareholding has a non-linear relationship with commercial bank risk-taking, but their study also shows that ownership structure in corporate governance has no significant effect on commercial bank risk-taking.
Market competition has also been shown to be a significant factor influencing risk-taking in commercial banks, as demonstrated by Matutes and Vives (2000), who conducted an empirical analysis of competition

and risk-taking in the banking industry and discovered that there is a mixed association between the two, indicating that there is a monotonically decreasing relationship between the two.
According to the information used in the risk-taking measures of commercial banks, they can be divided into financial information-based risk-taking measures and market information-based risk-taking measures, which have been used in the literature to measure commercial bank risk.
The non-performing loan ratio, capital adequacy ratio, and Z-index are the most important financial indicators employed in the risk-taking measures, respectively. Almost all academics who have attempted to measure the level of risk-taking by commercial banks have used the nonperforming loan ratio (NPL ratio) since Salas and Saurina (2002) chose the NPL ratio as the indicator of choice for determining how much risk was taken. According to Hannan and Hanweck (1988), the Z-score value indicator was established to measure the risk-taking level of commercial banks. The magnitude of the Z-score value indication is inversely related to the amount of risk-taking of the bank in question. As a result, the greater the Z-score number, the lower the risk-taking level of the bank. Additionally, Garca-Marco and Robles-Fernandez (2008) employed the Z-score value indication to determine the amount of risk-taking in the Spanish population. Throughout this thesis, this will be the primary measure that will be employed in the data analysis portion.

2.5 Fintech and risk-taking

2.5.1 Definition of liquidity risk for commercial banks

If liquidity risk occurs, as discussed in the literature review above, commercial banks will be unable to obtain the funds they require to meet their obligations, which will have an impact on their normal operations and may even result in a situation where all of their assets are insufficient to cover all of their liabilities. The liquidity of commercial banks, which act as intermediates, is just a tiny part of their overall assets, and if a large number of clients suddenly withdraw their monies from the bank at the same time, a run on the bank might occur, resulting in a liquidity crisis.
Commercial banks are exposed to a broad range of liquidity risks, which are cumulative in nature. In order to determine the occurrence of liquidity risk, several aspects must be taken into consideration. These elements include financial markets, credit conditions, and operational mistakes. Therefore, liquidity risk can reflect the overall status of commercial banks in terms of their operations. Several indicators have been set up by regulators to monitor liquidity risk in attempt to avoid it from occurring in the first place.
Banks are subject to liquidity risk, according to the Diamond and Dybvig (1983) model, because of maturity mismatches between assets and liabilities, as well as their function as liquidity providers to depositors, the model claims. According to Kondor and Vayanos (2019), specialised brokers, such as market makers, investment banks' trading desks, and hedge funds, are frequently used to provide liquidity in the financial markets. According to Khan et.al (2019), a novel strategy is used to construct an exogenous source of change in each bank's exposure to banks from other states that may enter each year by combining the dynamic process of interstate bank deregulation with a "gravity model" of investment to construct an exogenous source of change in each bank's exposure to banks from other states that may enter each year. In this thesis, the link between greater rivalry among banks and liquidity generation is studied. As a result, each year's exposure to banks from other states changes exogenously. Finally, regulation-induced competition reduces bank liquidity production and increases bank liquidity risk.
Chen et.al (2018) study the drivers of liquidity risk as well as the influence of liquidity risk on bank performance by employing different liquidity risk measurements. Galletta and Mazzu (2019) use a period-specific maturity mismatch indicator (LTDm) for loans and deposits to measure banks' liquidity

risk, optimising the time reference, and Zhang et。al (2020) propose a new theoretically sound approach to assessing banks' liquidity needs that takes into account both the risks of bank runs and bankruptcies, as well as their interactions. Galletta and Mazzu (2019) use a period-specific maturity mismatch indicator (LTDm) for loans and deposits Using data from listed Chinese banks, it is shown that the deviation between the actual liquidity ratio and the optimal liquidity ratio among banks reliably represents liquidity risk.

Ippolito et.al (2016) show that because banks supply liquidity to depositors and lenders, they are exposed to risk on both the asset and liability sides. For the purpose of managing this dual risk, banks would selectively offer lines of credit, therefore decreasing the cross-sectional impact of the dual risk during a recession or financial crisis. Robatto (2019) proposes a general equilibrium model of the banking sector with multiple equilibrium to analyse bank runs caused by panic, and he uses the model to investigate the ability of money injections to eliminate financial panics. Robatto (2019) has published a paper in which he discusses his research on the banking sector. Bank loans with the same seniority as deposits are more successful than asset acquisitions in terms of reducing panic since, in a sense, they require lower capital infusions to achieve the same result. In the case of central bank lending to banks, the central bank shares the losses of financial intermediaries with private people, lowering the incentive to run and thus reducing the risk of liquidity in the financial system. Carletti and Leonello (2019) develop a market cash pricing model. When confronted with a liquidity shock, banks have the option of investing in liquidity reserves and safe lending, according to this model. The latter is available for sale on the interbank market at a price that is determined by the supply and demand for liquidity in the market.

Commercial banks can selectively grant credit lines, lend to central banks, and invest in liquidity reserves and safe lending in order to manage banks' liquidity risk. Supervisory authorities must concentrate on ex ante precautionary management, strengthen liquidity risk regulation in accordance with Basel requirements, and guide commercial banks in their asset-liability allocation in order to manage banks' liquidity risk.

2.5.2 Fintech

When finance and technology are combined in the current financial environment, such as through the use of recently emerging financial sector technologies such as big data, the output of the financial sector can be increased while the inputs remain the same. Fintech can also be used to help manage and control the occurrence of financial risks. This technology, which is still in its early stages of development, provides a glimpse into the future direction of finance. Schueffel (2016) provides a succinct and unambiguous definition of FinTech that is broad enough in scope in terms of application: "FinTech is an emerging financial business that leverages technology to improve the efficiency of financial transactions."

According to Lee and Shin (2018) in their paper, Fintech is widely recognised as one of the most significant developments in the financial industry, and Fintech has the potential to completely transform the financial sector in a variety of ways, including the cost and quality of financial services. In the traditional financial sector, Fintech can introduce new business models that are supported by a variety of new technologies, namely financial innovations that use information technology in all aspects of the financial sector, such as improving the quality of financial services and the efficiency of financial markets, in terms of financial instruments, business processes, governance within institutions and the management of financial markets, among other things. As a result, fintech has had a significant and direct impact on how financial institutions and financial markets provide products and services to their customers, as well as on how they supply and demand financial products and services. This has resulted in financial institutions' ability to provide better quality financial services as well as to reform and innovate the structure of financial services.

Haddad and Hornuf (2019) examine the economic and technological determinants that encourage the formation of Fintech start-ups. A greater number of Fintech start-ups started in nations where the economy was established and risk financing was readily available. Going back to their article from 2017, Gomber and colleagues explain that digital finance includes two aspects: first, Fintech companies that provide a variety of new financial products and related software; and second, companies that provide a variety of different services to financial institutions through technological innovations that offer a variety of new financial products and related software.

According to the research above, Fintech has the potential to cut costs, improve the quality of financial services, and increase the efficiency of the financial sector; nevertheless, as it develops, it will confront increasingly complicated hazards and present several difficulties to the financial system's regulation. Gai et.al (2018) believe that the core of Fintech is data and security. They propose a data-driven Fintech framework based on their survey and develop four dimensions of Fintech driven by data usage, including efficiency, accuracy, energy, and security and privacy. According to Goldstein et.al (2019), the spectrum of Fintech activities begins with mobile payments, remittances, peer-to-peer lending, and crowdfunding and extends to blockchain, cryptocurrencies, and robo-investing. As a result of this process, the financial system's regulation is being faced with new issues. Fintech has boosted the speed with which financial information is processed and disseminated, as well as the cost of transactions, while also creating substantial changes in risk management practises.

2.5.3 The Relationship between Fintech and Commercial Banks

Through an examination of the annual reports of US banks, Bunea et.al (2016) discovered that a significant majority of banks acknowledged to being threatened by Fintech startups after 2016. However, while Fintech can increase the efficiency of commercial banks by eliminating information asymmetries, Vives (2017) argues that Fintech also works as a competitor to commercial banks and puts a strain on the business model of conventional commercial banks.

Buchak et.al (2018) demonstrate, using a straightforward quantitative model, that the emergence of Fintech lenders is one of the primary causes for the significant drop in the proportion of traditional banks in the residential mortgage market. According to the findings of the study, the rise of Fintech, while encouraging the marketisation of interest rates, has had an influence on the traditional banking system to some extent. Commercial banks are taking on greater risks than they have in the past due to the fast growth of Fintech technology. Commercial banks have experienced significant growth as internet technology companies have entered the financial sector to conduct various businesses and analyse the behaviour of their customers based on the vast amounts of data they have collected. This has greatly contributed to the rapid development of their scale and has had a significant impact on the growth of various businesses of commercial banks. Fintech has had an impact on commercial banks' operational efficiency, profitability, risk-taking, and financial stability during the course of its growth, as evidenced by the research cited above. The fact that Fintech businesses can provide flexible and convenient financial services while also improving the efficiency of commercial banks has prompted some to recommend that banks collaborate with Fintech companies.

By analysing the latest trends in the banking industry, Romanova and Kudinska (2016) argue that it is important for banks to collaborate with Fintech companies, especially in areas of business where Fintech companies offer services other than banking. The timely integration of Fintechs into the business can give banks a comparative advantage in an increasingly competitive environment. Li et.al (2017) conclude from a quantitative analysis that banks' stock income increases with the rapid increase in the size of Fintechs, reflecting the complementary nature of the two, rather than a substitute. anagnostopoulos (2018) argues

that banks have financial expertise, infrastructure and a stable old customer base, while Fintechs have the characteristics of being agile, innovative and have a future customer base. Because banks' systems cannot yet fully accommodate the digital ecosystem, banks may benefit by seeing Fintechs as partners rather than competitors. Moreover, according to Temelkov (2018), Fintech businesses force banks to step outside of their comfort zone, and whether Fintechs will become a danger or an opportunity will be determined only by the future plans of the banks. Furthermore, under the effect of Covid-19, Fintech platforms offer a larger danger to the business operations of commercial banks than they did previously. Instead of just preserving the status quo in the face of intense competition, commercial banks are aggressively engaging with Fintech businesses in order to successfully integrate finance and technology together in order to achieve the objective of supporting the real economy with financial services. As a result, the collaboration between Fintech companies and commercial banks is helpful to the development of commercial banks in general.

The foregoing research suggests that commercial banks should expand the amount of their assets to assist lower the likelihood of encountering liquidity risk. In addition to the variables that influence the banks themselves, there are a variety of external factors that might have an impact on the banks' liquidity risk. Due to decreased consumption and investment, a downward trend in the GDP growth rate is highly positive linked with commercial banks' liquidity risk, indicating a favourable environment for commercial banks' liquidity risk reduction in a downturn in the macroeconomic environment. Liquidity risk for commercial banks is also influenced by the level of complexity of the financial market. Because the financial market has grown in size and sophistication, there are more readily available sources of funding for commercial banks, resulting in lower transaction costs for financial instruments and a reduction in the risk of banks' liquidity. Changes in market interest rates have a significant impact on both borrowers and lenders, and this has a direct impact on the liquidity position of commercial banks and, consequently, on their liquidity risk. It is critical that these policies be developed. Fintech has a direct influence on the liquidity risk of commercial banks, and control variables for Fintech should be incorporated in future research in order to more accurately assess the impact on bank risk-taking behaviour.

2.6 Finance And Trade in the EU Member States

2.6.1 Financial development in the EU Member States

The country study chosen for this thesis is the EU member states. According to the classification criteria on the UK government website, EU countries are defined as including Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden. 27 countries, with the UK included as the sample is based on data from 2000 to 2017.

Financial development, economic globalisation, and institutional quality are among the most significant elements impacting economic growth in both emerging and developed countries throughout the world. Furthermore, disparities in the degree of globalisation, the depth of financial sector growth, and the quality of institutions between emerging and developed countries all contribute to the distinction between developing and developed countries (Stiglitz, 2004). The financial sector is central to the growth and development of a country's economy and plays a crucial role in both the flow and allocation of capital; Nasreen et al. (2020) mention in their study that the financial system in European countries is a bank-based system. And the main element of economic transformation in the countries of the EU member states is financial liberalisation, which is dominated by privatisation reforms in the banking sector.

According to Rajan and Zingales (2003), the features of the European financial system have changed significantly during the previous two decades. These authors explain the transition from a banking-based system to a market-based system in several European nations. During the financial reforms in European countries, the emphasis was primarily on the banking sector, which underwent reforms such as the establishment of a two-tier banking system, reconstruction of the banking sector, privatisation reforms and the entry of foreign banks. The entry of foreign banks was a major feature of the financial sector reforms in European countries, which resulted in a banking system dominated by foreign banks.

Because of the economic transition, the EU member states have implemented comprehensive privatisation reforms in all sectors of the economy, and the trade sector, which is one of the sectors that are open to the rest of the world, has grown significantly as a result of this reform. The EU member states have also implemented comprehensive privatisation reforms in all sectors of the economy. A similar process was followed in the trade sector, which included (1) establishing various relevant trade policies, measures, and regulations; and (2) reforming the exchange rate system in response to the instability of the domestic currency, which was accompanied by appropriate fiscal and monetary policies.

Following this, trade liberalisation reforms were mainly internal to the sector and external active participation in various forms of economic cooperation. National governments expanded the scope of trade operations, lowered or removed various trade restrictions and barriers to imports and exports, and actively participated in various economic cooperation organisations and international economic organisations. It is held by P. Holden (2017) that neoliberalism's impact on trade policy is self-evident, as it promotes global free trade by removing domestic protection from the market, it challenges privileged local interests, promotes the development of global markets, and promotes a more efficient international division of labour. In an interesting finding, La Porta et al. (1997) discovered that trade openness enhances financial development in richer economies, but not in poorer ones, in their empirical investigation.

We have become increasingly aware, since the beginning of the global financial crisis, of the fact that current financial regulation is falling behind the pace of financial innovation, and that the current regulatory system system is woefully unprepared to meet the requirements of the current deepening financial integration. With the onset of the European sovereign debt crisis and the ensuing European banking crisis, European financial integration has been disrupted, and capital has begun to flow back into the continent. Governments and key European institutions have taken steps to rescue the market by injecting money, broadening the scope of suitable collateral, and assisting banks in their recapitalization efforts in order to bail out distressed banks. These policies, on the other hand, served to weaken the interests of taxpayers while exacerbating the negative feedback effect between banks and national sovereignty, as described above. The European Union advocated the construction of a European Banking Union in order to address the core causes of the crisis, maintain financial stability, and prevent the recurrence of such crises in the future. It is composed of three pillars: a single supervisory mechanism for banks, a single disposal mechanism for banks, and a common deposit guarantee mechanism. All of these pillars will play a constructive role in minimising the negative feedback effect between banks and national sovereignty, limiting the fragmentation of financial markets, and preserving the interests of depositors, taxpaying people, and company owners. While a number of key issues have been addressed, there are still several issues that need to be addressed in the details of the establishment of the European Banking Union. These include the selection of participating countries, coverage of banks, coordination of the European Central Bank's dual role, relations between the European Union and the relevant institutions, as well as the issue of financial support.

2.6.2 European Economic Growth

The services market, despite the fact that the European single market has been formally operational since 1993, is extremely restricted, with significantly varied laws in the financial sector and a large number of regulatory systems raising the costs of doing business. In the United Kingdom, the banking model is similar to that of the United States, in which the savings and credit business and the investment business are strictly separated, i.e., they operate separately, whereas in some continental European countries, such as Germany, the banking model is integrated, i.e., they operate on a mixed basis, and UK banks and German banks are in an unfair competition situation as a result of their different business models, as explained above. Despite the fact that the EU allows financial institutions licenced by the EU to engage in financial activities across national borders, individual member states have in practise erected numerous barriers to the activities of these financial institutions in their own countries in order to protect their own interests.

European venture capital markets are still at a very early stage of development. Due to the fact that venture capital tends to favour technological businesses with quick development possibilities, it entails a significant amount of risk and uncertainty. Venture capital may be split into two categories based on its stage of development: Early Stage and Development Stage. Early Stage venture capital covers the Seed Stage and the Start-up Stage, which are the initial phases of venture capital and are associated with increased technological risk. In venture capital investing, the Development Stage, which comprises the Expansion Stage and Mature Stage, is the most important stage since it entails the greatest amount of market risk and management risk. The somewhat conservative investing culture that prevails in Europe has restricted the potential for venture capital development. Many European venture capital funds have eschewed investing in high-growth, high-yield, high-risk enterprises since their establishment, and have instead moved their investment focus to corporate reorganisation and financial restructuring, as well as other areas of business. In addition, tax hurdles, such as the greater taxation of venture capital in the EU than in the United States and the double taxation of cross-border operations, have impeded the development of venture capital. The proportion of risk capital investment in GDP in the European Union is just one-third that in the United States. Consequently, the wide disparities in the regulation of European financial markets, as well as a scarcity of risk capital, are significant contributors to the lack of innovation in the European Union.

It's possible to summarise the research literature on European economic development in four areas: advancement in theory, productivity measuring methods, research on the factors of economic growth in Europe, and research on Europe's economic growth prospects. Classical growth theory, neoclassical growth theory, and the new growth theory all fall under the broad umbrella of economic growth theory study.

Allyn Young, an American economist, used the term "Smith's theorem" to refer to Adam Smith's assertion that the division of labour was the primary source of economic expansion in the classical growth stage. Allyn Young's (1928) idea that endogenous economic evolution is the most important form of division of labour and that a circuitous mode of production is the most important way to divide labour determines market capacity and productivity. Marx's theory has a profound impact on subsequent generations, as has Marx's long-run dynamic analysis. Economic upheaval and expansion are caused by entrepreneurial innovation.

The neoclassical growth stage is a theory of economic growth created by Solow (1956) that emphasises technical advancement as the source of rising per capita income. The assumption that technological advancement was exogenous meant that government economic policies did not have a significant influence on economic growth. Among the others are Swan (1964), Koopmans (1963), and others.

Next comes a new growth model. As recently as the 1980s, the new growth theory was proposed by

economists such as Romer (1990) and Lucas (1988), who emphasised the importance of capital accumulation as well as innovation in promoting technical advancement and economic expansion. For example, the Schumpeterian growth theory based on innovation, research, and development is one of the new growth theories that may be separated into physical capital, human capital, and Schumpeterian growth theories.

To achieve long-term, steady expansion based on a new theory of growth based on physical capital investment, academics argue that governments should put more emphasis on policies that encourage the development of new technologies. These theories include Jones and Manuelli (1990), King and Rebelo (1990), Barro (1990), as well as Rebelo and Stokey (1995).

A typical representative of the new growth theory based on human capital is Lucas, who in 1988 used human capital as an input to a production function that determines long-run economic growth by increasing returns to scale due to human capital externalities. In addition, Grossman and Helpman (1991) also developed a model to internalise technological progress as a linear function of the stock of human capital.

Nelson and Phelps (1966) conducted the first study of human capital, which looked at the phenomenon that farmers with higher levels of education were more likely to adopt new technologies. They concluded that education increases human capital and, as a result, contributes to the diffusion of technology. Vandenbussche, Aghion, and Meghir (2005) examine the impact of different levels of human capital on technological progress and find that when an economy is close to the technological frontier, those employed with higher education who are engaged in technological innovation make a significant contribution to productivity growth. When the economy is far from the technology frontier, the impact on total factor productivity growth is greater for those employed in primary and secondary education who are engaged in technology imitation.

A large body of recent empirical research suggests that insufficient competition and excessive market regulation have been important reasons for lower total factor productivity growth in Europe since the mid-1990s. In 1996, Martinse et.al (1996) found that the European market Lerner index is higher than the US market Lerner index, indicating that the European economy, particularly in the services sector, is less competitive than the US economy. Tighter market regulations lead to fewer new entrants to the market (Cincera and Galgau, 2005) and a higher Lerner index (Boone, Griffith & Harrison, 2004). Nicoletti & Scarpetta (2003) show that lower barriers to entry and exit and regulatory regimes stimulate business investment and promote innovation and technological catch-up, thereby contributing to total factor productivity growth. Several authors, including Bloom and Van Reenen (2006), contend that Europe's lower level of market competition, along with poor organisational management performance, is a significant contributor to the region's lower total factor productivity.

The study of measuring economic growth is a gradual process, and the current European literature rarely links this aspect of research to the relevance of political institutions. The research in this paper contributes more to the study of financial orientation and political institutions and does not explore the link with economic growth. The influence of political institutions is a very important and worthwhile topic of study, especially in the light of the intricate relations between the European regions and the impact that particular trade barriers have had on this region in part.

2.6.3 European Financial Cooperation

Europe's financial cooperation is a model among the various regional financial cooperation initiatives, and it has played an essential part in the EU's integration process from its inception. European financial collaboration may be generally split into four categories: monetary cooperation, financial market

cooperation, financial regulatory cooperation, and financial stability cooperation. Monetary cooperation is the most common type of financial cooperation. After the Second World War, the monetary landscape in Europe changed considerably with the emergence of the Deutsche Mark in 1948. The Deutsche Mark was designated as a reserve currency by the International Monetary Fund (IMF) in 1972, and a number of European currencies were transformed into a fixed exchange rate with the Deutsche Mark at that time. There were a number of driving factors behind the move from the Deutsche Mark to the Euro. When France and Germany began to become more friendly with one another, the divisions between the two countries on monetary union began to lessen. European financial interests were difficult to realise after World War II under the Bretton Woods system, which was dominated by the US dollar. The Bretton Woods system collapsed in 1971, providing a major push for the establishment of European monetary union.

In the 1990s, a new monetary union, the Eurozone, emerged on the basis of the establishment of the European Union. Although the euro has had a bumpy road, it has long since surpassed the status and influence of the Deutsche Mark and has increasingly taken on a character that transcends national sovereignty.

During the EEC period, numerous policies were introduced to gradually make capital flows between its member states easier. After the establishment of the European Union, cooperation in the European financial markets received a further boost, and in 1998 the three stock exchanges of Belgium, the Netherlands and Luxembourg signed an agreement to enter into an alliance. In the same year, the presidents of eight major European stock exchanges, including London and Paris, agreed to form a single pan-European stock exchange. 1999 saw the introduction of the EU's Financial Services Action Plan, with reform measures covering a wide range of financial institutions, including securities and insurance. The European financial markets have become increasingly linked, cooperation in the securities markets has deepened, exchange rate risks and transaction costs have all been significantly reduced, and cooperation in the financial markets has given the EU a stronger life.

After the Second World War, with the development of an internationally unified monetary system, the pace of regionalisation of the monetary system began to accelerate. From the European Payments Union to the establishment of the European Monetary Union, European financial cooperation is a universally recognised example of regional financial cooperation. From the perspective of historical understanding, European financial cooperation has gone through four main phases. The first phase began in the early 1950s with the Commission's commitment to achieving free movement of capital. The second phase began with the establishment of the European Monetary System (EMS) and the European Exchange Rate Mechanism (ERM), with the aim of achieving monetary stability among European countries and an acceleration of the process of financial integration. The third phase began in 1978, when the EC proposed the Single European Instrument and recognised the main role of the European Monetary Union (EMU) and considered that it could be further pursued actively and drew up initial plans. The EC proposed four steps of financial integration in 1983, including:abolishing cross-border capital controls, strengthening regulation to achieve stability and efficiency in capital markets, harmonising national taxation, and harmonising deposit and lending guidelines for financial institutions. The fourth stage began with the signing of the Maastricht Treaty and the creation of the Eurozone in 1992 (Worthington, Katsuura & Higgs, 2003).

There are two representative theoretical perspectives on the study of regional financial cooperation. The "optimal currency area" theory was proposed by Mundell in 1961. This theory is a good solution to the problems of regional financial cooperation. According to him, the criterion for judging whether a currency zone is optimal or not is whether the factors of production are highly mobile. Mckinnon (1963) argued that the criterion should be changed to whether the economy is highly open, and Dornbusch (1976)

proposed a 'sticky price monetary model' to analyse monetary policy under a floating exchange rate regime. He suggested that an increase in the money supply would lead to a decrease in interest rates and that price stickiness would lead to a slow adjustment in commodity markets and a fast adjustment in financial markets, resulting in inconsistent changes in interest rates and exchange rates, which in turn would affect inter-regional financial cooperation. Most of the relevant studies are region-specific, such as Henning (2002), Kuroda and Kawai (2003), Pei (2005), Chey (2009), Hamanaka (2011) and others, which focus on financial cooperation in the Asian region. In addition to this, Baele et.al (2004) and Árvai et.al (2009) have studied financial cooperation in the EU, and Ocamp and Titelman (2009) have studied financial cooperation in South America, all of which have laid the foundation for the study of regional financial cooperation. In addition to region-specific studies, some scholars have also provided their own views on regional financial cooperation in a general sense (Fritz & Mühlich, 2006). A review of the relevant research findings shows that the studies are generally limited to specific regions, and there is a lack of inter-regional and multi-regional comparative studies, as well as a lack of general studies on regional financial cooperation. This paper is limited by the data and cannot avoid similar problems.

The independence of European central banks is an important area of research for scholars. Alesina and Grilli (1993) explore the independence of the ECB from the perspective of political and economic independence. In terms of political independence, the Board of Governors, which has the power to make decisions, is formed through a game of national interests and compromise between various parties, so its independence is not fully realised. In terms of economic independence, the European Council also enjoys a certain degree of policy-making power, which prevents the ECB from making decisions independently. Grauwe (1997) explores the transmission mechanism of financial policy, especially monetary policy. His study shows that after a symmetric shock is generated, countries with high elasticity are able to benefit greatly from the ECB's unified monetary policies, while these policies have little effect on rigid countries. Dornbusch (1998) argues that although fiscal constraints in the euro area are justified, if monetary policy is oriented towards fiscal policy, it will affect the ability of fiscal policy to perform its proper function.

2.6.4 International Finance and Financial crisis

The focus on international finance began in the 1970s, when the collapse of the Bretton Woods system prompted Western scholars to pay increasing attention to international financial cooperation. the numerous financial crises after the 1990s prompted more scholars to join the theoretical and empirical research in this area. copper (1968) used the "monetary policy spillover " theory to describe the causes of international monetary cooperation. He argued that there were spillover effects of monetary policy through capital flows and trade, eventually concluding that the effectiveness of national monetary policies could only be expanded by considering monetary cooperation. This was followed by Cruuie, Levine and Vidalis (1987) who studied floating exchange rate regimes and concluded that the welfare of countries would be enhanced by international financial cooperation. Kindleberger (2013) applies Keohane's (1984) theory of hegemonic stability to the analysis of international financial cooperation. He argues that for international monetary markets, the presence of a hegemon is essential to maintain their stable order. Keohane later proposed a 'post-hegemonic cooperation theory', which argues that hegemonic cooperation is not the only way to cooperate. They use game theory to visualise the policy game and coordination between two countries in different situations. Scholars' research on international financial cooperation is not only limited to theory, but also covers many aspects of this field, such as the development of international financial cooperation and future prospects, international financial cooperation between developed countries, capitalist and socialist countries, developing countries, and regional financial cooperation.

And there are several main aspects of the study of financial crisis. First, there is the analysis of the causes of the financial crisis, such as Radelet and Sachs (1998), Crotty (2009), Borio (2011) and Disyatat (2011), which have successively conducted more in-depth studies from the structural causes and global imbalance causes. Minsky's (1991) theory of financial fragility, which is recognized by many scholars, suggests that one of the reasons for the increase in aggregate demand was the expansion of credit, which also led to a short-lived economic boom, and that once the bubble burst and panic spread, this boom would disappear instantly and the financial crisis would be completely full-blown. Secondly, there are studies on the spread of financial crises, such as Attinasi et al. (2009) and Mishkin (2010), who systematically describe the spread of the crisis in the eurozone and how it evolved from a subprime crisis to a global financial crisis, respectively. Finally, numerous scholars have studied the impact of the crisis, such as Goldstein and Turner (1996), Barro (2001), Bird and Rajan (2002), Griffith-Jones and Ocampo (2009), Milberg & Winkler (2010), Berkmen et.al (2012), etc.

Minsky (1996) states that a major cause of the banking crises in Sweden, Norway and Finland in the 1980s was financial liberalisation, and that the government was forced to spend an average of 8% of GDP to bail out these banks, showing that the costs of banking crises cannot be ignored. Soros (2012) states that after the financial crisis, European banks did not discount their Garcia & Nieto (2007) focus on the specific situation of the European Union. Their argument is that the consolidation of financial institutions is a danger to global financial stability, and that the rapid integration of financial markets in the EU will further worsen the risks involved. European member states retain their own sovereign status, which means that they have limited central bank influence over banking risk regulation in comparison to the dual regulatory system in the United States. Blundell-Wignall and Slovik (2010) examine the European sovereign debt crisis as well as the banking crisis from the perspective of the financial markets.

In terms of the causes of the crisis in European countries, they point out that Greece and Portugal were mainly due to their own financial problems, while Ireland and Spain were caused by large ups and downs in the real estate market. Noeth & Sengupta (2012) analyse the global economic downturn between 2007 and 2012 and find that the economic downturn was particularly severe in the Eurozone, with European countries facing not only a recession, but also a shrinking of assets and a debt. The onset of the crisis is signalled. The three main issues facing the European banking sector today are leverage, emergency bailouts and capital outflows. In addition, they describe in detail the transmission mechanism of the crisis in Europe, which is a combination of economic recession, banking crisis and sovereign debt crisis, and the interaction between the three exacerbates the severity of the situation. As a result of their research, they have maintained their position that improved regulation of the banking industry and other financial institutions is essential. For this reason, experts' studies on the European banking crisis have mostly concentrated on the European debt crisis, with a particular emphasis on the eurozone. The European banking crisis has been inextricably tied to the European debt crisis, and the two crises are irrevocably intertwined. But their study is restricted to Europe; the influence of the European financial crisis on the banking sectors of other nations across the world, and even the global economy, has not been thoroughly investigated.

2.6.5 Green Finance in EU Member States

In recent years, global green finance has moved into a systematic and institutionalised development trajectory, with financial institutions becoming increasingly aware of environmental risks. There is a direct correlation between finance and economic development (Sadorsky, 2011). As argued by Azam (2016), by promoting economic growth, the financial sector stimulates FDI inflows, which in turn further increases economic growth and contributes to the establishment of a well-established business cycle.

According to Hasseb et.al (2018), the expansion of the financial sector has helped the deepening of the financing network, resulting in a reduction in the cost of borrowing for small businesses and individuals. This encouraged industrial financial borrowing to increase production, which ultimately led to a situation where energy consumption increased and carbon emissions subsequently grew. Tamazian and Rao (2010), in their research, also imply that the quality of institutions and the level of financial development are both important factors in environmental deterioration. The financial sector plays a critical role in assisting businesses in obtaining the financial resources that they require (Ji et.al, 2021). As argued by Kim (2020), there is a pressing need to boost green finance in this field, as standard funding techniques might have a detrimental effect on the environment. Where Gagnon (2020) and Miralles (2019) both state that more and more investors are realising the value of green energy for environmental well-being and green finance is on the rise. Furthermore, Ji (2021) states that green financial assets have been found through research to generally outperform assets that are not environmentally friendly. The relationship between finance and the environment tends to be dynamic in the views of the above researchers and evolves over time and in response to changes in the environment (Torras and Boyce, 1998). Thus, Galeotti (2006) points out that too much emphasis on development in the initial stages of a country can lead to the existence of environmental degradation. However, once the cost of adopting green policies is acceptable, economies begin to look for environmentally friendly solutions (Dinda, 2004).

Over the past few years, the EU has continued to build a sustainable financial system aimed at fuelling the transition to a climate neutral Europe (Laidlaw, 2018). the European Green Deal Investment Plan in January 2020 the EU Taxonomy Regulation in July 2020, the Climate Benchmarking Regulation in December 2021, and the Sustainable Finance Disclosure Regulation in March 2021 form the new era of EU On 21 April, the European Commission published on its website the "climate & energy package" of measures to further improve the flow of EU-wide funds to sustainable economic activities. The "climate & energy package" was published on the official website of the European Commission. The aim of the package is to facilitate the reorientation of investors towards more sustainable technologies and businesses. Apart from that, on September 17, 2020, the European Commission unveiled its 2030 climate target plan, and the EU has already contributed to attracting the necessary level of investment through the European Strategic Investment Fund and other investment initiatives. However, the scale of these investments is already beyond what the public sector can handle. Accordingly, three strategies are being pursued by the EU financial industry to achieve this goal: The goals of this initiative are threefold: Making investments in more sustainable technologies and companies; supporting long-term growth in a sustainable way; and contributing to the development of a low-carbon, climate resilient and circular economy are all goals of the Sustainable Development Goals.

This will be accomplished through the development of a comprehensive policy agenda for sustainable finance by the European Commission, which will include an action plan for financing sustainable growth as well as a strategy for financing sustainable development.

2.6.6 Green finance for banks

As a result of external pressures from global policies on the environment and climate change, banks are more willing to act proactively to be environmentally responsible (Esposito, Mastromatteo and Molocchi, 2019). Chen (2018) argues that after the signing of the Paris Climate Agreement in 2015, pressure on banks to implement environmental protection and climate change began to rise. Global institutions such as the United Nations, the World Bank, the International Monetary Fund, the EU and the G20 have put more pressure on member states, financial organisations and trading partners to implement a green financial policy system in the financial sector (Campiglio, 2018). In addition to this, environmentalists are

also working to put pressure on banks to address environmental issues. Dikau and Volz (2020) believe that as a result of these pressures, central banks and foreign banks in all regions of the world are embracing environmentally focused reforms. Central banks are requiring banks to obtain green certification, green credit scores, environmental innovation and social inclusion (Chen, 2019). Accordingly, banks that comply with green finance requirements can benefit from central banks' tax exemptions and other intra-industry benefits. As a result, green finance is making a significant impact both in the banking and international spheres. However, Barbu and Boitan (2019) point out that green finance is also accompanied by potential risks that contain long-term uncertainties and are therefore difficult for banks and regulators to anticipate when considering the short- and long-term risks associated with green finance-related products. Siri and Zhu (2019) similarly warn that industry and bank policies on credit risk for green finance need to include measures to control risk, which should be distinguished from common risk management. Thus, the views of Falcone and Sica (2019) are supported by scholars with regard to the risks of green finance, and the need for future research and institutional policy making in the banking sector to move towards the robustness of a risk mitigation model that needs to include socially and environmentally responsible financial behaviour.

3. Methodology

3.1 Data Collection

In terms of the long-term impact of the crisis, there is a clear distinction between the impact on emerging and developed countries. This thesis therefore limits the scope of the study to European countries in order to observe a more pronounced change in the data. This study plans to use data on European foreign banks from 2000 to 2017, in addition to the fact that Europe was more exposed and affected during the financial crisis, data prior to 2017 was taken in order to avoid that the impact of Covid-19 on trade would bias the results.

In terms of the choice of data source, this thesis will use Bankscope's database and to reduce bias, the data will only include commercial banks. After the final collection and sorting in this thesis, data for all commercial banks within the EU region of 899 were obtained. In turn, this paper will use the regression equation mentioned below to calculate the data for foreign banks in the EU region for 28 countries. In line with the practice in the existing literature (Claessens et al., 2001), banks can be defined as foreign if foreign firms, individuals or organisations hold more than 50% of the capital. For the component measuring economic growth, this thesis has chosen to collect year-on-year changes in real GDP and average changes in inflation in the Economist Intelligence Unit Country Database.

3.2 Research Methods

The issue of how to measure the influence of political institutions is discussed in this research. This was discussed in a study by Wang and Sui (2019), who counted the number of autonomous government departments with veto power both within and outside of these departments to ascertain the degree of restraint exerted by government departments on policy decisions taken by one department through the intervention and veto of other departments. The index has a range of 0 to 1, with higher values indicating more political restrictions or a more powerful political structure.

Furthermore, one of the disadvantages of political restrictions is that if the government faces more constraints, it would be difficult to alter unsuccessful policies. As a result, they used democratic transparency, which is indexed in the International Country Risk Guide (ICRG) database, as a substitute in their research. It is a scale that ranges from 1 to 6, with lower values indicating dictatorships and higher values indicating more democratic forms of government, and higher levels of democracy indicating greater political competition. However, the maximum value of ICRG in the study of this paper reached 12.331 due to the different regions where the data sample was taken.

When these two metrics are combined, they reveal information about different facets of the political system. The findings of this report, which combine previous studies on the economic effects of foreign bank risk-taking and political institutions, show that as political institutions improve, foreign bank stability improves and risk-taking behaviour decreases.

With these factors in mind, this thesis will derive the impact of political constraints on the risk behaviour of foreign banks using the baseline analysis of Wang and Sui's (2019) model.

$$\mathrm{Risk}_{i,\ j,\ t} = \gamma_0 + \gamma_1 \bullet PoliticalI\ nstitution\ s_{i,j} + \gamma_2 \bullet \mathrm{Ban}kChar_{i,j,t} + \gamma_3 \bullet Macro_{j,t} + \gamma_4 \bullet Other_{j,t} + Year_t + f_i + \varepsilon_{i,j,t} \quad (1)$$

Two variables are used in the model to measure political institutions, namely political constraints, the

POLCONV index for the Haines dataset, and democratic accountability for the ICRG dataset. And the i, j, t denotes foreign bank i in host country j in year t.

3.3 Variables

In this study, the Z-score is chosen as the main indicator of bank risk-taking, and the Z-score is used as the explanatory variable in this thesis. In addition to the risk associated with the bank's interest-based and non-interest-based businesses, the score incorporates the total risk associated with the institution as a whole. It is possible to express the Z-score for each nation in the following way:

$$Z_{it} = \frac{ROA_{it} + EA_{it}}{\sigma(ROA_{it})} \tag{2}$$

Where ROAit is the return on assets of the bank i in year t; EAit is the equity to total assets ratio of the bank; and (ROA) is the standard deviation of the return on assets of the bank. σ(ROA) is the annual value of the standard deviation from 2000 to 2016 of the loan loss allowance and pre-tax return on assets. Z-score measures the standard deviation of the mean of the bank's returns that must fall to deplete all shareholders' equity amount. The second measure of bank risk-taking σ(NIM) used as a robustness test, equals the standard deviation of the annual net interest margin calculated for the years 2000 to 2016.

The natural logarithm of the (1+Z score) is applied, i.e. $\ln[1 + (ROA_{it} + EA_{it})/(ROA)_{it}]$. The chance of bank collapse decreases with the increasing scores, indicating a greater degree of financial stability in the banking industry.

A standardised Z-score is used by $[Z_{ijt} - \min(Z_j)/[\max(Z_j) - \min(Z_j)]$, where min and max represent the minimum and maximum values of the Z-score for each market, respectively, over the sample period. A higher score means that banks are less stable/risky relative to their peers in the resident market.

In addition to this, the essential variable in this thesis is the term "political system", which is a wide concept with several meanings and points of view. For the purpose of quantifying this somewhat wide term, this work follows in the footsteps of Ashraf (2017) and others in assessing political systems by employing the restrictions stated by Henisz (2000; 2010), which are referred to as political constraints. The index has a range of 0 to 1, with higher values indicating more degrees of political restraints or a stronger political system than lower values.

In contrast, Ashraf (2017) believes that one of the consequences of political limitations is that it will be harder for the government to modify inefficient policies if the administration is subjected to additional restraints. An alternative index in the International Country Risk Guide (ICRG) database called Democratic Accountability is used in this thesis to address the issue of political accountability. It assesses the quality of democracy and the degree to which the government is responsive to the needs of the people. The index has a scale from 1 to 6, with lower values assigned to authoritarian regimes and higher values assigned to more democratic systems of governance on a scale from 1 to 6. As a result of higher levels of democracy, political competitiveness increases, hence promoting and institutionalising competition between interest groups.

The two indices listed above represent different facets of the political system when taken together. Depending on the degree of involvement, the limits on decision-making, and the degree of democracy, sources of authority, the degree of restraints, and the evolution of political policy are influenced. Additional indicators typically used in the literature to define different features of political systems are employed for robustness testing, considering that 'political system' is a broad concept.

4. Data Analysis

4.1 Descriptive statistics

This thesis first follows Ashraf (2017) and others in measuring political systems using the constraints outlined by Henisz (2000 , 2010), which are denoted as political constraints. The number of independent government departments within and outside these sectors that have veto power is counted in order to determine the degree to which a government department's policy decisions are constrained by the intervention and veto power of other government departments on other government departments' policies. The political constraint index is a number between 0 and 1, with higher values indicating a greater amount of political restraint and, consequently, a more robust political system.

Aside from that, according to recent literature (Laeven and Levine, 2009), the bank Z-score is often recognised as the primary proxy for bank risk-taking. It is the goal of this thesis to filter accounting balance sheet and income statement data from 899 commercial banks in the European Union for the period 2000-2017 after removing a huge quantity of incorrect data by screening. All of the information was obtained from the Bankscope database. The sample contains both active and dormant banks in order to alleviate worries about survivorship bias in favour of less hazardous financial institutions.

Sample Distribution

Variable	Obs	Mean	Std. Dev.	Min	Max
Z_score	16,182	1.038682	0.9650496	0.2470688	7.490589
Z_n	16,182	0.1092857	0.1332294	0	1
ICRG	16,182	7.848661	1.437575	4.065262	12.33109
POLCONV	16,182	0.7719079	0.0779748	0.33674	0.9141708
Inflation	16,182	2.122265	1.725802	-1.227	10.078
LAASSETS	16,182	0.3428377	0.1331416	0.0341378	0.9210509
TOEOR	16,182	0.6491675	0.1602672	0.2296773	1.568807
TIIOR	16,182	1.516631%	0.7911455%	0.0964782%	7.421797%
PCG	16,182	2.069293%	2.524717%	-5.641%	8.493%

Table 1. Sample Distribution

Table 1 reports descriptive statistics for 899 banks between 2000 and 2017. It includes the mean, standard deviation, minimum as well as maximum values of the main independent variables for the sample countries. Where ICRG stands for democratic accountability, POLCONV stands for political constraints and is the political constraints index used in Henisz (2000), and it is also the core explanatory variable in this thesis. Inflation is one of the macro country level variable, LASSETS is liquid assets and/total assets, TOEOR stands for operating expenses/operating income, TIIOR stands for total interest income to operating income, and PCG represents GDP growth rate. As can be seen from the table, the standard deviation of the data is relatively volatile, i.e. there is a high degree of dispersion, especially for the two indicators of inflation as well as the value of GDP growth. However, the maximum and minimum values are not abnormal and are within the normal range.

4.2 Correlation coefficient matrix

In order to test for significance between the data, a large number of missing samples were screened out and tested using Pearson's correlation coefficient. Pearson's correlation coefficient is a measure of the degree to which two variables are correlated with one another. While the correlation coefficient matrix provides a preliminary determination of the link between variables, it is the regression that provides the ultimate determination of the relationship. According to generalised linear correlation theory, a higher absolute value of the correlation coefficient indicates a better linear correlation between the two random variables, and a lower absolute value of the correlation coefficient indicates a lower linear correlation between the two random variables.

Correlation Coefficient Matrix

Variable	Z_score	ICRG	POLCONV	PCG	Inflation	LAASSETS	TOEOR	TIIOR
Z_score	1.000							
ICRG	0.021***	1.000						
POLCONV	0.021***	0.066***	1.000					
PCG	-0.004	0.126***	-0.069***	1.000				
Inflation	-0.147***	0.185***	-0.097***	0.246***	1.000			
LAASSETS	0.141***	0.020**	0.027***	0.013*	-0.016**	1.000		
TOEOR	0.068***	-0.065***	-0.003	-0.021***	-0.057***	0.105***	1.000	
TIIOR	-0.256***	0.101***	0.033***	-0.016**	0.079***	-0.026***	0.008	1.000

Note: t statistics in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

Table 2. Correlation coefficient matrix

As can be seen in Table 2, the two indicators of political constraint, ICRG and POLCONV, are both positively correlated with Z-scores and have the highest level of significance. The two macro indicators PCG and Inflation are both negatively correlated with Z-score. However, as mentioned earlier, the correlation coefficient matrix is only a preliminary determination and the details are still subject to regression.

4.3 Multicollinearity Test

The testing of multicollinearity is an essential component of empirical research. In statistical terms, multicollinearity refers to the occurrence of a linear correlation between independent variables; that is, one independent variable might be a linear combination of one or more other independent variables, and vice versa. In a multiple linear regression model, the variance inflation factor (VIF) is a measure of the severity of multicollinearity, and it is calculated as In non-linear regression, it indicates the ratio of the variance of the estimated regression coefficients to the variance of the independent variables when the independent variables are believed to be not linearly connected with each other.

In general, a VIF value greater than 10 in multicollinearity indicates the presence of severe multicollinearity, while a VIF value less than 10 in multicollinearity indicates the absence of multicollinearity between variables. In the model studied in this thesis, our multicollinearity test results show that the VIF values of each variable are strictly less than 5, so there is no multicollinearity between

the variables and we can proceed to the next step of the analysis.

Multicollinearity Test Result		
Variable	VIF	1/VIF
Inflation	1.11	0.899989
PCG	1.08	0.927938
ICRG	1.06	0.940071
POLCONV	1.02	0.978694
TIIOR	1.02	0.982018
TOEOR	1.02	0.982041
LAASSETS	1.01	0.986270
Mean VIF	1.05	

Table 3. Multicollinearity Test Result

4.4 Model Setting Test

In the panel data study in this thesis, it is still necessary to choose the estimation method of the model, and the panel data study usually includes three model estimation methods, namely mixed regression model estimation, random effects model estimation and fixed effects model estimation. As to which model is appropriate to choose for our sample data, a series of tests need to be conducted to determine this.

Firstly, we carried out an F-test with the original hypothesis of choosing a mixed regression model, and the results of the test showed that the F-statistic was 4.61 for the ICRG model and 4.75 for the POLCONV model, both of which strongly rejected the original hypothesis of the F-test at the 1% significance level and chose its alternative hypothesis, i.e. choosing to use a fixed effects model.

Determination of test on ICRG					
Test method	H_0	statistical indicators	Statistics	P-value	Outcome
F Test	Choose mixed regression	F(898, 15277)	4.61	0.0000	Reject mixed regression,choose fixed effect model
LM Test	Choose mixed regression	chibar2(01)	3699.31	0.0000	Reject mixed regression model and choose random effect model
Hausman Test	Choose random regression	chi2(8)	119.75	0.0000	Reject random effect model,choose fixed effect model

Table 4. Determination of test on ICRG

The chibar2 results of the LM test then showed that the original hypothesis of the LM test (that a mixed regression model should be chosen) was strongly rejected at the 1% level, i.e. a random effects model should be chosen. The Hausman test, which was based on the original hypothesis of "no individual fixed effects", rejected the original hypothesis that there were individual fixed effects and that a fixed effects model should be chosen for the rest of the study.

Determination of test on POLCONV					
Test method	H_0	statistical indicators	Statistics	P-value	Outcome
F Test	Choose mixed regression	F(898,15277)	4.75	0.0000	Reject mixed regression,choose fixed effect model
LM Test	Choose mixed regression	chibar2(01)	3932.33	0.0000	Reject mixed regression model and choose random effect model
Hausman Test	Choose random regression	chi2(8)	54.23	0.0000	Reject random effect model,choose fixed effect model

Table 5. Determination of test on POLCONV

Table 4 and Table 5 present the results of the F Test, LM Test and Hausman Test for the core variables of ICRG and POLCONV respectively, from which we can see the significant rejection of the p-values. After excluding the mixed regression model and the random effects model, the fixed effects model was chosen for the subsequent study in this thesis.

4.5 Model Regression Results

In the results of our model analysis, in order to test the effect of time on bank risk-taking by political institutions, we set bank fixed effects and year fixed effects in zones (1) and (2) respectively.

In Tables 6 and 7, the thesis regresses the risk-taking indicators Z score and Z_n for the political constraint separately. Columns (1), (2) and (3), (4) are separate regressions for the two variables in the political constraint, POLCONV as well as ICRG.

The macro variables in the table include the two indicators Inflation as well as the value of GDP growth, LAASSETS is current assets/total assets, TOEOR represents operating expenses/operating income and TIIOR represents total interest income to operating income. icrg represents democratic accountability and POLCONV represents political constraint. p-values are indicated in brackets, three stars indicate significant at the 1% level and two stars indicate significant at the 5% level.

Model Regression Results on Z_Score

Variable	(1) Z_score	(2) Z_score	(3) Z_score	(4) Z_score	(5) Z_score	(6) Z_score
ICRG	0.02631***	0.25900***			0.02762***	0.26065***
	(5.07)	(41.17)			(5.32)	(41.46)
POLCONV			0.89517***	0.58663***	0.91949***	0.77703***
			(6.93)	(4.77)	(7.12)	(6.65)
Inflation	-0.08638***	0.02225***	-0.08535***	0.01779***	-0.09102***	0.01752***
	(-19.45)	(4.59)	(-19.59)	(3.45)	(-20.31)	(3.58)
LAASSETS	0.95978***	0.86482***	0.94830***	0.86541***	0.95392***	0.86050***
	(16.12)	(16.33)	(15.94)	(15.51)	(16.05)	(16.27)
TOEOR	0.50888***	0.18128***	0.48938***	0.17208***	0.50670***	0.18005***
	(10.74)	(4.26)	(10.36)	(3.84)	(10.71)	(4.23)
TIIOR	-0.31517***	-0.22364***	-0.30903***	-0.22075***	-0.31360***	-0.22250***
	(-31.96)	(-24.94)	(-31.47)	(-23.37)	(-31.84)	(-24.84)
PCG	0.00591**	-0.02066***	0.00760***	0.00180	0.00587**	-0.02097***
	(2.04)	(-5.13)	(2.64)	(0.43)	(2.03)	(-5.21)
_cons	0.82187***	-1.78309***	0.33899***	0.13200	0.11278	-2.38631***
	(14.76)	(-24.02)	(3.20)	(1.25)	(0.99)	(-20.37)
Bank fixed effect	YES	YES	YES	YES	YES	YES
Year fixed effect	NO	YES	NO	YES	NO	YES
N	16,182	16,182	16,182	16,182	16,182	16,182
R-squred	0.1174	0.3039	0.1187	0.2277	0.1204	0.3059
F statistic	338.818***	289.651***	343.042***	195.650***	298.609***	280.213***

Note: t statistics in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

Table 6. Model Regression Results on Z_Score

In the multiple linear regression analysis for Z-score as well as the independent variables, it can be seen that for every 1% increase in ICRG, Z_Score increases by 0.259% and for every 1% increase in POLCONV, Z_Score increases by 0.58663% when both the bank effect and the year effect are fixed.
LAASSETS and TOEOR are significantly positively correlated, with the percentage increase in Z_Score for every 1% increase in LAASSETS when only the bank effect is fixed being slightly larger than the percentage increase in Z_Score when only the bank effect is fixed. fixed year effects. For TIIOR, the relationship with the dependent variable is negative with or without the year fixed effect.
In the case of PCG, the opposite is true for Inflation, as PCG is positively correlated with Z_Score when no year fixed effects are added, and only the coefficient on POLCONV is still positively correlated when year fixed effects are added, but the other two are negatively correlated.

Model Regression Results on Z_n						
Variable	(5) Z_n	(6) Z_n	(7) Z_n	(8) Z_n	(9) Z_n	(10) Z_n
ICRG	0.00363***	0.03576***			0.00381***	0.03598***
	(2.72)	(13.39)			(2.86)	(13.45)
POLCONV			0.12358***	0.08099***	0.12694***	0.10727***
			(5.55)	(3.69)	(5.67)	(5.45)
Inflation	-0.01193***	0.00307***	-0.01178***	0.00246***	-0.01257***	0.00242***
	(-11.89)	(3.22)	(-12.35)	(2.61)	(-12.41)	(2.60)
LAASSETS	0.13250***	0.11939***	0.13092***	0.11947***	0.13169***	0.11880***
	(3.97)	(4.27)	(3.93)	(3.87)	(3.95)	(4.25)
TOEOR	0.07025***	0.02503	0.06756***	0.02376	0.06995***	0.02486
	(3.22)	(1.33)	(3.11)	(1.15)	(3.21)	(1.33)
TIIOR	-0.04351***	-0.03087***	-0.04266***	-0.03048***	-0.04329***	-0.03072***
	(-7.05)	(-6.38)	(-7.05)	(-5.85)	(-7.04)	(-6.36)
PCG	0.00082**	-0.00285***	0.00105***	0.00025	0.00081**	-0.00290***
	(2.21)	(-4.82)	(2.96)	(0.43)	(2.20)	(-4.88)
_cons	0.07935***	-0.28027***	0.01269	-0.01589	-0.01854	-0.36355***
	(3.27)	(-8.38)	(0.46)	(-0.59)	(-0.59)	(-9.05)
Bank fixed effect	YES	YES	YES	YES	YES	YES
Year fixed effect	NO	YES	NO	YES	NO	YES
N	16,182	16,182	16,182	16,182	16,182	16,182
R-squred	0.1174	0.3039	0.1187	0.2277	0.1204	0.3059
F statistic	51.351***	35.228***	55.043***	28.480***	49.088***	33.667***

Note: t statistics in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

Table 7. Model Regression Results on Z_n

Different from previous studies, the analysis in this thesis incorporates more factors for analysis, including the simultaneous regression of two variables, the results of which can be seen in columns (5) and (6). And further F-statistic values were used to verify the joint significance of the model, and the

results also prove that the model is significantly valid overall. The value of R-squred becomes larger after the model incorporates year fixed effects, but the overall effect of the indicator is not significant.

In the regression analysis of Z_n as well as the independent variables, with both the bank effect and the year effect fixed, every 1% increase in ICRG leads to a 0.03576% increase in Z_n and every 1% increase in POLCONV leads to a 0.08099% increase in Z_n. Inflation is similar to Z_Score in the analysis with Z_n in that it is negatively correlated with Z_n when no year fixed effects are added, but all become positively correlated when year fixed effects are added. Score increases by a slightly larger percentage than when the year effect is fixed. With ICRG only, Z_n increases by 0.1325% for each 1% increase in LAASSETS without reference to year fixed effects and by 0.11939% for each 1% increase in LAASSETS with the addition of year fixed effects. For TIIOR, on the other hand, there was a negative relationship with the dependent variable with or without the addition of year fixed effects. With the addition of POLCONV only, Z_n decreases by 0.04266% for every 1% increase in TIIOR without reference to year fixed effects, and by 0.03048% for every 1% increase in TIIOR with the addition of year fixed effects.

As in the analysis of Z_Score, the case of PCG is the opposite of Inflation, where PCG is positively correlated with Z_n when no year fixed effects are included, and after the inclusion of year fixed effects, only the coefficient of POLCONV is still positively correlated in the analysis, but the other two are negatively correlated. The final multivariate linear regression analysis of the Z-score as well as Z_n revealed a significant positive effect for most of the results. In contrast, for Inflation, there was an inverse relationship with Z-score when no year fixed effects were added, and the opposite result when year fixed effects were added.

Following the findings of the study, Wang and Sui's hypothesis that the stability or risk-taking capability of foreign banks rises or declines in the host nation is supported by the findings of their study. Better political institutions in the host country, according to the findings of this paper, reduce the risk-taking capacity of foreign banks by reducing the likelihood of government expropriation of banks, reducing information asymmetry between banks and borrowers, and lowering the cost of financing. This is also consistent with the hypothesis put out in this work in the research implications section, which states that bank risk-taking is much higher in nations with superior political systems.

The results for bank-specific variables confirm that more capitalised subsidiaries generate lower insolvency risk and that risk-taking by foreign banks increases with inefficiency. In addition, the positive coefficient on liquidity suggests that holding more liquid assets may reduce a bank's illiquidity risk. In contrast, higher inflation increases banks' risk-taking (both Z scores and Z_n are lower).

4.6 Robustness tests

Due to the large sample size taken in this study, although it provides more adequate data for the test, this robustness test was done to ensure the robustness of the results as data may be missing due to the variation in each country.

Robustness tests			
Variable	(11) sigmaROA	(12) sigmaROA	(13) sigmaROA
ICRG	0.00256***		0.00250***
	(6.40)		(6.21)
POLCONV		0.01826**	0.01435**
		(2.52)	(1.97)
Inflation	-0.00072**	-0.00032	-0.00065*
	(-2.11)	(-0.94)	(-1.91)
LAASSETS	0.00865**	0.00916**	0.00843**
	(2.04)	(2.16)	(1.99)
TOEOR	0.00427	0.00304	0.00432
	(1.21)	(0.86)	(1.22)
TIIOR	0.00159**	0.00194***	0.00154**
	(2.22)	(2.72)	(2.15)
PCG	-0.00020	-0.00005	-0.00018
	(-0.88)	(-0.21)	(-0.77)
_cons	-0.01438***	-0.00943	-0.02500***
	(-3.42)	(-1.48)	(-3.66)
N	16,182	16,182	16,182
R-squred	0.0031	0.0010	0.0033
F statistic	9.394***	3.617***	8.610***

Note: t statistics in parentheses; * p<0.1, ** p<0.05, *** p<0.01.

Table 8. Robustness tests

The standard deviation of the ROA was used as a proxy for the explanatory variables in the robustness test, and the sign and significance of the coefficients were found to be the same as the above results and therefore passed the robustness test.

5. Conclusion

In the cross-national context, institutions and integration in global markets may be key to banks' risk decisions. The aim of this thesis is to analyse the impact of political constraints on banks' risk-taking behaviour.

This thesis investigates the influence of political institutions on the risk-taking behaviour of commercial banks, using an analytical sample taken from data on 899 commercial banks from 28 EU nations collected before Brexit. An international sample of banks from 28 EU countries was studied over the period 2000-2017, with Z-scores as the primary measure of bank risk-taking and Henisz's (2000) political constraint index as the primary proxy for political regime. The findings revealed that the presence or absence of a political regime has a significant positive impact on bank risk-taking behaviour. Therefore, in contrast to previous studies, this thesis includes a correlation coefficient matrix, a multicollinearity test, and a reason for selecting a fixed effects model to further ensure the robustness of the thesis's findings. The final analysis confirms that more highly capitalised subsidiaries generate lower insolvency risk and that risk-taking by foreign banks increases with inefficiency. A positive correlation between liquidity and asset quality shows that a bank's illiquidity risk may be reduced by retaining more liquid assets, which is consistent with the literature. In addition, rising inflation boosts the risk-taking capability of banks and other financial institutions.

In spite of the fact that the high sample size used in this study yields more sufficient test findings, certain data from before 2007 may be missing as a consequence of the country-specific heterogeneity, rendering the sample prone to possibly inconsistent test results. There is no way to ensure the quality of the data sources, and outliers are common. For example, data on about 1,400 commercial banks was gathered in this research prior to the study, but only 899 of them were ultimately used. Because of the intricacy of the data, model development and empirical testing are more challenging tasks to do. This study provides a correlation coefficient matrix and a multiple cointegration test in addition to the rationale for picking a fixed effects model in order to further confirm the robustness of the research's findings when compared to earlier studies. However, based on the data generated in the study, the study in this paper is still partially flawed, where ICRG and POLCONV do not present the relationship with ROA standard deviation as expected. This result may be due to the fact that some of the foreign banks in the sample have more than one host country, or it may stem from missing data. Overall, the conclusions of this paper are more of a validation of the methodology and further hypotheses and do not generate conclusive conclusions in the current regression specification.

The main finding is that bank risk-taking is significantly higher in countries with good political systems. This implies that better political systems, due to the presence of financial constraint mitigation effects and moral hazard issues, increase competition in the choice of financing sources, leading banks to increase their bank risk-taking behaviour. Further analysis shows that the political system has a positive effect on bank risk-taking, regardless of income level. When earlier research on foreign banks' risk-taking is combined with research on the economic impact of political regimes, it is discovered that the stability of foreign banks rises with stronger political regimes, while risk-taking declines. Political regimes have a favourable influence on bank stability, but this benefit reduces for foreign banks that join the market through mergers and acquisitions and that have less expertise or are less effective in their operations in the host nation than domestic banks. In addition, the political system helps bank stability through a better legal system. The findings of this thesis also suggest that as the legal system can complement the political system and enhance bank stability, governments should continue to improve and strengthen the legal system to ensure that it develops in harmony with the political system and together contribute to the stability of the banking system.

Foreign banks have played a significant role in the growth of developing economies, both in terms of obtaining the capital required for economic development and in terms of improving bank performance and stability since the 1990s. However, as a result of the repeated financial crises in these nations, it has been demonstrated that international banks are exposed to greater risks. Because many emerging markets rely on foreign banks for economic development, maintaining financial stability while also developing the economy has been a major source of worry. The political system of the host nation has a considerable impact on the risk-taking behaviour of foreign banks, according to the findings of this dissertation. A new study into the risk-taking behaviour of banks has been inspired by the global financial crisis of 2007-2009. Consequently, the research that examines country-level factors as major predictors of banks' risk-taking behaviour has grown in recent years. Overall, I contribute to this body of knowledge with my work by studying the influence of political institutions on bank risk.

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