The Impact of Political Instability on Risk-Taking in the Banking Sector: International Evidence Using a Dynamic Panel Data Model (System-GMM)

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ABSTRACT

This dissertation contributes to the existing literature by investigating the impact of political instability risk on risk-taking in the banking sector which is the first attempt for this nexus to the best of our knowledge. The use of country-specific data from 75 countries from 1996 to 2015 and the application of the Dynamic Panel Data Model (System-GMM) showed that political instability risk significantly increases risk-taking in the banking sector. In addition, corruption levels and government ineffectiveness are the most important channels of political instability that affect the banking sector risk. The results also strongly support the "too big to fail" hypothesis. Finally, the robustness results confirm the conclusions derived from the baseline System-GMM model.

Keywords: Political Instability, Risk, Banking, Corruption, System-GMM.

ÖZ

Bu çalışma bankacılık sektöründeki politik istikrarsızlık riskinin bankacılıkta risk alma üzerindeki etkisini araştırarak mevcut literatüre katkıda bulunmaktadır. 1996'dan 2015'e kadar 75 ülkeden ülkeye özgü verilerin kullanımı ve Dinamik Panel Veri Modeli'nin (Sistem-GMM) uygulanması, siyasi istikrarsızlık riskinin bankacılık sektöründe risk almayı önemli ölçüde artırdığını göstermiştir. Ayrıca, yolsuzluk seviyeleri ve devletin yeterice etkin olmaması, bankacılık sektörü riskini etkileyen en önemli siyasi istikrarsızlık kanallarıdır. Sonuçlar, ayrıca "batmasına izin verilemeyecek kadar çok büyük" hipotezini de güçlü bir şekilde desteklemektedir. Son olarak, sağlamlık sonuçları, temel Sistem-GMM modelinden elde edilen sonuçları doğrulamaktadır.

Anahtar Kelimeler: Siyasi İstikrarsızlık, Risk, Bankacılık, Yolsuzluk, Sistem-GMM.

To all of

My Parents,

My Wife and Children,

My Brothers and Sisters,

My Relatives,

My Friends

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INTRODUCTION

Hardly a year passes without a government somewhere around the world facing the danger of being overthrown. These threats have steadily increased in the last two decades making global stability the most significant challenge facing the United Nations (UN). Since 2010, the world has seen many regimes changes both constitutional and unconstitutional. The Brexit referendum and the subsequent resignation of the prime minister in the United Kingdom (UK) and, the removal from office of the presidents of South Korea, Brazil, and South Africa by their parliaments are examples of constitutional changes in governments.

However, the popular uprisings in the Arab regions and Ukraine; the failed coup, attempted by supporters of Fethullah Gülen which carried out by a faction within the Turkish Armed Forces, in Turkey and the military coups in Africa are all examples of unconstitutional changes in ruling bodies. Thus, political instability can be defined as the tendency of the government to collapse either constitutionally or unconstitutionally (Alesina & Perotti, 1996; Alesina, Özler, Roubini & Swagel, 1996).

An unstable political system poses a political instability risk. This phenomenon is an important factor impeding economic growth as it has an unfavorable effect on investment and human capital that can affect the economic health of countries and regions (Uddin, Ali & Masih, 2017).

The banking system stability is an important determinant of economic health in all countries. The banking sector risk is one of the most important economic risks and can increase systemic risk. Thus, it is imperative to investigate how political factors affect the banking sector's risk-taking. Bitar, Hassan & Walker (2017) found that Islamic banks outperformed the traditional banks in hybrid and Shari'a-based legal systems in terms of their financial soundness indicators, although their performance in the democratic political system was poorer than the traditional banks' counterpart.

Mourouzidou-Damtsa, Milidonis & Stathopoulos (2019) also examined the association of bank risk and national cultural values. They found proof that there is an important link between cultural value and the risk-taking of domestic European banks. Also, Ghosh (2016) examined the political changes in the Arab region. The discovery suggests that the Arab Spring has reduced the profitability of banks and increased risk.

The systematic banking crisis put tremendous pressure on local governments to intervene. To investigate the effects of this intervention, Hryckiewicz (2014) noted that government intervention, in general, negatively affected the stability of the banking sector and significantly increased its risk. Song & Thakor (2012) also searched for the influence of the political intervention on banking and financial markets. They stated that financial system risk increased due to political intervention.

As a result of macroeconomic shocks, an insolvency crisis in the banking sector will arise in the worst economic conditions (Katircioglu, Özataç & Taşpınar, 2018;

Neves, Proenca & Martins, 2015; Wardhono, Salim & Qoriah, 2014), and it will force governments to execute a bailout strategy. The taxpayer could overthrow the government and decline its action if they notarize that a bailout plan is economically unfair due to favoritism. Vaugirard (2007) reported that the extent of the political agency-problem raised the likelihood of political crises in equilibrium. Political unrest expands a set of parameters in which a banking crisis occurs. Thus, it is increasing financial instability. He also found that the political crisis could be causing the loss of confidence in foreign lending institutions.

Moreover, bailout plans could be attributed to the institutional environment of the country. Thus, a better institutional environment is correlating with higher bailouts (Antzoulatos & Tsoumas, 2014). This expectation might be reduced if the government is unstable. Since the banking system is sensitive to macroeconomic conditions and regulatory restrictions, the banking risk will also be (Buyuksalvarci & Abdioglu, 2010; Karacaer & Kapusuzoglu, 2010; Katircioglu, 2012, 2017; Katircioglu, Sertoglu, Candemir & Mercan, 2015; Rjoub, 2011; Sodeyfi, 2016). González (2005) discovered that regulatory constraints boost the risk burden as banks with more stringent regulations, in the country, have high incentives to comply with higher risk policies due to lower charter value.

Besides, Ashraf (2017)[1] emphasized that political institutions sound's can increase the risk of banks. Given that a better political system increases risk by pushing credit market competition out of alternative financial resources; and the expectations for

[1] Ashraf (2017) argues that this finding contradicts the government's forfeiture risk and adverse selection assumption, which posit that preferable political system diminishes banks' risk-taking behaviors due to the reduction of the government forfeiture of banks and lowering the information inequality between banks and investors.

government bailouts that have deteriorated in economic conditions cause moral hazard problems.

Nowadays, corruption is widespread in many countries, thus limiting the provision of quality and reasonable services. Furthermore, the involvement of public sector officials in corruption cases has threatened the integrity of the banking sector. Chen, Jun, Wang & Wu (2015) discovered reliable confirmation that the upper the level of corruption the greater the risk behavior will be seen, utilizing a sample of banks in 35 emerging economies between 2000 and 2012.

There have been many studies on the effects of political stability on economic indicators, over the past two decades, such as economic growth (Aisen & Veiga, 2013; Alesina et al., 1996; Brunetti, 1997; Carmignani, 2003; Gurgul & Lach, 2013; Jong-A-Pin, 2009; Tabassam, Hashmi & Rehman, 2016; Uddin et al., 2017); inflation (Aisen & Veiga, 2006, 2008; Carmignani, 2003); investment (mostly foreign direct investment [FDI]) (Alesina & Perotti, 1996; Asiedu, 2006; Busse & Hefeker, 2007; Dutta & Roy, 2011; Burger, Ianchovichina & Rijkers, 2015); the probability of debt default (country risk) (Balkan, 1992; Citron & Nickelsburg, 1987; Hoti, 2005; Hoti & McAleer, 2004; Timurlenk & Kaptan, 2012) and bank bailouts (Vaugirard, 2007).

While the risk-taking examined with regarding to macroeconomic factors such as political system (Ashraf, 2017; Bitar et al., 2017; Bordo & Rousseau, 2006); corruption (Chen et al., 2015); political transition (Ghosh, 2016); bank regulation (Ashraf, Arshad & Hu, 2016a; Borio & Zhu, 2012; González, 2005; Houston, Lin, Lin & Ma, 2010; Jin, Kanagaretnam, Lobo & Mathieu, 2013; Laeven & Levine, 2009; Samet, Boubakri & Boubaker, 2018; Silva, Guerra, Tabak & Miranda, 2016); government interventions (Hryckiewicz, 2014); national culture (Ashraf, Zheng & Arshad, 2016b; Boubakri, Mirzaei & Samet, 2017; Eichler & Sobański, 2016; Mourouzidou-Damtsa et al., 2019) and monetary policy (Chen, Wu, Jeon & Wang, 2017; Delis & Kouretas, 2011).

However, as far as we know, there is no investigation into the influence of political instability on the risk of the banking sector, thus this work is planned to be conducted. The researcher will try to supplement this gap in finance literature employing a sample of 75 countries selected concerning the availability of the data during the period from 1996 to 2015. This study holds the country-level data, which were broadly neglected and used for the first time in the finance literature, instead of the bank level.

Therefore, this dissertation aims to investigate whether political instability risk is affecting the risk-taking in the banking sector, thus it utilizes the modern dynamic panel System-GMM model to achieve its aim. This estimator addresses fundamental modeling problems, such as fixed-effects and endogeneity of regressors, while averting dynamic panel bias. Besides, time dummy variables were included to control time-dependent effects, to capture the common shocks (crisis) in the economy and avoid the cross-country correlation in the error term in the sample. The finding refers to the presence of the effect of political instability risk on the banking sector risk-taking.

The remainder of this dissertation is structured as follows: chapter two presents a review of the related literature, while chapter three displays the data and summary statistics, in chapter four the methodology of the dynamic panel model and robustness check are described, the empirical evidence sets in chapter five, while chapter six concludes this dissertation.

Chapter 2

LITERATURE REVIEW

Over the past three decades, the relevant literature investigated the impact of political instability regarding several economic indicators. Where, the political instability widely considered as the tendency of the government to collapse, either constitutionally or unconstitutionally (Alesina & Perotti, 1996; Alesina et al., 1996). On the other hand, the bank risk-taking was intensively examined with some political and economic factors. Therefore, the researcher divided this chapter to two subsections that highlighted the linkage between political factors and economic indicators from one side, and the factors which affecting bank risk-taking from the other side.

2.1 The Linkage between Political Factors and Economic Indicators

2.1.1 The Probability of Default

Country risk refers to the capacity and readiness of the country to implement its foreign financial obligations. This risk can be triggered by political, economic, financial, and multiple factors by country and region. Considering these factors, Citron & Nickelsburg (1987) selected five countries (namely, Argentina, Brazil, Mexico, Spain, and Sweden) with varying degrees of political stability, covering the period of 1960-1983. The derivative model was estimated simultaneously. The article stated that political instability seems to be a very substantial component of the probability of default.

In contrast, Balkan (1992) explained that political instability strongly supports the magnitude of including political factor proxies in assessing the country's risk exposure of rescheduling sovereign debt faced by international lenders. He selected a sample of 33 developing countries throughout 1971-1984 to find a straight relevance between political instability and the probability of readjustment and estimate a probit model.

Furthermore, Hoti & McAleer (2004) assessed the meaningful of 50 empirical posting papers on country risk literature by recognizing statistical and econometric criteria applied to estimation, valuation, and prediction. Risk returns and related volatility were provided to 12 developing countries (representing six regions). Time series data allowed comparison evaluation of international country risk rating and emphasized the significance of economic, financial and political risk rating as components of the overall risk class.

On the other hand, Hoti (2005) analyzed four risk ratings for 6 countries (namely, Albania, Bulgaria, Greece, Romania, Serbia & Montenegro, Turkey) located on the Balkans. Appling multivariate-conditional volatility (MCV) model into monthly data from October 1985 to April 2005, the observed consequences have been demonstrated that six Balkan states are relatively related to economic, financial, political and mixed risk-returns. Country spillover-effect has been seen for most of country risk-return among the six countries. Indeed, the uncertainty of the risk-return for each country has been seen negatively connected with the other countries' risk-returns in the region.

In another point of view, concerning the rapid growth of foreign direct investments (FDI) and global lending, the country risk evaluation has become substantial to international creditors and investors (Timurlenk & Kaptan, 2012). The researches track the history of country risk analysis and briefly discuss the models used by banks, institutions, and researchers to assess country risk. They argue that political risk, including political instability and corruption, is a major deterrent to assessing country risk concerning its capacity and willingness to fulfill external debt obligations.

2.1.2 The Investment Activity

Regarding investment activities, Alesina & Perotti (1996) examined the influence of income disproportion, by fuelling social discontent, on socio-political unrest. By testing a sample of 72 states and estimating a two-equation model throughout 1960-1985, the authors noted that political instability concerning private investment leads to low growth. While the reduced investment leads to greater risk and uncertainty. When the volume of the investment diminishes, the level of production also will be decreased, which raises unemployment rate, lowered the income level, increases the prices, and stimulates inflation in both the financial and commodity markets.

Asiedu (2006) also looked at the specific factors of foreign direct investment (FDI) in African states. This analysis utilized fixed-effect model assessments by using unbalanced panel data for 22 states in Sub-Saharan Africa (SSA) for 1984-2000. The outcomes pointed out that corruption and political instability harmed FDI in African countries.

As a matter of fact, Busse & Hefeker (2007) discussed the interconnections among political risks, establishments, and FDI inflows. They selected a sample data of 83 developing countries over 1984-2003 and employed cross-sectional and unbalanced panel data techniques. The findings demonstrated that the stability of government and corruption, among other political factors, have become crucial determinants of FDI inflows. Where, the authors used the level of corruption as one of the political risk factors.

Furthermore, Dutta and Roy (2011) empirically examined the role of political risk on the interaction of FDI with the Financial Development (FD). Using a panel of 97 countries and pooled ordinary least square (OLS) estimation, the authors showed that the effect of FD on FDI is negative beyond FD threshold.

Increasingly, Smimou (2014) sought to examine whether the concentration of housing wealth in portfolio holdings is related to a higher risk of political instability and how the international dispersion of stocks outperform the domestic stock portfolio if such a risk exists. The author examined market price indexes of 23 countries for the period 1997-2005. Different instability risk proxies in the situation of a discrete-time version of the mean-variance structure were used. The outcomes showed that the set of countries' portfolios that magnification the expected return for any volatility is dependent on the level of political risk present in the country. As the risk of instability rises, the portfolio set that maximizes expected returns moves to a more stable country. Also, this study used the level of corruption as one of the political instability risk factors.

Simultaneously, Burger et al., (2015) investigated which FDI activities are most influenced by political instability. The analyzing of quarterly Greenfield investment flows into states in the Middle East and North Africa (MENA) during the period from 2003 to 2012, and the estimation by the fixed-effect panel model was done. The paper showed that adverse political shocks significantly reduced the investment inflow of non-resource trade sector. Conversely, investments in natural resources and non-trade activities do not appear to be sensitive to such shocks.

2.1.3 The Economic Growth

Because economic growth is the most important indicator of economic literature, Alesina et al., (1996) explored the association linking political instability with economic growth, where a sample of an unbalanced panel of 113 countries for the period 1950-1982 was taken. They estimated a model in which the political instability and economic growth jointly determined (using simultaneous estimation). The conclusion referred that the economic growth rate has been seen significantly lower in countries and periods with a high political instability risk, than otherwise. More clearly, Alisena et al., (1996) study have been noted the weakness of the government mainly caused by instability of the political regime.

Moreover, Carmignani (2003) discussed the linkage among instability of the political system, making the policies and economic outcomes. The survey of the study has been looked at the consequences of political instability and uncertainty on the economic growth rate, fiscal policy, and monetary policy. Particularly, the practical works of common econometric matters have been highlighted that surely deserves more awareness in upcoming studies. The potential joint endogeneity of macroeconomic and political variables should adopt an appropriate structure of the econometric model to explore the direction of causation. In practice, a high effort should be made to execute the different methods to handle the endogeneity of regressors.

In the same direction, Bordo & Rousseau (2006) considered the connections among finance, growth, legal origin, and the political environment in a historical cross-section of 17 countries covering the period of 1880-1997. The authors found that political variables such as infrequent revolutions or coups are symmetrical with larger financial sectors and higher conditional rates of economic growth. The political factors explain a substantial part of the cross-sectional difference in FD.

More comprehensively, Jong-A-Pin (2009) examined the multi-dimensions of political instability holding 25 political instability factors in exploratory factor analysis. The researcher has been declared that instability of the political system has four dimensions: politically motivated violence, mass civil protest, instability within the political regime, and instability of the political regime. This paper investigated the causal consequences of political instability, applying the dynamic panel system-GMM model, on economic growth. The author noted that the four aspects of political instability had various consequences on economic growth. Only the instability of the political system has a powerful and significant negative impact on economic growth.

From another side, Aisen & Veiga (2013) aimed to empirically specify the trace of political instability on economic growth. To avoid endogeneity problem, the authors were employed the system-GMM estimator for linear dynamic panel data models on a sample covering up to 169 countries, for consecutive, non-overlapping 5-year periods of 1960-2004. They found that a high degree of political instability was associated with low economic growth rates. It has also been found that political instability concerning the transmission path has adverse effects on growth by lowering productivity growth and lowering physical and human capital accumulation.

Also, Gurgul & Lach (2013) examined the link between economic growth and political instability of a sample selected from Central and Eastern European countries (CEEs) throughout 1990-2009. Their outcomes support the argument that political instability has harmed growth. On the other hand, there was no causal relation in the opposite direction.

Actually, Tabassam et al., (2016) investigated the consequence of political unrest on Pakistani economic and volatility over the past 22 years, where the estimation was done by employing annual time series data. The overall outcomes implied that political instability has a negatively significant impact on economic growth and the government should take corrective actions to bring a stable political regime.

While, Uddin et al., (2017) examined the link between economic growth and political stability, and they selected a sample of 120 developing countries for the period 1996-2014. Where, a relatively developed dynamic two-step system-GMM and quantile regression analysis were applied. The finding stated that political stability is a major determinant of economic growth. In particular, political instability is to be expected to affecting economic growth through investment and human resource accumulation in developing countries.

In general, political instability is viewed by economists as a serious discomfort that is detrimental to economic performance. Political instability can lead to inadequate macroeconomic policies by shortening the visibility of policymakers. It can also lead to frequent policy shifts, resulting in volatility and negatively impacting macroeconomic performance.

2.1.4 The Inflation Rate

In the last two decades, corruption played a vital role in the overall economic and social aspects. Accordingly, Al-Marhubi (2000) analyzed the connection between corruption and inflation. Using different indicators of corruption, and based on cross-country data consisting of 41 countries for which data is available on four alternative indices of corruption covering the period of 1980 to 1995. From the OLS estimation, the author noted a positively significant association among corruption and inflation.

In line with Al-Marhubi (2000), Aisen & Veiga (2006) addressed the positive relationship between political instability risk and high inflation rate, based on a dataset covering around 100 countries over 1960-1999 and using panel data econometric model to organize the endogeneity problem. The findings displayed that a higher scale of political instability is linked to higher inflation.

More comprehensive of the mentioned study above, Aisen and Veiga (2008) analyzed the impact of political instability, social polarization, and institutional quality on inflation volatility. The study used the system-GMM model for 160 countries from 1960 to 1999. The outcome indicated that the inflation volatility has risen as political instability, social polarization, democratic decline, and virtually lower central bank independence have increased. Moreover, political instability has a bigger effect on inflation volatility in developing countries with low central bank independence and economic freedom.

2.1.5 Other Indicators

In the departure of the mentioned literature above, Diamonte et al., (1996) documented the political risk represents a more important determinant of stock returns in emerging than in developed markets. Applying analyst estimates of political risk for 21 developed and 24 emerging markets over 1985-1995, they have demonstrated that average returns in emerging markets where the political risk diminishes exceed the average returns in emerging markets where the political risk is rising. The article quantified the importance of political risk in emerging and developed markets, where the changes in political risk have upper effects on emerging market returns than on developed market returns.

On the other hand, Vaugirard (2007) studied the banking solvency crisis due to macroeconomic shock. The author stated that the likelihood of the political crises in equilibrium rises with the extent of the political agency-problem. Political unrest expands a set of parameters in which a banking crisis occurs. Thus, it is increasing financial instability. He also found that the political crisis could be causing the loss of confidence in foreign lending institutions.

In contrast, Roe & Siegel (2011) bring forward strong evidence that political instability impedes financial development, with its variation a primary determinant of differences in financial development around the world.

However, Luo et al., (2017) investigated the connection among the turnover of prefecture-city officials and the inherent risk faced by local firms in China. Using data from 1999 to 2012, the authors found that prefecture-city official turnovers significantly raised the firm risk.

In a summary of this subsection, political diversity creates democratic insecurity, frequent elections, conflicts within the party, and inconsistency regime, which leads to the collapse of economic growth. This socio-political instability has many side consequences. It not only generates uncertainty in the political and legal systems but also damages the financial markets. Therefore, a high likelihood of government shift means an uncertain upcoming policy, so risk-averse economic agents may wait for productive economic policies or push out the economy through foreign investment. Likewise, foreign investors will favor a steady political system. Low growth, otherwise, boosts government instability.

The extensive practical research has shown that the likelihood of re-election of incumbent governments in an industrial democracy depends on the growth rate just before the election. In non-democratic countries, low growth can raise public discontent, create incentives for anti-government activities, and increase the likelihood of a coup.

2.2 Factors Affecting Bank Risk-taking

2.2.1 Regulations

Regarding the particular regulations of each country, Gonzalez (2005) used panel data from 251 banks in 36 countries throughout 1995-1999. Two-stage least squares (2SLS) model was applied to analyze the effect of bank regulation on bank charter value and risk-taking. This study showed that regulatory constraints boost the risk incentive by decreasing the bank's charter value. Banks in tightly regulated countries have lower charter value, increasing the incentive to pursue dangerous policies. These findings support a negative relationship among regulatory restrictions and the banking system stability.

Actually, Laeven & Levine (2009) used data of 279 banks across 48 countries, applying OLS technique. The authors focused on the risk of conflict among the bank manager and the owner. Bank risk-taking has turned positive in the governance structure of each bank, depending on the strength of the comparative power of shareholders. They also proved that the relationship among banking risk and capital regulations, deposit insurance policies and restrictions on banking activities is highly dependent on the ownership structure of each bank.

However, Houston et al., (2010) looked at a sample of nearly 2,400 banks in 69 countries and found that stronger creditor rights tend to promote greater bank risk-taking. Consistent with this outcome, they also showed that the robust of creditor rights raises the likelihood of a financial crisis.

The Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991 was designed, among other things, to introduce risk-based deposit insurance, increase capital requirements, and improve banks' internal controls. With the line of these facts, Jin et al., (2013) selected a sample of 1138 banks, by using OLS and weighted least squares (WLS) regressions. The researchers confirmed that banks required to comply with the FDICIA internal control requirements have lower risk-taking in the pre-crisis period. Particularly, the volatility of net interest margin and earnings, as well as Z-score showed minimal risk-taking behavior. Moreover, these banks are less likely to suffer collapse and financial disturbance during the crisis period.

Consistent with Jin et al., (2013), Anginer et al., (2014) checked up the relation among deposit insurance and bank risk-taking and systemic weakness in the years leading up to and during the recent financial crisis. The sample of the article consists of 4109 banks in 96 countries over time 2004-2009, making use of OLS. The authors found that generous financial safety nets increase bank risk and systemic fragility in the years leading up to the global financial crisis. However, during the crisis, bank risk is lower and systemic stability is greater in countries with deposit insurance coverage.

From another point of view, Ashraf et al., (2016a) selected a panel data set of 21 commercial banks listed in Pakistan stock market in 2005-2012 to inspect the influence of risk-based capital conditions on bank risk-taking behavior. A modern developed small N-panel method {Bias Corrected Least Squares Dummy Variable (BCLSDV) model and the System-GMM model with instrument collapse options} were applied to control panel fixed-effect, dynamic of the dependent variable, and independent variables endogeneity. Generally, the findings implied that commercial banks have diminished their asset portfolio risk in line with strict risk-based capital constraints.

Likewise, Varotto & Zhao (2018) analyzed bank-level systemic risk for US and European banks from 2004 to 2012. They observed that common systemic risk factors are mainly driven by bank size which implies an overriding concern for ‘‘too-big-to-fail” institutions. Smaller banks, however, can still pose significant systemic threats.

2.2.2 Natural Culture

Recently, natural culture becomes a new phenomenon concerning bank risk-taking, which takes the attention of some researchers. Therefore, Ashraf et al., (2016b) conducted a cross-sectional standard OLS regression analysis which applied on a set of banks from 75 countries in 2001-2007 to examine the straight impacts of national culture on bank risk-taking behavior. This article found strong evidence that banks are at a significant risk-taking level in countries with high individualism, low uncertainty avoidance, and low cultural values.

Additionally, Ashraf & Arshad (2017) have been investigated whether the actions taken by multinational banks to hedge foreign affiliates are further affected by the home culture of their country or the national culture of their foreign countries. Their empirical work was based on data sets from 292 foreign subsidiaries (subsidiaries or branch offices) located in 66 states with parent companies in 26 states and from 2001 to 2007, following the cross-sectional OLS econometric model. The results have been shown that the domestic culture of the home bank has an upper effect on the risk behavior of foreign affiliates of global banks than the national culture of their host state.

On the other hand, Boubakri et al., (2017) researched whether the prevailing national culture has been material in determining bank performance during the global financial crisis. Selecting a worldwide set of 3438 banks from 48 countries and OLS regression, the finding has displayed that uncertainty avoidance, collectivism, and power distance have a first-order effect upon bank performance during the crisis.

Identically, Mourouzidou-Damtsa et al., (2019) investigated the relevance among national cultural values and bank risk. Focusing on a set of 99 banks from 19 European countries over 1995-2014, the study found proof of an economically significant linkage among cultural values and national bank risk.

2.2.3 Ownership Type

For another point of view of the bank risk-taking, Garcia-Kuhnert et al., (2015) used a sample contains 1,184 unique banks and 3,010 shareholders. The author establishes annually a portfolio of shareholders who hold shares in a publicly-traded and unlisted European bank during 1999-2008. They showed that about 62% of the bank's ultimate largest shareholders were diversified investors. Using a fixed-effect model, the authors exploited this heterogeneity to examine the effectiveness of portfolio diversification on banking risk. The outcome indicated that banks with more diversified shareholders have taken statistically significant more risk.

On the other side, Chen et al., (2017a) addressed the influence of overseas ownership on the risk-taking behavior of banks. Appling bank-level panel fixed-effects estimator for a data set of more than 1300 commercial banks in 32 emerging economies during 2000-2013, they emphasized that foreign-owned banks take on more risk than their national counterparts.

Symmetrically, Samet et al., (2018) studied the risk-taking of listed and private banks of an institutionally diversified sample includes 6816 commercial banks from 77 countries, where 581 of which are listed banks throughout 2000-2015. Utilizing the panel fixed-effects model, the outcome has been referred that listed banks are involved in less risky activities than private banks. The authors also noted that listed banks are taking less risk than private peers in weaker country's institutions.

2.2.4 Political System

To explore the consequences of the political system on banks’ risk exposure, Ashraf (2017) checked up the influence of the institution of politics on banks' risk-taking behavior. Gathering data of the banks for a sample from 98 countries throughout 1998-2007, and the use of the pooled panel OLS estimator, he explained that the right political institutions could raise the risk of banks. This is in line with the hypothesis that, with the expectation of government bailout in the worst economic situation, the fit political institutions increase the risk exposure of banks by raising credit market competition.

Bitar et al., (2017) examined how the financial soundness of Islamic and Conventional banks is affected by the political system. The data of banks from 33 countries covering the period of 1999-2013 were gathered. The principal component analysis and random-effect generalized least squares (GLS) are employed. This article found that Islamic banks outperformed the traditional banks in hybrid and Shari'a-based legal systems in terms of their financial soundness indicators, although their performance in the democratic political system was poorer than the traditional banks' counterpart.

2.2.5 Government Interventions

Mostly, the governments try to influence and take-over the banking system by their interventions. To examine the impact of these interventions, Song & Thakor (2012) searched the implications of political intervention on a financial system that involves banks and financial markets. This article has documented that political intervention will lead to a boost in financial system risk and does not contribute to financial system evolution.

Recently, there was tremendous pressure on the government to intervene because of the systematic banking crisis. According to the financial crises, Hryckiewicz (2014) analyzed the effectiveness of the long-run stability of the banking sector regarding various government intervention measures. The researcher built a new bank-level data set of all foundations rescued during 23 domestic financial crises in 23 countries. Based on the OLS regression analysis, the author found that government intervention had a significant rise in the banking risk which harming the stability of the banking sector.

2.2.6 Monetary Policy

Delis & Kouretas (2011) build an unbalanced panel data set to study the association between interest rates and bank risk-taking. A set of annual bank-level data was collected in 16 euro regional countries during 2001-2008. Employing a dynamic 2SLS-instrumental variables (2SLS-IV) technique, this paper presented strong empirical evidence that bank risk-taking indeed substantially increased due to low-interest rates.

Similarly, Chen et al., (2017) have been selected an unbalanced bank-level panel data for more than 1000 banks located in 29 emerging economies during 2000-2012. The paper addressed the effect of monetary policy on banks' risk-taking, where the two techniques (the fixed-effects and the system GMM estimators) to estimate the econometric models were exercised. The researchers were discovered that, coincided with the assumption of "bank risk-taking channel" of monetary policy transition, when monetary policy is eased the banks' risk will be increased.

2.2.7 Other Factors

Unlike the subsections displayed above concerning bank risk-taking, Chen et al., (2015) attended to the connection of corruption on banks' risk-taking behavior. The bank-level data from 35 emerging economies for more than 1200 banks during the period 2000-2012 were selected. Utilizing the panel fixed-effects estimator, the authors detected symmetrical verification that the risk-taking increased due to the high scale of corruption. Besides, investigating the effect of corruption on bank risk indirectly, the evidence displayed that the effect of monetary policy on bank risk sensitivity was more pronounced as the severity of corruption increased.

On the other side, Ghosh (2016) selected data of 102 MENA banks from 2000-2012, considering to the Arab Spring to examine its influence on the risk and returns, employing the fixed-effect model. The analysis indicated that, due to the Arab Spring, the bank profitability was lower while its risk was higher. As well, the evidence suggested that there was no differential effect of the political conflict on the performance and stability of Islamic banks.

Consistent with the literature framework mentioned above, the researcher finds three important issues. ***First***, in the best of our knowledge, there is a gap not covered yet regarding the impact of the political instability risk, which becomes a very vital issue recently, on banking sector risk-taking. This gap encouraged the researcher to try to fill it in the finance literature. ***Second***, according to data nature of the banking sector and country-level data, the discussed literature overlooked to undertake the banking sector-level data instead of bank-level data, which may lead to misspecification of the econometric model and then a misleading conclusion. Since, the data of macroeconomic indicators were available for the country-level instead of the sector-level such as banking sector, estimating an econometric model disregarded this fact will be vital.

Finally, the relevant literature highlighted the importance of econometric model selection; where there are some studies ignored the dynamic and endogeneity nature of the economic factors. The misspecification of the tested model will lead to a misleading result, which the researcher will try to avoid it by taking into consideration the nature of the data collected and model specification.

Chapter 3

DATA AND SUMMARY STATISTICS

3.1 Data

The data set of this work has been collected from several databases. Annual data of the banking sector collected from Global Financial Development (GFD), World Bank database for the period from 1996 to 2015. At the same time as, the data of macroeconomic variables gathered from the World Development Indicator (WDI), World Bank database. While the data of political instability risk variables collected from DataStream, Thomson Reuters database. Finally, the data on the corruption perception index collected from Transparency International. The study's sample contains 75 countries from worldwide that have the required data available for the study's period. The size of the sample is restricted by data availability in terms of factors that captured political stability.

3.1.1 Banking Sector Risk-taking

Following previous literature (Ashraf, 2017; Chen et al., 2017; Demirgüç-Kunt & Huizinga, 2010; Houston et al., 2010; Laeven & Levine, 2009), the main measure of the banking sector (instead of bank-level) risk-taking (*RT*) of each country is the *z-score*, which measures the distance from insolvency. Therefore, bankruptcy occurs when the losses of the banking sector exceed shareholder value. In this dissertation, the z-score is considered to be a converse measurement of the insolvency risk in the banking sector, and the higher the z-score, the more stable the banking sector.

Because the *z-score* is very skewed, this dissertation is based on Laeven and Levine (2009) and Chen et al., (2017) in their use of the natural logarithm of the *z-score*, and will refers to the natural log of the banking *z-score* (*Lnz-score*) as the *Z-score* in the rest of this study.

Since *Z-score* is an inverse of the probability of default (insolvency). Therefore, it is multiplied by -1 to get an appropriate measure of banking sector's risk-taking following (Ashraf, 2017; Mourouzidou-Damtsa et al., 2019). This research will use the risk-taking (RT) label to represent -1×Z-score in the rest of it. In a departure from previous literature, this study will utilize empirical evidence at the banking sector-level (which widely neglected) instead of the bank-level data.

Besides the main measure of banking sector's risk-taking (-1×*Z-score*), this study will also examine the banking stability (*Z-score*) and earnings volatility (σROA) as alternative measures of the banking risk-taking (see, Craig & Dinger, 2013; García-Kuhnert, Marchica & Mura, 2015; Jin et al., 2013; Laeven & Levine, 2009; Mourouzidou-Damtsa et al., 2019).

3.1.2 Political Instability Risk

The stability of the political regime has been seen as playing a decisive role in the economic and financial development of all countries. Therefore, the political instability affects overall life aspects through the economic, security and social dimensions. The concept of political instability has generated a numerous debate[2] in literature. However, political instability can be defined as a tendency toward the collapse of the government (Alesina et al., 1996; Alesina & Perotti, 1996).

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[2] The debate of political instability is about how one can define this concept in addition to how one can measure it, and these debates are beyond the scope of this work.

Regarding the lack of data availability, the main independent variable of this study is Political Stability (*PS*) (as an opposite of political instability risk). The data obtained from the DataStream database, which based on the World Economic Survey (WES). The data is available for only 77 countries worldwide from 1992 to 2016. Since there are two countries (Iran and Taiwan) that have no data on risk-taking or control variables; they excluded from the study's sample. Furthermore, the time span of this study considers the period of 1996 to 2015 as the time limitation of the banking sector data availability.

On the other hand, the study employs three alternative measures to the main independent variable (namely, Political Instability Risk[3] (*PINSR*), Country Risk (*CR*), and Corruption Perception Index[4] (*CPI*)). Beside the *PINSR* as a proxy of political instability risk, this study follows (Uddin et al., 2017) to consider Country Risk as an alternative measure to political instability risk. Whereas, the *CPI* as a proxy for political instability the study follows (Smimou, 2014; Uddin et al., 2017).

3.1.3 Banking Sector and Country-level Control Variables

In this dissertation, the empirical model controls some variables in the banking sector and country-level to overcome the omitted variable problem. For the banking sector, a control for banking market share (*MSH*) and bank inefficiency (*BINE*) are taken. The market share of the banking sector following (Antzoulatos & Tsoumas, 2014) used to capture the "too big to fail" considerations. While the bank inefficiency is used to capture "bad management" hypothesis following (Fiordelisi et al., 2011). On

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[3] This variable was measured by making a rank of the countries each year based on their Political Stability (*PS*) variable, where the highest value of *PS* ranked by 1 and the lowest by 75 and so on. The range of Political Instability Risk (*PINSR*) is from 1 to 75, where the highest rank indicates a higher risk the country has.

[4] The size of the CPI scale is 0-10 from 1998 to 2011, and 0-100 from 2012 onwards, due to the change of the methodology used to calculate the 2012 CPI score from Transparency International. Therefore, from and after 2012 the CPI score is divided by 10 to calculate the comparison score. High scores indicate low levels of corruption in a certain country.

the other hand, a control for economic development (*ED*) and economic risk (*ER*) are chosen at country-level following previous literature (Anginer, Demirguc-Kunt & Zhu, 2014; Laeven & Levine, 2009; Mourouzidou-Damtsa et al., 2019). The economic development is used to capture the cross-country differences regarding the level of economic development and income. Whereas, the economic risk, measured by the volatility of real *GDP* growth, used to hold aggregate economic volatility.

The choice of banking sector-level, instead of bank-level data in this dissertation, comes from the heterogeneity of regulations (i.e. data covers Islamic banks and conventional banks), political system, and culture among the others. So, comparing bank-level data with such heterogeneity may lead to a misleading conclusion, when evaluating banking sectors from different nations. Also, the data of the political instability risk and country-specific control variables have already existed at the country-level. Therefore, there is no benefit in investigating these relationships at the bank-level unless increasing the number of observations. This can lead to another problem of sharp heterogeneity between the banks included in the sample and creating a biased estimate due to the number of banks in one country and the bank size. Table A1 in the Appendix displays a brief explanation of the selected variables, in addition to the expected sign of those variables concerning the dependent variables.

3.2 Summary Statistics

Table 1 presents a summary statistics of the key variables included in the estimated models. Like other studies (Ashraf, 2017; Chen et al., 2017; Demirgüç-Kunt & Huizinga, 2010; Houston et al., 2010; Laeven & Levine, 2009) the statistics of the risk-taking measures (namely, Bank *z-score*; *Z-score*, and *RT*) show some variations in the mean, standard deviation, and the number of observation between the countries. The standard deviation of the banking sector's *z-score* varies across countries by 9.10, which then reduced to 0.73 by taking natural logarithm transformation to avoid the skewness across counties involved in the study's sample. While the earnings volatility (σROA) has a standard deviation of 1.61 and the mean value ranges from zero to around 21% during the study's period.

The political stability has a mean and standard deviation of 5.26 and 2.06, respectively. It shows a considerable variation pattern within the sample, while the country risk and *CPI* variables like Uddin et al., (2017) present some variation within the study's sample. Likewise, Table 1 and Table A2 illustrate a considerable cross-country variation according to control variables.

Table 1: Summary Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
Bank z-score	1,490	12.95	9.10	-2.71	93.74
Z-score	1,487	2.33	0.73	-3.91	4.54
RT	1,487	-2.33	0.73	-4.54	3.91
σROA	1,338	0.78	1.61	0	20.61
PS	1,444	5.26	2.06	0.7	9
PINSR	1,444	36.84	21.22	1	75
CR	1,500	4.66	1.11	2.18	6.92
CPI	1,309	5.12	2.29	1	10
ED	1,499	16,502	17,702	275	103,059
ER	1,424	1.83	2.26	0	21.42
MSH (%)	1,463	75.19	45.68	6.02	257.43
BINE (%)	1,490	3.35	3.87	0	80

Note: Bank z-score, ED, MSH and BINE are in basic value (without taking the logarithm).

The correlation matrix presented in Table A3 shows that all variables are significantly pair-wise correlated at 1% level, except *RT* and *Z-score* variables are correlated but not at a significant level.

Chapter 4

METHODOLOGY AND ROBUSTNESS CHECK

4.1 Dynamic Panel Model

Most of the economic and financial relationships are virtually dynamic, and one of the features of the panel data model is that investigators can better recognize the dynamics of adaptation (Baltagi, 2005; Flannery & Hankins, 2013). Therefore, dynamic relationships are distinguished by the existence of the lagged dependent variable among independent variables. Therefore, a general dynamic panel model can be expressed as:

$$y_{it} = \alpha y_{it-1} + \beta X^{`}_{it} + \varepsilon_{it} \tag{1}$$

Where $\varepsilon_{it = \mu_i + v_{it}}$

Where y_{it} is the dependent variable, y_{it-1} is the lag of the dependent variable, $X`_{it}$ is a K×1 vector of the regressors, whereas ε_{it} is the disturbance term, which has two orthogonal components: the fixed-effects, μ_i, and the error term, v_{it}. While i represents the cross-section dimension (the country in this case) (i = 1,….., N) and t indexes for the time period (t = 1,..…, T).

Empirically, using OLS for this equation will yield biased and inconsistent coefficients estimates. While OLS eliminates unobserved fixed-effect component μ_i; the fixed-effect model (known as LSDV) controls unobserved heterogeneity among individuals, but it produces a biased estimate of the coefficients. Since y_{it} is a function of the fixed effect, therefore the lag of the dependent variable will be correlated with the error term v_{it} (Baltagi, 2005; Roodman, 2009a). Therefore, estimating a model containing a lagged dependent variable will result in dynamic panel bias (Nickell, 1981), which can be considerable with short panels (Flannery & Hankins, 2013). It, therefore, violates the assumptions necessary for the consistency of OLS. This bias can disappear only if T tends to infinity (Baltagi, 2011). Thus, the uncorrected coefficient estimated for the dynamic panel model can be approximately biased (Flannery & Hankins, 2013). It is important to note that the bias is inversely proportional to the panel time-span T and that the potentially severe bias remains even at $T = 30$ (Judson & Owen, 1999). When T is large, the effect of the one year's shock on the individual's (firm, sector or country, etc.) on the definitely fixed effects would be reduced and so will the problem of endogeneity would be (Roodman, 2009a).

This thesis had to adapt the Generalized Method of Moments (GMM) approach in econometric model mainly due to the reason that number of cross-sections (N = 75) was greater than the number of time units (T = 20) (Imamoglu et al., 2018). Furthermore, in the econometric literature, there are two ways to deal with these problems under the GMM model[5]. One of them has been proposed by Arellano & Bond (1991) exploiting the first difference of variables to eliminate the fixed-effect, this model is called standard or difference GMM. However, the problem of correlation between differenced residual and lagged dependent variables will be continued in this approach, which is required by Arellano and Bond to select valid

[5] The static models such as Fixed (FE) and Random effects (RE) do not recognize the dynamic nature of the economic factors. Whereas the dynamic panel models like the Pooled Mean Group (PMG) and Mean Group (MG) capture the dynamic heterogeneous features of the panel models, but they required a long time span for the variables (which is not available for all selected variables). Consequently, the dynamic GMM models (system and difference) will be employed.

instruments. Thus, the first difference in the dynamic model will be eliminating the time-invariant fixed-effects. Whereas, the logical instruments for the first-differenced variable could be created from the value of the lagged dependent variable (Imamoglu et al., 2018; Javid & Katircioglu, 2017). Therefore, it will be provided approximately free second-order serial correlation of the error term. However, the weakened instruments for the first-differenced variables may be produced by the lagged level of the regressors, if they are serially correlated (persistent over time) (Arellano & Bover, 1995; Blundell & Bond, 1998).

Thus, Arellano & Bover (1995) and Blundell & Bond (1998) suggested an alternative System-GMM model to eliminate the problems with Difference-GMM. As a result, the lagged levels of the variables as instruments will be exploited in the first-difference equation, while differenced variables will be instrumented with their own lags. Blundell & Bond (1998) showed that System-GMM estimator outperforms Standard/Difference-GMM.

In other words, to obtain an efficient estimation, conditioned moments in the level of System-GMM will boost the first-differenced moment conditions in the difference-GMM model. Therefore, in System-GMM model although the fixed effect correlated with the regressors in level, but in the differenced equations are not correlated. The benefits of System-GMM are suitable for correcting potential endogeneity, unobserved cross-section heterogeneity, missing variable bias and measurement errors (Bond, Hoeffler & Temple, 2001; Wooldridge, 2016).

On the other side, one of the main weaknesses of the System-GMM model is the need for a large number of instruments (Roodman, 2009b). Blundell & Bond (1998), and Alonso-Borrego & Arellano (1999) observed that if the regressor variables are persistent over time, the weak performance of GMM instruments will be generated. Therefore, with smaller panels (small N) the estimation of the GMM model will be weakened by the weak instruments generated from the lagged level of these variables. To fix this problem, Roodman (2009a, 2009b) proposed to collapse the instrument matrix for GMM-style in the *xtabond2*[6] package executed in Stata[7] software.

Furthermore, Roodman (2009a) recommended applying the orthogonal option in *xtabond2* package in case of a panel data with gaps, such as the data of this study, to maximize the sample size. Also, Hayakawa (2009) pointed out that if *T* is more than or equals 10 periods the difference GMM model will be less biased and more stable than conventional difference GMM for a standard autoregressive AR(1) model, when the features of orthogonal combination, backward orthogonal deviations for the instruments and forward for the regressors have been undertaken. For that, the *orthogonal* option of *xtabond2* executed as well.

Consequently, the validity of the GMM models relies upon the number of instruments in the regression model to be estimated. Additionally, it assumes no correlation across individuals in disturbance term. Therefore Roodman (2009a) suggests including time dummy variables in the GMM model to hold this assumption. During the study's period, there are considerable macroeconomic shocks (e.g., the global financial crisis). Therefore the time dummy is included in the estimated models to capture these shocks (global business cycles).

[6] For more detail of *xtabond2* options', see (Roodman, 2009a).
[7] This paper employs *xtabond2* using *Stata* 14.2.

After all, the fitness of the estimated model will be checked them out by two diagnostic tests. The first test looked up the serial correlation in the error term. Where the absence of first/second-order serial correlation must be tested, consequently the null hypothesis of no second-order serial correlation should not be rejected (Arellano & Bond, 1991). Whereas, the second test considers the number of instruments which increased with *T*, meanwhile the validity of joint instruments should be implemented by the Sargan/Hansen tests. The null states that all instruments are jointly exogenous, instruments used are not correlated with residuals, and it should not be rejected (Arellano & Bover, 1995; Blundell & Bond, 1998).

4.2 Robustness Check

This research employs numerous tests to check the validity of the estimations examined by System-GMM models. In addition to the main dependent variable (*RT*), two alternatives proxies investigated (*Z-score* and *σROA*) employing two-step System-GMM models. Besides the two-step System-GMM model, one-step also will be checked. Also, the Difference-GMM model will be performed at two and one-step. Finally, the System-GMM model will be executed at one and two-step without time dummy variables. All of these estimations are executed to check the consistency and efficiency of the baseline estimated models.

Chapter 5

EMPIRICAL EVIDENCE

5.1 Empirical Evidence

Based on the general model stated in Chapter 4, the specific model of this dissertation, which takes into account the sample characteristics and the limitations of the dynamic panel data model, can be expressed as:

$$RT_{it} = \alpha RT_{it-1} + \beta PR_{it} + \sum_{j=1}^{K} \delta_j \, CV_{jit} + \mu_i + \gamma_t + v_{it} \quad (2)$$

Where RT_{it} stands for risk-taking model as a main dependent variable, RT_{it-1} is the lagged dependent variable, PR_{it} represents the main independent variable which stands for the Political Risk (alternatively, Political Stability (*PS*); Political Instability Risk (*PINSR*); Country Risk (*CR*), and Corruption Perception Index (*CPI*)); CV_{jit} is a K×1 vector of control variable (namely, Economic Development (*ED*); Economic Risk (*ER*); Market Share (*MSH*), and Bank Inefficiency (*BINE*)); μ_i is the country-specific effect; γ_t is a time-specific effect (Time Dummy), and υ_i represents the error term. While α, β, and δ_j are the estimated parameters; whereas i indicates the country (i = 1,….., N), t refers to the time period (t = 1,..…, T) and j stands for the control variables (j = 1,….., K) included in the specific model.

5.1.1 The linkage of Political Instability Risk and Banking Sector Risk-taking

The baseline estimations using equation (2) are displayed in Table 2. The models from 1 to 4 of these estimations -employing all four political instability risk proxies one-by-one- indicate the coefficients of all the variables are with the expected sign.

All political instability risk proxies are significant at the conventional level. The results demonstrate a direct connection between the banking sector risk-taking and political instability.

The economic significance of the results also makes sense. Subsequently, the movement in the standard-deviation of the political instability risk proxies by one (*PS*=2.06; *PINSR*=21.22; *CR*=1.11, and *CPI*=2.29, that displayed in Table 1 respectively) are associated with a change in risk-taking (RT) of 0.153 (=0.067×2.29) for *CPI*; 0.129 (=0.116×1.11) for *CR*; 0.027 (=0.013×2.06) for *PS*, and 0.024 (=0.0012×21.22) for *PINSR* variables, while the average value of *RT* is -2.33 and the standard deviation is 0.73 as shown in Table 1. These findings indicate that the *CPI* and *CR* are the most important channels of the political instability risk, which affect the risk-taking by the banking sector in a particular country. Therefore, the engagement in corruption and the regress of the government effectiveness will force the banking sector to engage as well in these two channels one way or another, which in turn will increase the risk-taking by the banking sector.

These results have empirical implications because the presence of corruption in any country will weaken its organizational capacity, in addition to achieving low levels of efficiency and quality of the public and private sectors. These will lead to the weakening of the government's ability to perform its economic and social tasks, thus increasing the likelihood of its collapse.

Thus, in countries with high political instability, the banking sector risk-taking has been seen greater. The risk behavior has confirmed this finding, where any sector of the economy is affected by the systematic risk. So, political instability will affect the banking sector risk-taking, through the uncertainty of the policies, corruption engagement, and the rise of bail-in instead of the bailout mechanism.

Also, the political instability risk appears to be one of the most important factors affecting the banking risk-taking even when other risks are controlled. However, it is imperative to see that the banking market share *MSH* variable seems to be the most significant factor that might affect the *RT* by the banking sector, which strongly support the "too big to fail" considerations and consistent with (Antzoulatos & Tsoumas, 2014). Therefore the risk-taking will be increased if the banking market share has been grown in the economy as a percentage of *GDP*. Given that, the banking sector will dominate other sectors in the economy, which implies a low diversified economy. So any shock that hits the banking sector will also raise the systematic risk, vice versa.

For the other control variables, the *ED* coefficient has a negative signal, which is coordinated with other outcomes such as (Ashraf, 2017). This indicates that in the country with a high level of economic development and income, such as Norway and Denmark, the risk-taking will be lowered. A possible explanation of this finding is that with a high level of development, the country will have a good and stable economic-policies; a better protection system for investors; and enhanced the competition within and between different industries in the economy, which may lead to decreasing the risk-taking by the banking sector.

Table 2: Political Instability Risk and Banking Sector Risk-Taking, Dependent Variable: Risk-Taking (Two-Step)

	System GMM				Difference GMM			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lag of RT	0.330* (0.047)	0.329* (0.046)	0.322* (0.044)	0.323* (0.049)	0.328* (0.047)	0.327* (0.046)	0.315* (0.044)	0.313* (0.050)
ED	-0.041 (0.050)	-0.046 (0.049)	-0.043 (0.055)	-0.015 (0.052)	-0.042 (0.049)	-0.045 (0.049)	-0.041 (0.055)	-0.004 (0.052)
ER	0.004 (0.005)	0.004 (0.005)	0.003 (0.005)	0.003 (0.006)	0.003 (0.005)	0.004 (0.005)	0.003 (0.005)	0.002 (0.006)
MSH	0.252* (0.077)	0.251* (0.077)	0.252* (0.068)	0.246* (0.084)	0.248* (0.075)	0.249* (0.074)	0.253* (0.067)	0.244* (0.081)
BINE	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)
PS	-0.013*** (0.007)				-0.013*** (0.007)			
PINSR		0.0012*** (0.0007)				0.0013*** (0.0007)		
CR			-0.116*** (0.067)				-0.118*** (0.067)	
CPI				-0.067* (0.023)				-0.069* (0.022)
Time Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1332	1332	1372	1263	1257	1257	1297	1188
No of Countries	75	75	75	75	75	75	75	75
Instruments No	42	42	42	40	40	40	40	38
Arellano-Bond (AR1)	0.008	0.008	0.008	0.011	0.008	0.008	0.009	0.012
Arellano-Bond (AR2)	0.237	0.237	0.217	0.452	0.231	0.232	0.200	0.426
Sargan test (P-Value)	0.159	0.178	0.177	0.099	0.119	0.135	0.136	0.073
Hansen test (P-Value)	0.178	0.194	0.203	0.119	0.195	0.201	0.205	0.129
F-Statistic	109.1	108.39	15.09	14.34	17.55	17.19	15.5	15.9
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors are in parentheses. Significance levels at which the null hypothesis is rejected: *, 1%; **, 5%, and ***, 10%; Syntax *xtabond2* two-step h(2) small robust orthogonal; Windmeijer (2005) correction was used to calculate the robust standard errors corrected for finite samples to employ the two-step option; The null of all instruments are jointly exogenous ever has been rejected employing the Hansen J test; The existence of the second-order correlation of the error term is always rejected; Time Dummy, Yes: indicates to that coefficients are jointly significantly different from zero.

While the favorable sign of the *ER* coefficient refers that a high level of the risk-taking associated with a high level of economic risk, which symmetric with previous kinds literature like (Anginer et al., 2014). Whilst, the bank inefficiency coefficients are positive in all of the estimated models which indicate the link between inefficiency and the banking sector's risk. However, the *BINE* coefficients are not meaningful at the traditional levels; thus the estimated models cannot support the bad management hypothesis.

5.1.2 Robustness Check

Besides the main models estimated using System-GMM model displayed in Table 2, there are several tests performed as a robustness check. The models 5 to 8 presented in Table 2 are estimated using Difference-GMM model, and the results seem to confirm the basic results estimated by System-GMM model. Additionally, this dissertation uses two alternative measures as a proxy to the risk-taking. One of them is the bank stability scaled by *Z-score*, where a high value of *Z-score* refers to the low probability of default. Another one is the earnings volatility labeled by σROA, where the higher value of σROA indicates a higher risk-taken by the banking sector. Table 3 displays the estimated models for these two measures using two-step System-GMM. Bearing in mind, the sign of *Z-score* is an opposite to *RT* and σROA with regard the regressors. The estimated models are shown in Table 3 confirm the results presented in Table 2 above, which means the models approximately free biased and efficient.

Table 3: Political Instability Risk and Banking Sector Risk-Taking, Dependent Variable: *Z-score* / *σROA* (Two-Step)

	Z-score				σROA			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lag of Z-score / σROA	0.330* (0.047)	0.329* (0.046)	0.322* (0.044)	0.323* (0.049)	0.894* (0.104)	0.701* (0.045)	0.722* (0.042)	0.511* (0.125)
ED	0.041 (0.050)	0.046 (0.049)	0.043 (0.055)	0.015 (0.052)	-0.093 (0.160)	-0.275** (0.118)	-0.269** (0.124)	-0.427** (0.163)
ER	-0.004 (0.005)	-0.004 (0.005)	-0.003 (0.005)	-0.003 (0.006)	0.001 (0.015)	0.002 (0.012)	0.006 (0.014)	0.013 (0.020)
MSH	-0.252* (0.077)	-0.251* (0.077)	-0.252* (0.068)	-0.246* (0.084)	0.510* (0.191)	0.624* (0.195)	0.597** (0.236)	0.535** (0.242)
BINE	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	0.005 (0.006)	0.009 (0.009)	0.004 (0.009)	0.001 (0.015)
PS	0.013*** (0.007)				-0.046** (0.021)			
PINSR		-0.0012*** (0.0007)				0.004** (0.002)		
CR			0.116*** (0.067)				-0.105 (0.097)	
CPI				0.067* (0.023)				-0.028 (0.065)
Time Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1332	1332	1372	1263	1218	1218	1234	1208
No of Countries	75	75	75	75	75	75	75	75
Instruments No	42	42	42	40	38	37	37	35
Arellano-Bond (AR1)	0.008	0.008	0.008	0.011	0.002	0.001	0.001	0.015
Arellano-Bond (AR2)	0.237	0.237	0.217	0.452	0.636	0.642	0.65	0.713
Sargan test (P-Value)	0.159	0.178	0.177	0.099	0.000	0.001	0.000	0.777
Hansen test (P-Value)	0.178	0.194	0.203	0.119	0.563	0.540	0.523	0.387
F-Statistic	109.1	108.39	15.09	14.34	14.340	37.06	66.2	15.64
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors are in parentheses; Significance levels at which the null hypothesis is rejected: *, 1%; **, 5%, and ***, 10%; Syntax *xtabond2* two-step h(2) small robust orthogonal; Windmeijer (2005) correction was used to calculate the robust standard errors corrected for finite samples to employ the two-step option; The null of all instruments are jointly exogenous ever has been rejected employing the Hansen J test; The existence of the second-order correlation of the error term is always rejected; Time Dummy, Yes: indicates to that coefficients are jointly significantly different from zero.

Finally, Table A4 and Table A5 show alternative scenarios to the system and difference-GMM, wherein Table A4 the models are estimated using one-step instead of two-step option in the *xtabond2* package. The estimated models again do not vary from the results presented in Table 2. While in Table A5 the System-GMM models estimated at one/two-step option but this time without time dummy variable, which relaxes the assumption of no correlation across countries in the error term. Also, the estimated models in this table confirm the estimated models in Table 2 above.

5.2 Diagnostic Check

All the estimated models are statistically meaningful at the traditional level (1%) for all performed scenarios. Generally, the number of instruments variables of the estimated models have been seen less than the number of countries (groups) included in the tested sample, which coincides with criteria stated by Roodman (2009a, 2009b) to avoid weak instruments. Actually, a vital proposition of the fitness of the GMM model is that the instruments are jointly exogenous (Roodman, 2009b). Indeed, the soundness of instruments used as required by System-GMM was confirmed, where pointed out by the P-values of the Hansen test. Where, the restriction of the over-identification of instruments tested by the null of all the instruments is jointly exogenous. Obviously, the null cannot be rejected in all estimated models. The Hansen test is considered because it is more superior than the Sargan test with the robust and two-step options in *xtabond2* package.

Similarly, all models passed the Arellano-Bond (AR2) test of no second-order serial correlation in the error term, as the null could not be declined at the conventional level. This result shows the presence of the first-order serial correlation in the error term and supports the lag length used in instruments. Consequently, bearing in mind the whole statistic tests of these models; one could be concluded that the estimated models were properly specified.

Chapter 6

CONCLUSION

The political instability of individual countries continues to play a crucial role in global stability. Since the Second World War WWII, the world has become an arena of political instability. The conflict of interests between the superpowers; the outbreak of civil and regional war in many parts of the world, and the spread of corruption at the local and international levels have all contributed to such instability. Political instability could simply be defined as the tendency of government collapse, whether constitutional or unconstitutional.

The lack of previous literature investigating the effects of political instability on the banking sector risk-taking motivated the researcher to address this important issue. Given the importance of the banking sector in any country; a failure of the banking sector could lead to the collapse of the economy as a whole, thus threatening the effectiveness of the state and could turn it into a failed one.

The existence of corruption in any country is increasingly considered as dangerous activities by many individuals or groups; because it may lead to the shortening or inaction of the government in the performance of its tasks entrusted, which may lead to unstable political regimes.

The main finding of this dissertation indicates the importance of political instability risk, as a one factor affecting the risk-taking of the banking sector. Where, the political instability increases the risk-taking through the channels of the level of corruption and the government ineffectiveness, respectively. Moreover, the findings strongly support the “too big to fail” hypothesis.

The outcomes of this study also highlighted the importance of the country’s development differences among the study sample, where the high income and developed countries will face a low level of the banking risk-taking. Because, the high developed countries, such as Norway and Denmark, have a good political institutions and stable policies. While the developing countries, such as Zimbabwe and Kenya, suffer to a poorer level of political institutions and unstable economic and political policies, which in turn will affect the banking risk-taking.

Additionally, the main results of this research derived from the modern method by utilizing the System-GMM model, using a sample of 75 countries covered all the world regions and all the income levels for the period of 1996-2015. The validity of the estimated models was checked using several tests to evaluate the efficiency of the essential models adopted. All tests refer to that the baseline models are consistent and efficient, which means the estimated models are approximately unbiased.

From a policy point of view, the key implication of this study is that improving the legal system is essential to reduce the level of corruption; which in turn will increase the government quality, and increase its political stability which will reduce the banking risk-taking. This strategy could be part of an agenda for meaningful policy reform, bearing in mind the main considerations investigated in this study such as corruption; country risk (government effectiveness), and the “too big to fail” hypothesis.

The basic restriction of this work was the availability of data especially before the year 1996. Thus, numbers of cross-sections were greater than the number of periods, which such limitation can be controlled by the GMM approach in econometrics. Further studies can group panel of countries based on political risk map and alternative data frequencies, as well as different methodologies, can be studied for comparison purposes. Furthermore, future studies can focus on bank-level microdata by also augmenting bank-specific profiles and characteristics again in a panel of countries. This will also provide a very useful comparison with the results of this study.

REFERENCES

Aisen, A., & Veiga, F. (2006). Does Political Instability Lead to Higher Inflation ? A Panel Data Analysis. *Journal of Money, Credit and Banking*, *38*(5), 1379–1389. https://doi.org/193.140.41.157

Aisen, A., & Veiga, F. (2008). Political instability and inflation volatility. *Public Choice*, *135*(3–4), 207–223. https://doi.org/10.1007/s11127-007-9254-x

Aisen, A., & Veiga, F. J. (2013). How does political instability affect economic growth. *European Journal of Political Economy*, *29*, 151–167. https://doi.org/10.1016/j.ejpoleco.2012.11.001

Alesina, A., Özler, S., Roubini, N., & Swagel, P. (1996). Political instability and economic growth. *Journal of Economic Growth*, *1*(2), 189–211. https://doi.org/10.1007/BF00138862

Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review*, *40*, 1203–1228.

Alonso-Borrego, C., & Arellano, M. (1999). Symmetrically normalized instrumental-variable estimation using panel data. *Journal of Business and Economic Statistics*, *17*(1), 36–49. https://doi.org/10.1080/07350015.1999.10524795

Anginer, D., Demirguc-Kunt, A., & Zhu, M. (2014). How does deposit insurance affect bank risk? Evidence from the recent crisis. *Journal of Banking and*

Finance, *48*, 312–321. https://doi.org/10.1016/j.jbankfin.2013.09.013

Antzoulatos, A. A., & Tsoumas, C. (2014). Institutions, moral hazard and expected government support of banks. *Journal of Financial Stability*, *15*, 161–171. https://doi.org/10.1016/j.jfs.2014.09.006

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *The Review of Economic Studies*, *58*(2), 277-297. https://doi.org/10.2307/2297968

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29–51. https://doi.org/10.1016/0304-4076(94)01642-D

Ashraf, B. (2017). Political institutions and bank risk-taking behavior. *Journal of Financial Stability*, *29*, 13–35. https://doi.org/10.1016/j.jfs.2017.01.004

Ashraf, B., & Arshad, S. (2017). Foreign bank subsidiaries' risk-taking behavior: Impact of home and host country national culture. *Research in International Business and Finance*, 41, 318–335. http://dx.doi.org/10.1016/j.ribaf.2017.04.039

Ashraf, B., Arshad, S., & Hu, Y. (2016a). Capital Regulation and Bank Risk-Taking Behavior: Evidence from Pakistan. *International Journal of Financial Studies*, *4*(3), 16. https://doi.org/10.3390/ijfs4030016

Ashraf, B., Zheng, C., & Arshad, S. (2016b). Effects of national culture on bank risk-taking behavior. *Research in International Business and Finance*, *37*, 309–326. https://doi.org/10.1016/j.ribaf.2016.01.015

Asiedu, E. (2006). Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability. *The World Economy*, *29*(1), 63–77. https://doi.org/10.2139/ssrn.717361

Balkan, E. (1992). political instability, country risk and probability of default. *Applied Economics*, *24*, 999–1008.

Baltagi, B. H. (2005). *Econometric analysis of panel data* (3rd ed.). West Sussex: JohnWiley & Sons.

Baltagi, B. H. (2011). *Econometrics* (5th ed.). New York: Springer. https://doi.org/10.1007/978-3-642-20059-5

Bitar, M., Hassan, M. K., & Walker, T. (2017). Political systems and the financial soundness of Islamic banks. *Journal of Financial Stability*, *31*, 18–44. https://doi.org/10.1016/j.jfs.2017.06.002

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Bond, S. S., Hoeffler, A., & Temple, J. (2001). *GMM estimation of empirical growth models*. CEPR Discussion Paper No. 3048. Available at SSRN: https://ssrn.com/abstract=290522

Bordo, M. D., & Rousseau, P. L. (2006). Legal-Political Factors and the Historical Evolution of the Finance-Growth-Link. *European Review of Economic Hisstory*, *10*(December), 421–444. https://doi.org/10.1017/S136149160600181X

Borio, C., & Zhu, H. (2012). Capital regulation, risk-taking and monetary policy: A missing link in the transmission mechanism. *Journal of Financial Stability*, *8*(4), 236–251. https://doi.org/10.1016/j.jfs.2011.12.003

Boubakri, N., Mirzaei, A., & Samet, A. (2017). National culture and bank performance: Evidence from the recent financial crisis. *Journal of Financial Stability*, *29*, 36–56. https://doi.org/10.1016/j.jfs.2017.02.003

Brunetti, A. (1997). Political Variables in Cross-country Growth Analysis. *Journal of Economic Surveys*, *11*(2), 163–190. https://doi.org/10.1111/1467-6419.00029

Burger, M., Ianchovichina, E., & Rijkers, B. (2015). Risky Business: Political Instability and Sectoral Greenfield Foreign Direct Investment in the Arab World. *The World Bank Economic Review*, *30*(2), 306–331. https://doi.org/10.1093/wber/lhv030

Busse, M., & Hefeker, C. (2007). Political risk, institutions and foreign direct investment. *European Journal of Political Economy*, *23*(2), 397–415. https://doi.org/10.1016/j.ejpoleco.2006.02.003

Buyuksalvarci, A. & Abdioglu, H. (2010), The Causal Relationship between Stock Prices and Macroeconomic Variables: A Case Study for Turkey. *International Journal of Economic Perspectives*, 4 (4), 601-610.

Carmignani, F. (2003). Political Instability, Uncertainty and Economics. *Journal of Economic Surveys*, *17*(1), 1–54. https://doi.org/10.1111/1467-6419.00187

Chen, M., Jeon, B. N., Wang, R., & Wu, J. (2015). Corruption and bank risk-taking: Evidence from emerging economies. *Emerging Markets Review*, *24*, 122–148. https://doi.org/10.1016/j.ememar.2015.05.009

Chen, M., Wu, J., Jeon, B. N., & Wang, R. (2017a). Do foreign banks take more risk? Evidence from emerging economies. *Journal of Banking and Finance*, 82, 20–39. http://dx.doi.org/10.1016/j.jbankfin.2017.05.004

Chen, M., Wu, J., Jeon, B. N., & Wang, R. (2017b). Monetary policy and bank risk-taking: Evidence from emerging economies. *Emerging Markets Review*, *31*, 116–140. https://doi.org/10.1016/j.ememar.2017.04.001

Citron, J.-T., & Nickelsburg, G. (1987). Country Risk and Political Instability. *Journal of Development Economics, 25,* 385–392. https://doi.org/10.1016/0304-3878(87)90092-7

Craig, B. R., & Dinger, V. (2013). Deposit market competition, wholesale funding, and bank risk. *Journal of Banking and Finance, 37*(9), 3605–3622. https://doi.org/10.1016/j.jbankfin.2013.05.010

Delis, M., & Kouretas, G. (2011). Interest rates and bank risk-taking. *Journal of Banking and Finance, 35*(4), 840–855. https://doi.org/10.1016/j.jbankfin.2010.09.032

Demirgüç-Kunt, A., & Huizinga, H. (2010). Bank activity and funding strategies: The impact on risk and returns. *Journal of Financial Economics*, *98*(3), 626–650. https://doi.org/10.1016/j.jfineco.2010.06.004

Dutta, N., & Roy, S. (2011). Foreign Direct Investment, Financial Development and Political Risks. *The Journal of Developing Areas*, *44*(2), 303–327.

Eichler, S., & Sobański, K. (2016). National politics and bank default risk in the eurozone. *Journal of Financial Stability, 26*, 247–256. https://doi.org/10.1016/j.jfs.2016.07.008

Fiordelisi, F., Marques-Ibanez, D., & Molyneux, P. (2011). Efficiency and risk in European banking. *Journal of Banking and Finance*, *35*(5), 1315–1326. https://doi.org/10.1016/j.jbankfin.2010.10.005

Flannery, M. J., & Hankins, K. W. (2013). Estimating dynamic panel models in corporate finance. *Journal of Corporate Finance, 19*(1), 1–19. https://doi.org/10.1016/j.jcorpfin.2012.09.004

García-Kuhnert, Y., Marchica, M.-T., & Mura, R. (2015). Shareholder diversification and bank risk-taking. *Journal of Financial Intermediation*, *24*(4), 602–635. https://doi.org/10.1016/j.jfi.2015.03.001

Ghosh, S. (2016). Political transition and bank performance: How important was the Arab Spring. *Journal of Comparative Economics*, *44*(2), 372–382. https://doi.org/10.1016/j.jce.2015.02.001

González, F. (2005). Bank regulation and risk-taking incentives: An international comparison of bank risk. *Journal of Banking and Finance*, *29*(5), 1153–1184. https://doi.org/10.1016/j.jbankfin.2004.05.029

Gurgul, H., & Lach, Ł. (2013). Globalization and economic growth: Evidence from two decades of transition in CEE. *Economic Modelling*, *36*, 99–107. https://doi.org/10.1016/j.econmod.2013.09.022

Hayakawa, K. (2009). A simple efficient instrumental variable estimator for panel AR(p) models when both N and T are large. *Econometric Theory*, *25*(3), 873–890. https://doi.org/10.1017/S0266466609090707

Hoti, S. (2005). Modelling country spillover effects in country risk ratings. *Emerging Markets Review*, *6*(4), 324–345. https://doi.org/10.1016/j.ememar.2005.09.006

Hoti, S., & McAleer, M. (2004). An Empirical Assessment of Country Risk Ratings and Association Models. *Journal of Economic Surveys*, *18*(4), 539–550.

https://doi.org/10.1111/j.0950-0804.2004.00230.x

Houston, J. F., Lin, C., Lin, P., & Ma, Y. (2010). Creditor rights, information sharing, and bank risk taking. *Journal of Financial Economics*, *96*(3), 485–512. https://doi.org/10.1016/j.jfineco.2010.02.008

Hryckiewicz, A. (2014). What do we know about the impact of government interventions in the banking sector? An assessment of various bailout programs on bank behavior. *Journal of Banking and Finance*, *46*(1), 246–265. https://doi.org/10.1016/j.jbankfin.2014.05.009

Imamoglu, H., Katircioglu, S., & Payaslioglu, C.E. (2018), Financial Services Spillover Effects on Informal Economic Activity. *The Services Industries Journal,* 38 (11–12), 669–687. https://doi.org/10.1080/02642069.2017.1423056).

Javid, E., & Katircioglu, S. T. (2017), Globalization Factors & Tourism Development. *Asia-Pacific Journal of Tourism Research*, 22 (11), 1194-1205. https://doi.org/10.1080/10941665.2017.1378240

Jin, J. Y., Kanagaretnam, K., Lobo, G. J., & Mathieu, R. (2013). Impact of FDICIA internal controls on bank risk taking. *Journal of Banking and Finance*, *37*(2), 614–624. https://doi.org/10.1016/j.jbankfin.2012.09.013

Jong-A-Pin, R. (2009). On the measurement of political instability and its impact on economic growth. *European Journal of Political Economy*, *25*(1), 15–29.

https://doi.org/10.1016/j.ejpoleco.2008.09.010

Judson, R. A., & Owen, A. L. (1999). Estimating dynamic panel data models: a guide for macroeconomists. *Economics Letters*, *65*(1), 9–15. https://doi.org/10.1016/S0165-1765(99)00130-5

Karacaer, S. & Kapusuzoglu, A. (2010), Investigating Causal Relations among Stock Market and Macroeconomic Variables: Evidence from Turkey. *International Journal of Economic Perspectives*, 4 (3), 501-507.

Katircioglu, S., Ozatac, N., & Taspinar, N. (2018), The Role Oil Prices, Growth and Inflation in Bank Profitability. *The Service Industries Journal,* 1-20. https://doi.org/10.1080/02642069.2018.1460359.

Katircioglu, S. (2017), Review of Literature on Sectoral Interactions of Financial Sector Development. *Eurasian Review of Business and Finance*, 1 (1), 10-17.

Katircioglu, S.T., Sertoglu, K., Candemir, M., and Mercan, M. (2015), Oil price movements and macroeconomic performance: Evidence from twenty-six OECD countries. *Renewable & Sustainable Energy Reviews*, 44, 257-270. http://dx.doi.org/10.1016/j.rser.2014.12.016

Katircioglu, S. (2012), Financial Development, International Trade and Economic Growth: The Case of Sub-Saharan Africa. *Ekonomista*, 15 (1), 117-127.

Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking.

Journal of Financial Economics, *93*(2), 259–275. https://doi.org/10.1016/j.jfineco.2008.09.003

Mourouzidou-Damtsa, S., Milidonis, A., & Stathopoulos, K. (2019). National culture and bank risk-taking. *Journal of Financial Stability*, 40, 132–143. https://doi.org/10.1016/j.jfs.2017.08.007

Neves, M. E. D., Proenca, C. A. N., & Martins, P. C. (2015), Interdependence Or Reaction When The Background Is The Financial Crisis: The Case Of Portuguese Stock Market. *International Journal of Economic Perspectives*, 9 (4), 5-20.

Nickell, S. (1981). Biases in Dynamic Models with Fixed Effects. *Econometrica*, *49*(6), 1417–1426. https:// doi:10.2307/1911408

Rjoub, S. A. M. AL (2011), Business Cycles, Financial Crises, and Stock Volatility in Jordan Stock Exchange. *International Journal of Economic Perspectives*, 5 (1), 83-95.

Roodman, D. (2009a). How to do xtabond2: An introduction to difference and system GMM in Stata. *Stata Journal*, *9*(1), 86–136. https://doi.org/The Stata Journal

Roodman, D. (2009b). Practitioners' corner: A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, *71*(1), 135–158. https://doi.org/10.1111/j.1468-0084.2008.00542.x

Samet, A., Boubakri, N., & Boubaker, S. (2018). Does public-private status affect bank risk taking? Worldwide evidence. *Journal of International Financial Markets, Institutions and Money*, *53*, 287–306. https://doi.org/10.1016/j.intfin.2017.12.007

Silva, T., Guerra, S., Tabak, B., & Miranda, R. (2016). Financial networks, bank efficiency and risk-taking. *Journal of Financial Stability*, *25*, 247–257. https://doi.org/10.1016/j.jfs.2016.04.004

Smimou, K. (2014). International portfolio choice and political instability risk: A multi-objective approach. *European Journal of Operational Research*, *234*(2), 546–560. https://doi.org/10.1016/j.ejor.2013.01.024

Sodeyfi, S. (2016), Review of Literature on the Nexus of Financial Leverage, Product Quality, & Business Conditions. *International Journal of Economic Perspectives*, 10 (2), 146-150.

Song, F., & Thakor, A. (2012). Notes on financial system development and political intervention. *World Bank Economic Review*, *27*(3), 491–513. https://doi.org/10.1093/wber/lhs011

Tabassam, A. H., Hashmi, S. H., & Rehman, F. U. (2016). Nexus between Political Instability and Economic Growth in Pakistan. *Procedia - Social and Behavioral Sciences*, *230*(May), 325–334. https://doi.org/10.1016/j.sbspro.2016.09.041

Timurlenk, Ö., & Kaptan, K. (2012). Country Risk. *Procedia - Social and Behavioral Sciences*, *62,* 1089–1094. https://doi.org/10.1016/j.sbspro.2012.09.186

Uddin, M. A., Ali, M. H., & Masih, M. (2017). Political stability and growth: An application of dynamic GMM and quantile regression. *Economic Modelling*, *64*, 610–625. https://doi.org/10.1016/j.econmod.2017.04.028

Vaugirard, V. (2007). Bank bailouts and political instability. *European Journal of Political Economy*, *23*(4), 821–837. https://doi.org/10.1016/j.ejpoleco.2006.10.002

Wardhono, A., Salim, A., & Qoriah, C. G. (2014), The Effects of European Bilateral Debt Crisis on International Banking Finance Behavior in The Philippines and Indonesia. *International Journal of Economic Perspectives*, 8 (3), 41-51.

Wooldridge, J. (2016). *Introductory Econometrics A Modern Approach* (6th ed.). Boston: Cengage Learning. https://doi.org/10.1017/CBO9781107415324.004

APPENDIX

Appendix A: Tables

Table A1: Variable Definition

Variable Name	Definition	Expected Sign
Dependent Variables		
Bank's z-score	It captures the probability of default of a country's banking sector. It measures the number of standard deviations from mean value by which the bank return has to fall to deplete all shareholders' equity. It can be expressed as: (ROA+CAR) / σROA; where ROA is the return on assets, while CAR refers to equity to total asset ratio, whereas σROA is the standard deviation of ROA. ROA, and CAR are country-level aggregate figures, and the higher values of z-score indicate the lower probability of bank default. Source: The World Bank, GFD	
Risk-Taking (RT)	Used as the main proxy of banking risk-taking, it measures the probability of default, it is measured by (-1*Z-score), where a high value of this measure indicates to a high risk-taking by the banking sector. Source: The World Bank, GFD	
Banking Stability (Z-score)	It is the natural logarithm of banking sector's z-score. It captures the probability of default of a country's banking system. High value of this measure refers to a low risk bearing by the banking system. Source: World Bank, GFD	
Earnings Volatility (σROA)	It is the standard deviation of the commercial banks' pre-tax income to yearly averaged total assets, calculated over 3-year overlapping periods starting from 1996 and ending at 2015. The high value of this index refers to a high risk-taking of the banking sector. Source: Authors' calculation based on The World Bank, GFD	
Independent Variables		
Political Stability (PS)	Measures the political instability risk, the scale ranges approximately from 1 to 9, where the low value refers to a high political instability. Source: Datastream, World Economic Survey	- (Mourouzidou-Damtsa et al., 2019)
Political Instability Risk (PINSR)	This indicator measures the rank of the country i based on political stability for each year, the higher value of this index indicates a higher political instability the country has. Source: Authors' calculation based on Datastream, World Economic Survey	+ (Mourouzidou-Damtsa et al., 2019)
Country Risk (CR)	The indicator is a proxy of a country risk. It captures perceptions of the quality of public services and the degree of its independence from political pressures, in addition to the credibility of the government's commitment to such policies. It is calculated by: (Government Effectiveness/2.5)*3+4. It ranges approximately from 1 to 7, where 7 indicates to a low country risk. Source: Datastream, Oxford Economics	- (Balkan, 1992)
Corruption Perception Index (CPI)	It provides perceptions of business people and country experts of the level of corruption in the public sector; it ranges from zero to 10, where 10 refers to a low level of corruption. Source: Transparency International	- (Chen et al., 2015)
Control Variables		
Economic Development (ED)	Equals the logarithm of annual GDP per capita (current US$) of each country, to capture the economic development differences. Source: The World Bank, WDI	- (Borio & Zhu, 2012)
Economic Risk (ER)	It is the standard deviation of the real GDP growth, this measure is used to capture the aggregate economic risk. Source: Authors' calculation based on The World Bank, WDI	+ (Chen et al., 2017)
Market Share (MSH)	Equals the logarithm of total assets held by deposit money banks as a share of GDP, it is used to capture the "too big to fail" hypothesis. Source: The World Bank, GFD	+ (García-Kuhnert et al., 2015)
Bank Inefficiency (BINE)	Measured by the overhead cost to total assets, used to capture the "bad management" hypothesis. Source: The World Bank, GFD	+ (Fiordelisi et al., 2011)

Note: The expected signs are for the RT & σROA variables, while the expected signs for Z-score variable will be vice versa.

Table A2: Mean Value of the Key Variables

Country Name	Bank z-score	Z-score	RT	σROA	PS	PINS	CR	CPI	ED	ER	MSH	BINE
Algeria	12.84	2.44	-2.44	0.19	3.41	52.10	3.23	3.09	3,308	1.17	36.80	1.20
Argentina	6.03	1.78	-1.78	1.05	4.17	50.35	3.95	3.03	8,338	3.88	26.25	5.70
Australia	14.76	2.66	-2.66	0.46	7.25	14.45	6.06	8.55	38,727	0.56	103.27	1.50
Austria	18.88	2.90	-2.90	0.23	7.59	10.10	6.15	7.81	38,734	0.99	110.21	1.85
Bahrain	13.43	2.59	-2.59	0.43	5.28	37.53	4.63	5.29	17,567	1.11	67.46	1.07
Belgium	10.28	2.29	-2.29	0.36	5.60	35.10	6.05	7.04	36,306	1.14	95.57	1.11
Bolivia	10.49	2.33	-2.33	0.52	3.14	57.40	3.50	2.76	1,607	0.80	46.11	5.46
Brazil	13.59	2.60	-2.60	0.61	5.33	36.35	3.91	3.87	7,017	1.92	74.28	5.11
Canada	15.57	2.73	-2.73	0.27	6.59	20.50	6.24	8.68	36,242	1.03	115.23	2.10
Chile	8.04	2.08	-2.08	0.23	6.97	16.95	5.44	7.17	9,142	1.59	64.45	2.79
China	25.69	3.21	-3.21	0.24	5.28	38.55	4.03	3.52	3,119	0.70	119.64	1.13
Colombia	6.49	1.84	-1.84	0.99	4.02	48.60	3.84	3.55	4,395	1.57	37.41	6.76
Costa Rica	18.76	2.92	-2.92	0.39	6.50	25.44	4.36	4.98	6,208	1.35	38.58	5.53
Croatia	4.85	1.56	-1.56	0.32	5.32	37.00	4.52	4.01	9,990	1.64	68.36	3.34
Czech Rep.	4.49	1.47	-1.47	0.35	4.65	45.65	5.03	4.62	13,767	1.69	57.70	2.63
Denmark	9.23	2.21	-2.21	0.22	7.43	11.10	6.50	9.44	47,692	1.08	149.91	1.42
Ecuador	4.86	1.56	-1.56	2.66	2.77	60.75	3.15	2.55	3,590	2.17	24.96	6.99
Egypt	14.76	2.68	-2.68	0.27	3.99	50.30	3.51	3.20	1,905	0.80	72.08	1.66
El Salvador	27.19	3.28	-3.28	0.46	4.60	47.50	3.63	3.80	2,962	0.83	42.93	3.72
Estonia	6.50	1.79	-1.79	1.97	6.53	23.00	5.08	6.25	11,154	3.60	59.14	3.05
Finland	11.27	2.38	-2.38	0.30	8.02	5.30	6.53	9.41	38,217	1.71	75.82	0.90
France	14.43	2.65	-2.65	0.18	6.81	18.40	5.86	6.94	34,078	0.85	103.50	1.19
Germany	16.38	2.77	-2.77	0.28	7.28	12.75	6.01	7.87	35,892	1.32	124.35	1.42
Greece	5.53	1.37	-1.37	1.82	6.41	23.90	4.75	4.27	20,385	1.57	95.25	2.73
Hong Kong	15.73	2.72	-2.72	0.34	5.84	30.85	5.92	7.97	30,032	2.54	184.40	1.73
Hungary	3.90	1.35	-1.35	0.58	5.46	36.35	4.95	5.09	9,988	1.49	55.59	4.54
India	9.18	2.20	-2.20	0.25	4.42	44.95	3.92	3.18	882	1.53	53.18	2.28
Indonesia	3.60	1.34	-1.34	2.46	3.38	55.70	3.61	2.48	1,954	1.79	38.69	3.33
Ireland	4.41	1.19	-1.19	0.83	7.17	13.80	5.90	7.50	43,489	2.45	115.08	0.64
Israel	24.11	3.18	-3.18	0.34	3.66	53.15	5.45	6.41	25,353	1.37	85.76	2.35
Italy	13.49	2.57	-2.57	0.51	4.19	51.10	4.70	4.66	30,041	1.21	98.08	2.07
Japan	11.33	2.39	-2.39	0.39	5.83	32.45	5.63	7.19	38,049	1.47	180.44	0.89
Jordan	25.48	3.17	-3.17	0.34	5.92	29.54	4.14	4.86	2,662	0.68	95.52	2.10
Kazakhstan	4.75	1.51	-1.51	4.97	6.27	25.44	3.30	2.58	5,826	1.86	28.96	4.46
Kenya	13.18	2.57	-2.57	0.98	2.82	59.85	3.38	2.22	739	1.59	37.72	5.98
Latvia	4.97	1.57	-1.57	2.20	4.61	46.15	4.69	4.29	8,848	2.79	49.01	4.22
Lebanon	20.26	3.00	-3.00	0.33	1.68	71.00	3.70	2.86	6,601	1.92	150.13	1.81
Lithuania	5.83	1.72	-1.72	1.25	5.62	36.12	4.74	4.91	8,902	3.14	36.29	3.70
Malaysia	13.76	2.61	-2.61	0.63	5.19	41.30	5.23	4.94	6,732	2.98	125.80	1.22
Mexico	18.92	2.92	-2.92	0.50	4.62	46.95	4.26	3.42	7,840	1.73	32.01	4.44
Morocco	42.96	3.76	-3.76	0.18	5.80	31.05	3.89	3.60	2,198	2.48	70.62	2.40
Netherlands	11.96	2.35	-2.35	0.54	7.25	15.20	6.29	8.77	40,752	1.08	125.51	1.05
New Zealand	18.38	2.89	-2.89	0.44	6.25	25.30	6.14	9.35	27,108	0.83	117.60	1.44
Nigeria	14.59	2.65	-2.65	2.42	2.98	59.80	2.77	2.06	1,274	3.30	20.26	8.22
Norway	7.09	1.95	-1.95	0.28	7.43	13.15	6.30	8.71	67,031	0.89	92.40	1.53
Pakistan	9.75	2.26	-2.26	0.77	2.22	65.45	3.30	2.48	840	0.99	36.41	2.95
Panama	43.99	3.78	-3.78	0.19	5.48	37.75	4.19	3.48	6,618	1.81	78.78	2.68
Paraguay	14.03	2.63	-2.63	0.69	2.86	59.40	2.85	2.17	2,488	3.36	27.66	11.50
Peru	14.16	2.65	-2.65	0.34	3.51	57.50	3.70	3.79	3,682	1.82	25.88	5.06
Philippines	19.13	2.93	-2.93	0.38	4.12	48.90	3.98	2.88	1,649	1.52	47.00	3.27
Poland	7.65	1.99	-1.99	0.83	5.42	36.25	4.73	4.66	8,919	1.01	48.35	3.50
Portugal	10.59	2.34	-2.34	0.29	6.60	23.15	5.30	6.32	17,845	1.29	134.53	1.61
Romania	6.58	1.80	-1.80	1.39	4.40	48.65	3.63	3.48	5,519	2.30	28.52	4.61
Russian	7.53	1.97	-1.97	1.47	4.33	48.70	3.45	2.48	7,123	2.81	34.00	12.70
Saudi Arabia	13.01	2.55	-2.55	0.53	5.60	35.00	3.82	4.15	14,973	3.15	46.00	1.48
Singapore	21.77	3.04	-3.04	0.39	7.96	8.65	6.57	9.09	35,788	3.26	122.53	0.88
Slovak Rep.	11.75	2.45	-2.45	0.48	4.74	42.10	4.89	4.29	11,976	1.89	58.52	3.14
Slovenia	3.86	1.38	-1.38	1.34	6.02	30.95	5.14	6.05	18,089	1.80	63.77	2.87
South Africa	21.29	2.87	-2.87	0.56	4.97	43.70	4.66	4.64	5,059	1.03	74.37	3.42
South Korea	7.54	1.94	-1.94	0.59	4.84	44.35	5.12	4.93	18,125	2.41	90.02	1.54
Spain	19.04	2.93	-2.93	0.41	6.24	27.35	5.64	6.52	24,330	1.00	144.73	1.61
Sri Lanka	10.20	2.29	-2.29	0.35	3.52	55.65	3.76	3.44	1,856	1.54	35.18	3.67
Sweden	9.68	2.26	-2.26	0.28	6.97	16.80	6.36	9.17	43,607	1.66	99.07	1.46
Switzerland	10.60	2.34	-2.34	0.42	7.81	8.30	6.38	8.79	60,359	1.12	163.82	1.99
Thailand	2.22	0.78	-0.78	1.51	3.26	58.75	4.33	3.44	3,679	2.62	122.95	2.05
Tunisia	23.53	3.08	-3.08	0.44	4.98	42.35	4.41	4.53	3,266	1.40	62.98	2.55
Turkey	7.60	1.91	-1.91	1.13	3.80	52.10	4.17	3.97	7,553	3.55	46.86	4.19
Ukraine	5.98	1.74	-1.74	1.43	2.66	65.50	3.19	2.43	2,067	3.83	38.51	7.91
UAE	27.43	3.31	-3.31	0.35	7.18	16.00	5.10	6.36	36,271	2.97	65.39	1.40
UK	9.04	2.13	-2.13	0.31	7.02	17.45	6.08	8.20	37,183	0.83	144.16	1.76
USA	24.38	3.19	-3.19	0.31	7.09	16.30	5.97	7.44	43,519	0.84	57.88	3.15
Uruguay	4.71	1.33	-1.33	1.84	7.51	12.60	4.60	6.26	9,026	2.12	36.47	9.10

Venezuela	10.01	2.27	-2.27	0.83	2.52	64.05	2.81	2.19	7,567	4.25	19.90	7.04
Vietnam	5.59	1.66	-1.66	0.50	6.42	25.94	3.63	2.71	963	0.54	66.53	1.60
Zimbabwe	3.21	1.11	-1.11	3.83	2.13	66.15	2.77	2.53	646	4.14	23.90	12.44
All Countries	**12.95**	**2.33**	**-2.33**	**0.78**	**5.26**	**36.84**	**4.66**	**5.12**	**16,502**	**1.83**	**75.19**	**3.35**

Table A3: Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
RT (1)	1										
Z-score (2)	-1	1									
σROA (3)	0.30*	-0.30*	1								
PS (4)	-0.11*	0.11*	-0.19*	1							
PINS (5)	0.10*	-0.10*	0.16*	-0.94*	1						
CR (6)	-0.10*	0.10*	-0.22*	0.67*	-0.69*	1					
CPI (7)	-0.13*	0.13*	-0.22*	0.66*	-0.70*	0.94*	1				
ED (8)	-0.08*	0.08*	-0.20*	0.57*	-0.57*	0.83*	0.81*	1			
ER (9)	0.14*	-0.14*	0.19*	-0.15*	0.14*	-0.16*	-0.14*	-0.09*	1		
MSH (10)	-0.16*	0.16*	-0.21*	0.41*	-0.41*	0.68*	0.64*	0.61*	-0.12*	1	
BINE (11)	0.15*	-0.15*	0.20*	-0.26*	0.26*	-0.42*	-0.37*	-0.35*	0.15*	-0.51*	1

Note: * denotes the significance of pair-wise correlations at the 1% level; the correlations of ED and MSH considered in the logarithm form.

Table A4: Political Instability Risk and Banking Sector Risk-Taking, Dependent Variable: Risk-Taking (One-Step)

	System GMM				Difference GMM			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lag of RT	0.310* (0.046)	0.310* (0.046)	0.316* (0.045)	0.307* (0.046)	0.308* (0.051)	0.308* (0.050)	0.310* (0.050)	0.296* (0.051)
ED	-0.074 (0.051)	-0.078 (0.051)	-0.065 (0.058)	-0.036 (0.059)	-0.074 (0.052)	-0.079 (0.051)	-0.067 (0.059)	-0.039 (0.060)
ER	0.005 (0.006)	0.005 (0.006)	0.004 (0.005)	0.003 (0.006)	0.005 (0.006)	0.005 (0.006)	0.004 (0.005)	0.003 (0.006)
MSH	0.303* (0.086)	0.306* (0.086)	0.282* (0.081)	0.269* (0.088)	0.303* (0.088)	0.307* (0.088)	0.285* (0.083)	0.272* (0.089)
BINE	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.001 (0.002)
PS	-0.020** (0.009)				-0.020** (0.009)			
PINSR		0.002** (0.001)				0.002** (0.001)		
CR			-0.131** (0.063)				-0.133** (0.064)	
CPI				-0.078** (0.038)				-0.079** (0.039)
Time Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1332	1332	1372	1263	1257	1257	1297	1188
No of Countries	75	75	75	75	75	75	75	75
Instruments No	42	42	42	40	40	40	40	38
Arellano-Bond (AR1)	0.003	0.003	0.003	0.005	0.002	0.002	0.002	0.004
Arellano-Bond (AR2)	0.247	0.250	0.282	0.457	0.266	0.269	0.292	0.447
Sargan test (P-Value)	0.159	0.178	0.177	0.099	0.119	0.135	0.136	0.073
Hansen test (P-Value)	0.178	0.194	0.203	0.119	0.195	0.201	0.205	0.129
F-Statistic	135.79	135.39	20.62	131.36	23.85	24.45	22.76	21.73
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors are in parentheses. Significance levels at which the null hypothesis is rejected: *, 1%; **, 5%, and ***, 10%; Syntax *xtabond2* h(2) small robust orthogonal; The null of all instruments are jointly exogenous ever has been rejected employing the Hansen J test; The existence of the second-order correlation of the error term is always rejected; Time Dummy, Yes: indicates to that coefficients are jointly significantly different from zero.

Table A5: Dynamic Panel Data Models without Time Dummy Variables (System GMM)

	Two Step Models				One Step Models			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lag of RT	0.320*	0.318*	0.315*	0.314*	0.312*	0.312*	0.318*	0.309*
	(0.052)	(0.051)	(0.049)	(0.050)	(0.047)	(0.046)	(0.045)	(0.047)
ED	-0.131*	-0.136*	-0.138*	-0.112*	-0.137*	-0.138*	-0.129*	-0.095**
	(0.035)	(0.033)	(0.035)	(0.033)	(0.044)	(0.044)	(0.043)	(0.045)
ER	0.005	0.006	0.006	0.002	0.005	0.006	0.006	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
MSH	0.212*	0.210*	0.208*	0.232*	0.288*	0.290*	0.265*	0.258*
	(0.072)	(0.068)	(0.061)	(0.073)	(0.084)	(0.084)	(0.079)	(0.086)
BINE	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Constant	-1.288*	-1.348*	-0.763***	-1.243*	-1.469*	-1.643*	-0.985*	-1.425*
	(0.285)	(0.282)	(0.390)	(0.268)	(0.286)	(0.297)	(0.369)	(0.283)
PS	-0.014**				-0.021**			
	(0.006)				(0.008)			
PINSR		0.001				0.002***		
		(0.001)				(0.001)		
CR			-0.113***				-0.120**	
			(0.058)				(0.058)	
CPI				-0.071*				-0.081**
				(0.025)				(0.040)
Observations	1332	1332	1372	1263	1332	1332	1372	1263
No of Countries	75	75	75	75	75	75	75	75
Instruments No	24	24	24	23	24	24	24	23
Arellano-Bond (AR1)	0.010	0.010	0.010	0.014	0.004	0.003	0.003	0.005
Arellano-Bond (AR2)	0.207	0.192	0.199	0.394	0.256	0.253	0.279	0.444
Sargan test (P-Value)	0.320	0.366	0.387	0.267	0.320	0.366	0.387	0.267
Hansen test (P-Value)	0.250	0.297	0.282	0.289	0.254	0.297	0.282	0.289
F-Statistic	26.54	27.1	28.35	28.33	41.44	41.59	33.44	50.50
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors are in parentheses. Significance levels at which the null hypothesis is rejected: *, 1%; **, 5%, and ***, 10%; Syntax *xtabond2* two-step h(2) small robust orthogonal; Windmeijer (2005) correction was used to calculate the robust standard errors corrected for finite samples to employ the two-step option; The null of all instruments are jointly exogenous ever has been rejected employing the Hansen J test; The existence of the second-order correlation of the error term is always rejected.